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A self-identity based model of electric car adoption intention:

A cross-cultural comparative study

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Abstract

This study proposes a self-identity based eco-friendly intention formation model to assess the effects of green self-identity, care for the environmental consequences of consumption, and green moral obligation, on the attitude toward and the intention to adopt electric cars. The model is empirically validated in three European countries: Denmark, Belgium and Italy. A total of 2,005 respondents with a driver's license participate in the study. Structural equation modeling and multi-group analysis are performed to measure the significance of the hypothesized model paths and to assess differences between the countries. Results show that the independent variables influence consumer attitude toward the adoption of electric cars, which, in turn, determines the intention to adopt them. Significant differences emerge concerning the influence of the antecedents of consumer attitude toward electric car adoption between Denmark, Belgium and Italy, which are discussed in light of Hofstede's national cultural differences between these countries.

Keywords: *Green self-identity, environmental concern, green moral obligation, attitude toward and intention to adopt electric cars, structural equation modeling, cross-cultural comparison, multi-group analysis*

1. Introduction

Air pollution harms human health and the environment. In Europe, air pollutant concentrations are high, and air quality problems persist. According to a recent European Commission (2013) study, 56% of Europeans think air quality has deteriorated in the last ten years, and 63% mention transport activities when asked to identify the main threats to air quality in their country. In addition, 71% consider the adoption of electric cars the most eco-friendly car fuel system in terms of air quality. Consistent with environmental standards stated by the World Health Organization, and the US Environmental Protection Agency, the European Environmental Agency (EEA) has undertaken a comprehensive review of EU air policy aiming at a 20% reduction of CO_2 emissions during the period 1990-2020. This policy also includes the promotion of eco-friendly individual consumption actions in the transport sector, such as consumer adoption of eco-friendly electric vehicles (EEA, 2013).

Prior research and empirical evidence show that the mere use of economic incentives (i.e., material rewards) is unable to lead to a sustained diffusion of eco-friendly alternatives in the market, because purchasing behavior returns to baseline levels after the reinforcement is terminated (Saldarriaga-Isaza & Vergara 2009; Oliver & Rosen, 2010; Steg, Bolderdijk, Keizer, & Perlaviciute, 2014). Hence, policy makers and marketers now call for further research on the ethical motives of eco-friendly buying behavior, which may positively motivate consumers to adopt electric cars (Whitmarsh & O'Neill, 2010; Kotler, 2011; Prothero, Dobscha, Freund, Kilbourne, Luchs, Ozanne, & Thøgersen, 2011). The understanding of consumers' decision-making processes, and of the motives which may lead to a sustained consumption of eco-friendly alternatives, indeed plays a pivotal role in spreading green alternatives in the market (Skippon & Garwood, 2011).

The present study addresses this issue by offering three contributions. First, this study develops a conceptual model focusing on the motivational process through which green self-identity – an individual's overall self-perception based on his/her mental identification with the typical green consumer (Sparks & Shepherd, 1992) – enacts specific ethical motives, attitudes and

behavioral intentions toward electric car adoption. The model suggests a direct relationship between green self-identity, consumer attitude toward and the intention to adopt electric cars, and an indirect relationship between green self-identity and consumer attitude toward the adoption of electric cars via the mediating role of teleological and deontological ethical motives to electric cars adoption (i.e., the care for the environmental consequences of using cars, and green moral obligation). Hence, the first contribution of this study is developing a model of self-identity based eco-friendly intention formation, which advances the understanding of consumers' motivational processes of adopting eco-friendly durables.

Second, this study applies the proposed identity based eco-friendly intention formation model in the context of electric cars adoption. Green consumer behavior literature mainly focuses on low involvement products, such as food and other grocery products (Luchs, Walker Naylor, Irwin, & Raghunathan, 2010). Conversely, more research needs to be conducted for high involvement products, namely product categories that are more expensive, reflect more on consumers' self-identity and moral principles, have a higher financial and psychological risk (see Moons & De Pelsmacker, 2012 for an exception). The second contribution of this study therefore is providing more insights into an under-researched high involvement eco-friendly product type, namely electric cars.

Finally, this study cross-nationally validates the proposed conceptual model. All well-known models of ethical behavior assume a relationship between the cultural environment and ethical perceptions (Hunt & Vitell, 2006; Kilbourne, Beckmann, & Thelen, 2002). Ethical behavior varies cross-culturally, because a person's interpretation of ethics is greatly influenced by cultural background (Soyez, 2012; Swaidan, 2012). However, while eco-friendly consumer behavior at a national level has been researched since the late 1970's (Kilbourne & Beckmann, 1998), only in the past ten years attention has been given to understanding how culture affects pro-environmental behaviors. Furthermore, research on cross-cultural differences in the adoption process of high-involvement eco-friendly products is rather limited. This study − applying Hofstede's (2001)

framework of national cultural dimensions − validates the proposed conceptual model across three European countries, namely Denmark, Belgium and Italy. Thus, the third contribution of this study is that it presents cross-national motivational differences in the adoption of high-involvement eco-friendly products (De Groot & Steg, 2007).

The next sections present the conceptual model, the justifications for the choice of specific determining constructs, and the hypotheses tested in the study. The research methodology section describes how the research was conducted. Next, the results of the statistical analyses are presented. The final sections discuss results, suggest implications, and outline directions for future research.

2. Theoretical framework

2.1. Conceptual model

According to identity theory (Stryker & Burke, 2000), self-identity is a primary motivator of behavior. Adopting a sociological approach to identity (Stets & Burke, 2003), self-identity is defined as a set of meanings attached to roles individuals occupy in the social structure, and unique ways in which they see themselves in these roles. The core of an identity is the categorization of the self as an occupant of a role, and the incorporation into the self of the meanings and self-expectations associated with that role and its performance. Accordingly, these expectations and meanings form a set of standards that guide behavior (Stets & Burke, 2000): by taking on a role identity, persons adopt expectations to accompany the role, and then tend to act to represent and preserve these expectations (Grubb & Grathwohl, 1967). The greater the salience of the identity, the more likely the person is to engage into actions enacting that self-identity (Stets & Biga, 2003). A consumer's self-identity (i.e., how individuals perceive themselves concerning to specific roles) is therefore an independent predictor of attitudes and consumption behaviors, because individuals seek to maintain consistency with the identity standard through behavioural actions (Arnocky, Stroink, & DeCicco, 2007).

The present study uses this sociological approach to identity theory in the context of pro-environmental behavior, and analyzes how green self-identity – an individual's overall perceived identification with the typical green consumer – represents a mental model which may motivate the individual to engage in specific eco-friendly behaviors (Stets & Biga, 2003; van der Werff, Steg, & Keizer, 2013a). Specifically, our study focuses on the motivational process through which self-identity determines specific ethical motives, attitudes and behavioral intentions in specific eco-friendly consumption contexts (van der Werff et al., 2013b). Previous findings indeed show that self-construal plays an important role in predicting behaviors related to the environment (Arnocky et al., 2007; Clayton, 2007).

In this regard, green self-identity may be considered as a 'primary' motive of pro-environmental behavior (Moisander, 2007), that is, a common motivational root that guides consumers across different eco-friendly consumption behaviors, such as recycling (Mannetti, Pierro, & Livi, 2004), bringing one's own bags when grocery shopping (Chan, Wong, & Leung, 2008), and purchasing eco-friendly products (Shaw & Shiu, 2003). This notion is grounded in well-recognized theoretical models of behavior that postulate the relevance of cross-situational goals or general values (Stern, Dietz, Abel, Guagnano, & Kalof, 1999), as well as in psychological theories, such as dissonance theory (Festinger, 1957) and self-perception theory (Bem, 1972), that postulate individuals' consistency across pro-environmental behaviors and a tendency to avoid inconsistencies in beliefs, attitudes, and actions (Bratanova, Loughnan, & Gatersleben, 2012). This perspective is further corroborated by evidence of positive spill-over effects across similar pro-environmental behaviors (Thøgersen & Ölander, 2003).

The theoretical bases mentioned above support the notion that green self-identity influences consumers in developing positive attitudes toward and intentions to engage in specific pro-environmental behaviors that express the green self-identity role (Sparks & Shepherd, 1992). Individuals who highly recognize themselves as green consumers will be more likely to develop positive attitudes toward eco-friendly behaviors enacting their green self-identity, and more willing

to engage in these behaviors (Rise, Sheeran, & Hukkelberg, 2010). Previous research in marketing contexts (Bhattacharya & Sen, 2003), and in the context of sustainable consumption (Bartels & Hoogendam, 2011), supports the notion of identification as a strong predictor of positive attitudes toward behaviors expressing the identity role. Rise et al.'s (2010) meta-analysis, evaluating the role of self-identity in the theory of planned behavior, also provides strong evidence that self-identity is an independent direct predictor of intention across several behavioral domains.

In addition to the direct influence that green self-identity exerts on consumers' attitudes toward and intentions to perform specific eco-friendly behaviors, Hunt and Vitell's (1986) theory of ethics posits that consumers rely on moral philosophies of 'teleology' and 'deontology' in forming their evaluations (attitudes) in situations involving ethical issues (Vitell, Singhapakdi, & Thomas, 2001). Teleology represents the extent to which consumers rely on the perceived consequences of a behavior (i.e., teleological evaluation is based on the estimated goodness or badness of the consequences of a specific behavioral alternative), while deontology represents internalized ethical, moral principles (i.e., deontological evaluation is based on the inherent moral righteousness of a specific behavioral alternative) (Chan et al., 2008). The more consumers perceive themselves as green consumers, the more they will care about the environmental consequences of a specific consumption behavior (teleological evaluation – care for the environmental consequences of consumption), and the more they will perceive a specific environmentally unfriendly consumption behavior as an unethical behavior a green consumer should not engage in (deontological evaluation – green moral obligation). Both teleological and deontological evaluations influence consumers' attitude toward a specific eco-friendly behavior which, in turn, influences their intention to adopt it.

Figure 1 shows the conceptual model described above. The next paragraph explains the primary concepts included in the conceptual model and formulates the hypotheses of the study.

2.2. Primary concepts and hypotheses development

Green self-identity is a driver of eco-friendly consumption (Clayton, 2007; Whitmarsh & O'Neill, 2010). Oliver and Lee (2010), referring to self-congruity theory (Sirgy, 1986), posit that self-image congruence captures how the consumer feels the product relates to his/her view of who he/she is. Individuals who consider themselves green consumers may consider not purchasing a product if they feel that such behavior does not adequately reflect their green ideology (Clayton, 2003; Kashima, Paladino, & Margetts, 2014). Eco-friendly purchasing behavior may indeed provide an opportunity for satisfying consumers' self-definitional needs (self-verification − Stets & Burke, 2000) and enhancing personal satisfaction (Bhattacharya & Sen, 2003).

Empirical evidence corroborates the idea that green self-identity influences consumer intention to engage in specific green behaviors both directly and indirectly, the latter through the development of positive attitudes toward such behaviors. Oliver and Lee (2010) find that a consumer's green self-image has a strong relationship with the attitude toward purchasing hybrid cars. Madrigal (2001) analyzes the effects of identity on the belief-attitude-intention hierarchy, and finds that the identity-purchase intentions relation is mediated by an individual's attitude toward the behavior. This identity-attitude-behavior hierarchy is further supported by findings in the related context of environmental identity (i.e., how people see themselves in relation to the natural world – Clayton, 2003). For instance, Hinds and Sparks (2008) find that the stronger the environmental identity, the more positive the attitudes toward environmental behaviors, and the more likely consumers engage in these behaviors. Sparks and Shepherd (1992) and Shaw and Shiu (2003) find that, in the context of purchasing organic food, a stronger identification with the organic consumer has a positive effect on behavioral intentions for organic food products or brands, thus suggesting that green self-identity is an additional, direct independent predictor of green behavioral intentions (Rise et al., 2010).

Therefore, in the context of adopting eco-friendly electric cars, we posit that the more consumers perceive themselves as green consumers, the more they will develop a positive attitude toward adopting eco-friendly electric cars, and the more they will be willing to adopt this product.

In addition, as we argued above, according to Hunt and Vitell's (1986) theory of ethics, consumers tend to rely on moral philosophies of 'teleology' and 'deontology' in forming their attitudes in situations involving ethical issues (Vitell et al., 2001). Adopting eco-friendly products is indeed an ethical consumption behavior that implies both *i*) teleological motives (i.e., the extent to which an individual cares for the environmental impact of adopting specific products), and *ii*) deontological motives (i.e., green moral obligation, that is the extent to which an individual recognizes the negative moral aspects of adopting specific products damaging the environment).

With respect to teleological motives, the care for the environmental consequences of consumption is a consequentialist notion that expresses the degree to which consumers are sensitive to the environmental consequences of their own consumption (Hansla, Gamble, Juliusson, & Gärling, 2008). Indeed, consumers may purchase products based on the extent to which they care for the way the consumption of specific products affects the natural environment (Kilbourne & Pickett, 2008). Prior research establishes that values belonging to the ‘universalism’ value type (a broader concern for all people and nature) such as ‘protecting the environment’ and ‘unity with nature’ are significant antecedents of the care for the environmental consequences of purchasing (Grunert & Juhl, 1995; Bamberg, 2003; Leonidou, Leonidou, & Kvasova, 2010), which, in turn, has an impact on consumers’ eco-friendly products purchase intention (Freestone & McGoldrick, 2008). For instance, Follows and Jobber (2000) analyze new-mothers' purchasing behavior of disposable diapers, and find that women who see themselves as environmentally-friendly consumers place higher importance on the environmental consequences which derive from purchasing diapers, and therefore are less likely to purchase disposable diapers. Skippon and Garwood (2011) investigate consumers' responses to battery electric vehicles adoption in the UK, and found that early adopters have high personal concern for the environmental consequences of using cars.

Hence, with respect to the purchase and adoption of eco-friendly electric cars, we posit that the more consumers perceive themselves as green consumers, the more they will place importance

on the environmental consequences of using cars damaging the environment, the more they will develop positive attitudes toward the adoption of eco-friendly electric cars, and the more they will have the intention to purchase these products.

Besides teleological motives, consumers may also adopt eco-friendly alternatives based on deontological motives about what is right or wrong (Vitell et al., 2001; Chan et al., 2008). Green moral obligation can be defined as ‘a personal internal state construct (that) is concerned with the extent to which an individual feels a sense of responsibility to act morally when faced with an ethical situation, such as environmental protection’ (Haines, Street & Haines, 2008, p. 390). This notion is consistent with Schwartz's (1977) norm activation model, in which pro-social behavior is expected to follow from personal norms reflecting feelings of moral obligation to perform or refrain from specific actions. A consumer may adhere to specific eco-friendly principles because it is the right thing to do and the violation of these principles is intrinsically wrong (Peloza, White, & Shang, 2013). The consciousness of not behaving in the right way (i.e., purchasing products that substantially damage the environment) may lead consumers to feeling guilty, in an aroused form of emotional distress, and may trigger negative anticipated emotions (Steenhaut & Van Kenhove, 2006). Guilt arises when one feels personally responsible for violating a moral standard or principle. The feeling of guilt is a negative feeling that individuals actively wish to avoid. Therefore, adopting eco-friendly products can be considered a motivation to relieve one’s own distress and prime positive emotions (Haines et al., 2008). Buying products from manufacturers whose products and processes are more environmentally friendly enhances a desired self-concept, allowing consumers to "feel good about it" (Pickett-Baker & Ozaki 2008, p. 289). This perspective is also consistent with the concept of ‘moral selving’, which refers to the effect of creating oneself as a more virtuous person through practices that acknowledge responsibilities to the environment (Barnett, Cloke, Clarke, & Malpass, 2005).

Measures of moral obligation have been found to significantly predict attitudes and intentions involving moral dimensions, such as use of gene technology (Spark & Shepherd, 1995)

and purchasing ethical products (Peloza et al., 2013; Shaw & Shiu, 2003; Sparks & Shepherd, 2002). Van der Werff et al.'s (2013b) findings show that environmental self-identity is related to one's obligation-based intrinsic motivation to act pro-environmentally, which, in turn, mediates the relationship between environmental self-identity and eco-friendly behavior.

Hence, with respect to the purchase and adoption of eco-friendly electric cars, we posit that the more consumers perceive themselves as green consumers, the more they will feel a moral obligation to avoid environmentally unfriendly consumption actions, the more they will develop positive attitudes toward the adoption of eco-friendly electric cars, and the more they will be willing to adopt these products.

On the basis of the evidence reviewed above, we conceptualize a hierarchical identity-motivation-attitude-behavior model, in which we posit that green self-identity (GSI) is a primary motivation for consumers to develop a positive attitude (AEC) and intention (IA) toward the adoption of eco-friendly electric cars. We also posit that the green self-identity-attitude relation is mediated by teleological and deontological ethical motivations, such as the care for the environmental consequences of using cars (teleological) (EC) and green moral obligation (deontological) (GMO). Finally, we posit that the attitude toward eco-friendly electric cars influences consumers' intentions to adopt them.

Hence, we hypothesize (see Figure 1):

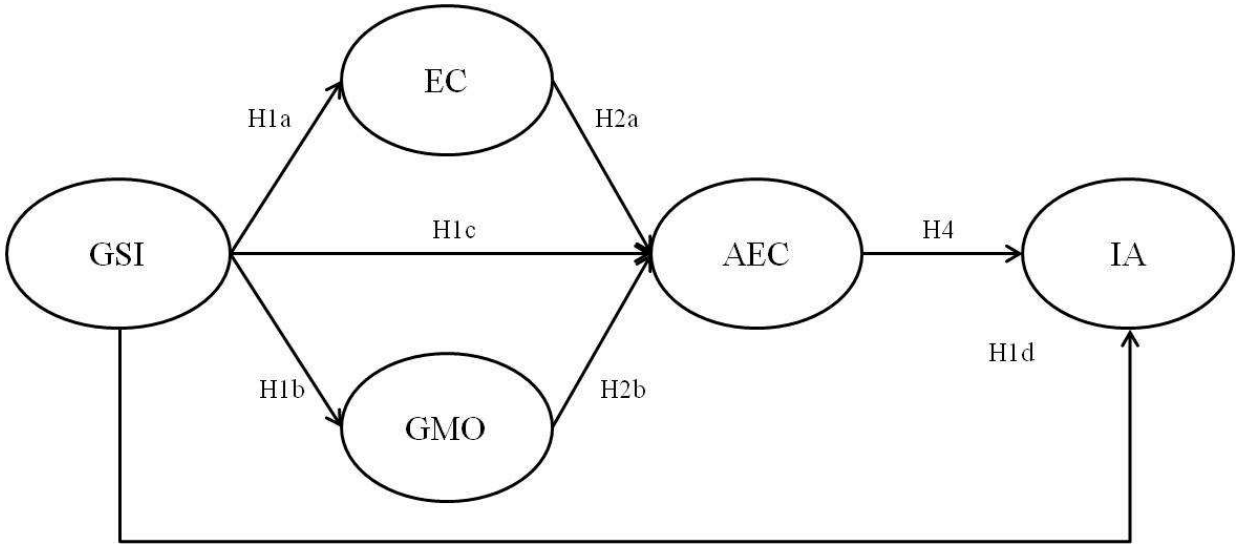
H_1: Green self-identity (GSI) has a positive direct effect on (H_{1a}) the care for the environmental consequences of using cars (EC), (H_{1b}) green moral obligation (GMO), (H_{1c}) the attitude toward the adoption of eco-friendly electric cars (AEC), and (H_{1d}) the intention to adopt electric cars (IA).

H_2: (H_{2a}) The care for the environmental consequences of using cars (EC), and (H_{2b}) green moral obligation (GMO) have a positive direct effect on the attitude toward the adoption of eco-friendly electric cars (AEC).

H_3: Hence, EC (H_{3a}) and GMO (H_{3b}) are expected to mediate the relationship between GSI and AEC.

H_4: The attitude toward the adoption of electric cars (AEC) has a positive influence on the intention to adopt electric cars (IA).

Figure 1 - Conceptual model



Note: GSI = Green self-identity, EC = Care for the environmental consequences of using cars, GMO = Green moral obligation, AEC = Attitude toward the adoption of eco-friendly electric cars, IA = Intention to adopt eco-friendly electric cars

3. Cross-cultural differences in the adoption process of electric cars

This study empirically validates the proposed conceptual model across different countries in order to assess similarities and differences in the decisional process of electric cars adoption. The decisional processes associated with the adoption of eco-friendly products, such as electric cars, may indeed vary depending on cultural orientations and contextual backgrounds (Kilbourne et al., 2002). To this end, we first present Hofstede' s (2001) model of national cultural dimensions, and then we discuss how these dimensions may explain cross-national differences in the relationships characterizing our conceptual model (Kirkman, Lowe, & Gibson, 2006).

3.1. Hofstede's cultural dimensions

Hofstede (2001) distinguishes five dimensions on the basis of which national cultures may differ. Power distance (PDI) is the extent to which individuals in a society accept that power may be

distributed unequally. High PDI societies endorse high levels of inequality and expect obedience from lower-ranking members. Individualism vs. collectivism (IDV) concerns the extent to which, in a national society, people's self-image is defined in terms of "I" or "we". Individualism represents a preference for a loosely knit social framework in which individuals are expected to take care of themselves and their immediate families only. Conversely, collectivist societies are typically more traditional, they emphasize the respect for and maintenance of local traditions and norms. Masculinity (MAS) represents a preference in society for achievement, heroism, assertiveness and material reward for success. Its opposite, femininity, stands for a preference for cooperation, modesty, caring for the weak and quality of life. Masculine societies are more competitive and ambitious (Cleveland, Erdoğan, Arıkan, & Poyraz, 2011). Feminine societies are more consensus- and relationship-oriented. Uncertainty avoidance (UAI) expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. Societies exhibiting strong UAI maintain rigid codes of belief and behavior and are intolerant of unorthodox behavior and ideas. They feel threatened by change and/or novel situations and tend to avoid the risks that may result from exposure to differing cultural perspectives (Cleveland et al., 2011). Finally, long-term orientation (LTO) stands for the fostering of virtues oriented toward future rewards, in particular perseverance and thrift. Its opposite pole, short-term orientation, stands for the fostering of virtues related to the past and present, such as respect for tradition and fulfilling social obligations.

3.2. Cross-cultural differences in the context of eco-friendly products consumption

Cross-cultural differences may be expected with respect to the relationship between green self-identity and consumer attitude toward electric cars adoption. Previous research reports that uncertainty avoidance has a negative influence on ethical attitudes (Franke & Nadler, 2008). Consumers may also be prevented from developing positive attitudes toward new eco-friendly products because of risk-related adoption barriers. Hence, individuals in high uncertainty avoidant countries may be hesitant to converse their green self-identity into a positive attitude toward the

adoption of eco-friendly electric cars (Dwyer, Mesak, & Hsu, 2005). The predisposition to purchase eco-friendly products is higher in long-term oriented cultures, which are also more inclined to express their green self-identity by developing a positive attitude toward new eco-friendly alternatives (Van Everdingen & Waarts, 2003; de Mooij & Hofstede, 2010). Hence, countries with lower levels of uncertainty avoidance and a more long-term orientation are expected to have a stronger direct relationship between green self-identity and consumer attitude toward the adoption of these durables.

Cross-cultural differences may also be expected with respect to the relationship between green self-identity, care for the environmental consequences of using cars, and consumer attitude toward the adoption of electric cars. Feminine countries are more oriented toward caring for the weak and the natural environment, and more compassionate and empathetic toward others (Soyez, 2012). De Groot and Steg (2007) report that in Sweden, which is a feminine society, altruistic values lead to greater awareness of the environmental consequences of a specific behavior. Moreover, individuals in higher uncertainty avoidance cultures may feel a higher need to translate their green self-identity into a more positive effect on their perception of care for the environmental consequences of using an electric car, and hence a more positive attitude towards it. Hence, in more feminine and uncertainty avoidant societies, a teleological view may prevail in that green self-identity should lead to more care for the environmental consequences of consumption, which, in turn, should lead to more positive attitudes toward the adoption of eco-friendly alternatives.

Cross-cultural differences may also be expected with respect to the link between green self-identity, moral obligation and the attitude toward the adoption of electric cars. Feminine cultures are more compassionate and empathetic toward others (Pallab, Abhijit, & Mukhopadhyay, 2006). Hence, feminine cultures are expected to develop moral obligations on the basis of their green self-identity to a stronger extent than masculine cultures. Since deviance from norms is less tolerated in high uncertainty avoidant cultures, we may infer greater intention to comply with their judgment of the ideal than in low uncertainty avoidance cultures where deviance from norms is more tolerated.

High power distance tends to place a greater weight on prescriptive norms (Thorne & Saunders, 2002). One could therefore expect the green self-identity-moral obligation-attitude link to be stronger in high power distant cultures. Hence, we expect that lower masculinity, higher uncertainty avoidance and stronger power distance lead to a stronger deontological relationship between green self-identity, moral obligation and the attitude toward the adoption of electric cars.

Individualists tend to strive for consistency between attitudes and behaviors (de Mooij & Hofstede, 2010; Cho, Thyroff, Rapert, Park, & Lee, 2013). Hence, one would expect a strong relationship between attitudes and behavioral intentions in highly individualistic countries.

4. Study

4.1. Context of analysis and country selection

This study focuses on the European context. The electric car is still in its infancy in most European countries. However, EU member states have a baseline of similarity as regards environmental legislation and therefore – at least to a certain degree – environmental policies that provide the macro framework for eco-friendly consumption patterns to occur. Furthermore, the European Community has given briefings to the stakeholders of this emerging electric car market as to come up with a coherent product-system concept (http://awbriefing.com) that is now in its introduction phase.

On the basis of previous cross-cultural research relying on Hofstede’s dimensions, differences in the relative importance of each of the causal paths in the conceptual model proposed in this study can be expected. Therefore, to test the conceptual model developed in the previous sections cross-culturally, three European countries were selected that differ considerably with respect to a number of relevant Hofstede's (2001) dimensions (Soyez, 2012), namely Denmark, Belgium and Italy (Van Everdingen & Waarts, 2003) (see Appendix A). Belgium scores substantially higher than the other two countries on uncertainty avoidance (UAI) and power

distance (PDI). Denmark scores substantially lower than the other two countries on PDI, UAI and masculinity (MAS), and slightly higher on long-term orientation (LTO). Italy scores highest on MAS and moderately on PDI and UAI. The three countries score equally high on individualism (IND). The countries are also different in terms of standard of living. Italy's GDP/capita is 20% lower than that of Belgium, and 26% lower than that of Denmark (http://epp.eurostat.ec.europa.eu). Finally, the countries differ in terms of macro-economic indices related to environmental protection. According to a recent European Commission's (2013) report, 86% of respondents in Italy think that public authorities are not doing enough to promote good air quality, as compared with 83% in Belgium, and 55% in Denmark. Denmark, Belgium and Italy also differ in terms of total emissions of air pollutants (i.e., nitrogen oxides, particulate matter, and ozone), with Denmark having the lowest and Italy the highest percentage of populations exposed to air pollutants (EEA Belgium, 2013; EEA Denmark, 2013; EEA Italy, 2013).

4.2. Sample and data collection

Since it is important in cross-cultural research that the samples for different cultures are as similar as possible on all aspects other than culture, stratified quota sampling was performed in each country. The stratification criteria were:

1) each respondent owns a driver's license;
2) the same percentage of respondents in each age group (Age: 16% 18-25 years old, 21% 26-35 years old, 21% 36-45 years old, 42% 46-65 years old);
3) the same percentage of respondents in each gender group (Gender: 50% male).

Professional agencies collected data from February to April 2013 in each country. The final sample consists of 2,005 consumers with a driver's license, with:

- 611 respondents in Denmark (Education: 17% junior high school, 39% high school, 44% higher education; Type of car usually driven: 43% small family car, 26% large family car, i.e., sedan, 14% large family car, i.e., break);

- 600 respondents in Belgium (Education: 38% junior high school, 28% high school, 34% higher education; Type of car usually driven: 37% small family car, 17% large family car, i.e., sedan, 21% large family car i.e., break);
- 794 respondents in Italy (Education: 20% junior high school, 36% high school, 44% higher education; Type of car usually driven: 25% small family car, 29% large family car, i.e., sedan, 14% large family car, i.e. break).

4.3. Procedure and measures

An online survey was used to test the proposed model. The questionnaire consisted of closed questions covering three sections: the first section explained the aim of the study and the guidelines for completing the questionnaire; the second section included the measurement scales for the model constructs and for the common method variance assessment; the last section recorded socio-demographic data and thanked the respondents. The constructs were measured using multiple item scales that were drawn from extant literature. The constructs and their items are shown in Appendix B. The survey was developed in English, and then translated and back translated in Danish, Flemish, and Italian.

Green self-identity (GSI) was measured using Sparks and Shepherd's (1992) self-identity scale, which was found to be a valid and reliable scale in previous research on ethical consumption (e.g., Shaw & Shiu, 2003; Whitmarsh & O'Neill, 2010). The care for the environmental consequences of using cars (EC) was measured using Follows and Jobber's (2000) environmental consequences scale. In this respect, according to the principle of compatibility (Ajzen & Gilbert Cote, 2008), we opted to measure an 'inward' measure of environmental care for specific consumption actions instead of measuring a general measure of environmental concern (Leonidou et al., 2010). Green moral obligation (GMO) was measured using Sparks and Shepherd's (2002) valid and reliable perceived moral obligation scale (e.g., Spark & Shepherd, 1995; Shaw & Shiu, 2003). Consumer attitude toward the adoption of electric cars (AEC) was measured by adapting

Taylor and Todd's (1995) attitudes toward green purchase scale, a scale that has proven to be valid and reliable in previous research about green purchasing (e.g., Chan & Lau, 2001). Again, following the principle of compatibility, we measured 'inward' attitude toward a specific behavioral action and object instead of considering general 'outward' measures of environmental attitude (Leonidou et al., 2010). Finally, the intention to adopt an electric car (IA) was measured using Moons and De Pelsmacker's (2012) intention to use the electric car scale. Where required, the scales were adapted to the product category at hand. All items were measured on a 7-point Likert scale anchored by “1= completely disagree” and “7= completely agree”.

5. Data analysis and results

We used structural equation modeling to test the model, following Anderson and Gerbing’s (1988) two-step approach. The first step involved the assessment of the measurement model by carrying out confirmatory factor analysis (CFA) on each sample. The second step involved the analysis of the full structural model on each sample. Finally, we performed multi-group analysis to assess differences across countries.

5.1. Confirmatory Factor Analysis

As a first step, we validated the five-factor measurement model by means of CFA using LISREL 8.80 (Jöreskog & Sörbom, 2006). Appendix B[1] shows that global fit indices meet standard requirements in all samples: RMSEA< .08, SRMR < .08, and NFI, NNFI and CFI > .95. Also local fit criteria are good. All standardized item loadings (λCFA) significantly (p< .01) load on their constructs, and factor loadings are substantially greater than .60 (ranging from .72 to .96 – Bagozzi

[1]Appendix B only reports the final items of the scales used in subsequent analyses, that is those items which resulted, from an exploratory factor analysis (maximum likelihood method with promax rotation), as having factor loadings >.50 on the hypothesized constructs and no cross-loadings >.30.

and Yi, 1988). Cronbach's alphas (α) for all constructs are greater than .70 (ranging from .84 to .94). The composite reliability (CR) threshold of .60 is met for every factor (ranging from .85 to .94), and the average variance extracted (AVE) is always greater than .50 (ranging from .65 to .85). In Appendix C, for each country, means and standard deviations per construct, and correlations between constructs, are provided. Correlations among components range from .38 to .78 in the Danish sample, from .33 to .77 in the Belgian sample, and from .31 to .73 in the Italian sample. Discriminant validity is confirmed in each sample because the shared variance between pairs of factors is always less than the corresponding AVE (Fornell & Larcker, 1981).

5.2. Common method variance assessment

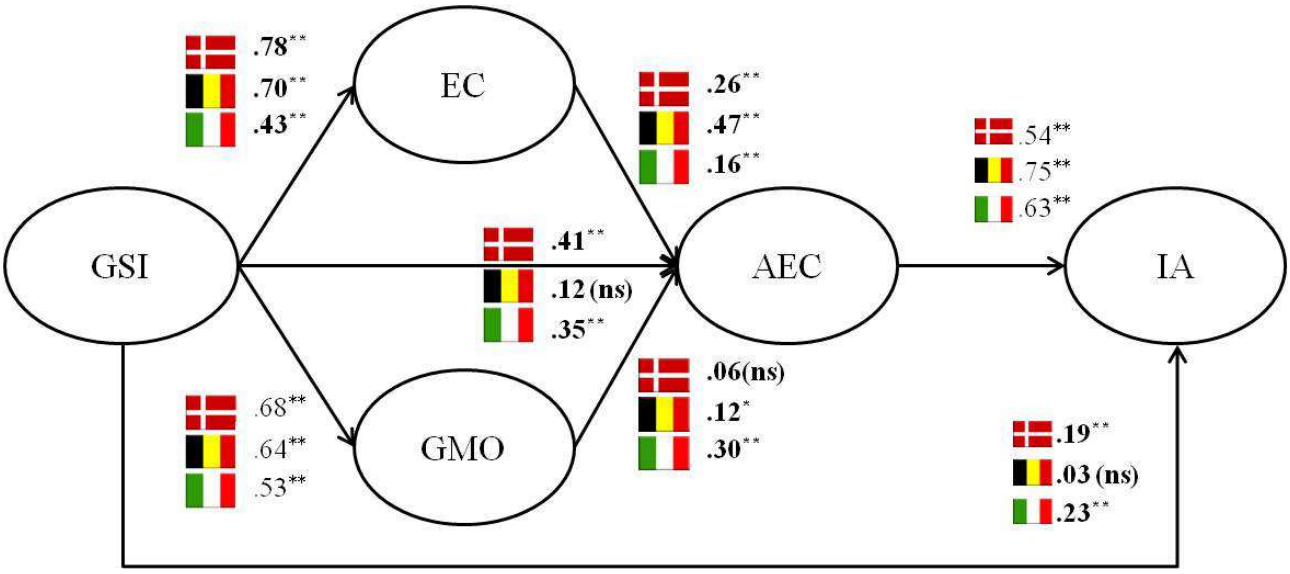
We followed Podsakoff, MacKenzie, Lee, & Podsakoff's (2003) procedures to control for evaluation apprehension and common method variance. Ex ante, to prevent evaluation apprehension, respondents were assured of the questionnaires being anonymous, that there were no right or wrong answers, and that they should answer as honestly as possible. Ex post, we investigated common method variance statistically by applying the 'marker variable' technique. We used as the marker variable the 7-point Likert scale item 'It is not right to purchase foreign eco-friendly electric cars because this puts Danish/Belgian/Italian people out of jobs', which we expected to be conceptually unrelated to both our predictors and the criterion variables. All coefficients that were significant in a bivariate correlation analysis also remained statistically significant after we controlled for the marker variable. Therefore, we conclude that common method variance does not represent a threat in our data.

5.3. Structural model

Analysis of the full structural model for each country was performed using the maximum likelihood method in LISREL 8.80. Both global and local fit indices gave good results with all

standardized item loadings significantly (p< .01) greater than .60, ranging from .72 to .96 (see Appendix B). Figure 2 and Table 1 show results for the hypothesized paths in each sample.

Figure 2 - Structural paths and multi-group analysis



Note:
**=p <.01, *=p<.05, (ns)=not significant.
Bolded parameters are significantly different from each other across groups ($\Delta\chi^2(1) \rightarrow p < .05$).
GSI = Green self-identity, EC = Care for the environmental consequences of using cars, GMO = Green moral obligation, AEC = Attitude toward the adoption of eco-friendly electric cars, IA = Intention to adopt eco-friendly electric cars.

Table 1 - Structural paths, multi-group analysis and structural invariance

Hypotheses	*Direct effects*	*Denmark*	*Belgium*	*Italy*	*Δχ²*	*Δd.f.*	*p*
H_{1a}	GSI→EC	**.77****	**.70****	**.43****	16.17	2	<.05
H_{1b}	GSI→GMO	.67**	.64**	.53**	1.29	2	>.05
H_{1c}	GSI→AEC	**.41****	**.12(ns)**	**.35****	7.74	2	<.05
H_{1d}	GSI →IA	**.19****	**.03 (ns)**	**.23****	16.18	2	<.05
H_{2a}	EC→ AEC	**.26****	**.47****	**.16****	12.14	2	<.05
H_{2b}	GMO→ AEC	**.06(ns)**	**.12***	**.30****	12.03	2	<.05
H_4	AEC →IA	.54**	.75**	.63**	4.76	2	>.05
	Indirect effects						
	GSI→AEC	.24**	.41**	.23**			
	GSI→IA	.35**	.40**	.36**			
H_{3a}	GSI→EC→ AEC	.20**	.33**	.07**			
H_{3b}	GSI→GMO→ AEC	.03 (ns)	.08**	.16**			

Notes: **=p <.01, *=p<.05, (ns)=not significant

Hypotheses on the direct effects (H_1 and H_2 and H_4) are all confirmed, except for the direct effect of GSI on AEC (H_{1c}), and GSI on IA (H_{1d}) in Belgium, and that of GMO on AEC (H_{2b}) in

Denmark. Our results do not only reveal the significance of the direct hypothesized effects, but also that of the total indirect effects of GSI on AEC and IA in all the samples (see Table 1).

In addition, the results show that the specific indirect effects of GSI on AEC via EC (H_{3a}: GSI→EC→AEC) and GMO (H_{3b}: GSI→GMO→AEC) are always significant, with the exception of the GSI→GMO→AEC path in the Danish sample (.03, $p > .10$). To further test the significance of hypothesized mediating effects of EC and GMO on AEC (H_{3a} and H_{3b}), we performed delta chi squared tests ('nested' models): in each sample, we compared two models, one in which the path from GSI to AEC is constrained to zero and one model in which all paths among the variables are allowed to vary freely. Results show that in the Danish sample, the chi squared difference is significant ($\Delta\chi^2$ (*1*)=27.07, $p < .05$), thus suggesting that the constraint imposed should be rejected, and confirming that EC partially mediates GSI on AEC (.20, $p < .05$), whilst the insignificance of the GMO→AEC path (.06, $p > .10$) excludes any mediating effect of GMO between GSI and AEC. In the Belgian sample, the chi squared difference is not significant ($\Delta\chi^2$ (*1*)=3.40, $p > .05$), thus suggesting that the constraint should not be rejected and confirming that EC (.33, $p < .05$) and GMO (.08, $p < .05$) fully mediate GSI on AEC. Finally, in the Italian sample, the chi squared difference is significant ($\Delta\chi^2$ (*1*)=30.38, $p < .05$), thus confirming that EC (.07, $p < .05$) and GMO (.16, $p < .05$) partially mediate GSI on AEC.

Summing up, for Denmark, all hypotheses except H_{2b} and H_{3b} are supported. In Belgium, all hypotheses except H_{1c} and H_{1d} are supported. All hypotheses are supported in the Italian sample.

5.4. Multi-group analysis

In order to test the equivalence of the factorial measurement and the structure model across countries, configural, metric and structural invariance tests were performed on the full sample model (n=2,005) (see Tables 2 and 3). Configural invariance, i.e. whether the pattern of fixed and free parameters is the same for the three groups, was met ($\chi^2(240)$= 668.79, RMSEA= .05, NFI= .99, NNFI= .99, NNFI= .99). Metric invariance (M.I.), i.e. whether the factor structure is

statistically invariant among the three groups, was not observed ($\Delta\chi^2(20)$= 133.44, p< .05) (see Table 2). A partial metric invariance test was then conducted, and items responsible for the metric inequivalence were unconstrained. Partial metric invariance was met ($\Delta\chi^2(10)$= 15.74, p> .10) (see Table 3). Therefore, the model could be meaningfully compared across the three countries.

Structural invariance (S.I.), i.e. whether regression weights for each of the structural paths are statistically invariant among the groups, was tested. Constraining paths of all the three samples at the same time yielded a significant delta chi-square ($\mathbf{\Delta}\chi^2(14)$= 89.74, p< .05) indicating significant differences in the structural paths among the groups. Paths significantly different among the samples are reported in bold in Figure 2 and in Table 1. Results show that paths GSI→EC ($\mathbf{\Delta}\chi^2(2)$= 16.17, p< .05), GSI→AEC ($\mathbf{\Delta}\chi^2(2)$= 7.74, p< .05), GSI→IA ($\mathbf{\Delta}\chi^2(2)$= 16.18, p< .05), EC→AEC ($\mathbf{\Delta}\chi^2(2)$= 12.14, p< .05) and GMO→AEC ($\mathbf{\Delta}\chi^2(2)$= 12.03, p< .05) significantly differ across the three countries, while paths GSI→GMO ($\mathbf{\Delta}\chi^2(2)$= 1.29, p> .05) and AEC→IA ($\mathbf{\Delta}\chi^2(2)$= 4.76, p> .05) do not.

Table 2 - Configural, metric and partial metric invariance

	C.I.		M.I.		P.M.I.	
	SRMR	GFI	SRMR	GFI	SRMR	GFI
Denmark (n=611)	.05	.94	.07	.91	.06	.93
Belgium (n=600)	.06	.93	.06	.94	.05	.94
Italy (n=794)	.04	.96	.04	.94	.04	.95

Notes: C.I.=Configural invariance; M.I.=Metric invariance; P.M.I.=Partial metric invariance

Table 3 - Full model: configural, metric and partial metric invariance

		χ^2	d.f.	RMSEA	NFI	NNFI	CFI	ΔCFI	$\Delta\chi^2$	Δd.f.	*p*-value
Full sample (n=2,005)	C.I.	668.79	240	.05	.99	.99	.99				
	M.I.	802.29	260	.05	.98	.99	.98	-.003	133.44	20	<.05
	P.M.I.*	684.53	250	.05	.99	.99	.99	0	15.74	10	>.10

*unconstrained $GSI_{2,3}$, $GMO_{2,3}$ and ATT_2

6. Discussion

The present study posits that green self-identity represents a mental model that drives an individual to engage in specific green behaviors, such as the adoption of eco-friendly electric cars. Specifically, this work focuses on the motivational process through which self-identity may enact

specific motives, attitudes and behavioral intentions consistent with the 'green' self-identity standard. We therefore hypothesize that green self-identity influences consumer attitude and intention to adopt electric cars directly, and indirectly via the mediating effects of teleological and deontological motives, to which consumers rely in situations involving ethical issues: the care for the environmental consequences of using cars, and green moral obligation. Finally, we also hypothesize that attitude is an antecedent of consumer intention to adopt electric cars. The study empirically tests this conceptual model in three European countries (Denmark, Belgium and Italy) in order to assess significant cross-national differences in the hypothesized paths. Cross-national differences are further explained relying on Hofstede's (2001) national cultural dimensions.

The results show that the conceptual model is largely supported in all three samples. Furthermore, results reveal significant differences across the countries studied, especially in the first steps of the decision process (i.e., attitude formation). On the contrary, no significant differences occur across the three countries in the attitude-intention relation.

For Danish consumers, primarily the greater the green self-identity, the more positive consumer attitude toward the adoption of electric cars is (.41, $p< .01$), which is also reinforced by the positive indirect effect of the care for the environmental consequences of using cars (.20, $p< .01$). The direct effect of green self-identity on consumer intention to adopt electric cars is also significant and positive (.19, $p< .01$).

For Belgian consumers, most importantly, the greater the green self-identity, the more consumers consider the environmental consequences of using cars (.70, $p< .01$). Furthermore, the green self-identity influences consumer attitude toward the adoption of electric vehicles indirectly via the consideration of the environmental consequences of using cars (.33, $p< .01$). The direct effect of green self-identity on consumer intention to adopt electric cars is not significant (.03, $p> .05$).

For Italian consumers, positive attitudes toward the adoption of electric cars are primarily influenced by green self-identity directly (.35, $p< .01$) and indirectly via the mediating effect of

green moral obligation (.16, $p < .01$), whilst the mediating effect of the care for the environmental consequences of using car is more limited (.07, $p < .01$). The direct effect of green self-identity on consumer intention to adopt electric cars is significant and positive (.23, $p < .01$).

Finally, for all the three samples, the attitude-intention relation is significant and rather strong.

Multi-group comparison reveals that green self-identity, care for the environmental consequences of using cars, and green moral obligation play significantly different roles in the formation of consumer attitude and intention toward the adoption of the electric car in the three countries. The direct effect of green self-identity on the attitude toward electric cars adoption is highest in Denmark, somewhat lower in Italy, and non-significant in Belgium. The non-significant effect in Belgium can be explained by the high uncertainty avoidance in Belgian culture. The strong effect of the relationship in Denmark can be explained by lower uncertainty avoidance and relatively higher long-term orientation. Italy scores higher on uncertainty avoidance than Denmark, and is less long-term oriented than Denmark. Hence, the effect of green self-identity on electric car attitude development is lower in Italy than in Denmark.

In Denmark and Belgium, the care for the environmental consequences of using cars significantly mediates the relationship between green self-identity and the attitude toward electric cars adoption. There is a relatively strong link between green self-identity and care for the environmental consequences of using cars, and between care for the environmental consequences of using cars and attitude toward the electric cars in Belgium. Due to high uncertainty avoidance in Belgium, green self-identity only influences the attitude towards eco-friendly products provided it leads to the development of environmental care. The relatively strong links between care for the environmental consequences of using cars and attitude in Denmark can be explained by the relatively high femininity in this country. Conversely, Italy is a very masculine country. Moreover, as Mukherji (2005) argues, the higher the standards of living, the more citizens allow themselves to develop environmental concerns and to give priority to post-materialistic values such as

environmentalism. Italy's GDP/capita is 20% lower than that of Belgium and Denmark. Both masculinity and a lower standard of living in Italy could explain the weaker green self-identity-environmental care-attitude relationship in this country.

With respect to the link between green self-identity, moral obligation and the attitude toward the electric car adoption, again different effects are found in the three countries. Feminine cultures can be expected to easier develop a moral obligation on the basis of their green self-identity. Indeed, there is a relatively stronger green self-identity-moral obligation relationship in Denmark than in the other two countries.

In high uncertainty avoidant cultures, greater intention to comply with individuals' judgments of the ideal is expected than in low uncertainty avoidance cultures. It was also suggested that the moral obligation-attitude link would be stronger in high power distant cultures, because the urge to conform to what is felt as an obligation is stronger. Uncertainty avoidance and power distance could indeed explain the strong moral obligation-attitude link in Italy and the insignificance of this relationship in Denmark. Moral obligation only mediates the green self-identity-attitude relationship in Italy.

The three countries are equally and relatively highly individualistic. Hence, as expected, there is a strong relationship between attitudes and behavioral intentions without significant differences across the three countries.

7. Implications for policy makers and marketers

Although analyses of our study are correlational in nature, and some caution is advised to interpret the results, policy makers, marketers, and organizations can use our findings to influence consumer attitude and intention to adopt electric cars, and thus foster the diffusion of these durables among consumers.

In order to develop positive attitudes toward the adoption of electric cars in Denmark, communications could emphasize how consumers may enhance their self-identity by adopting an electric car, and additionally address the specific positive impact of electric car usage on the environment. With respect to the former, communication could focus on sustainable consumers as a group that people would like to be a part of to enhance their own self-esteem. Griskevicius, Cantú, & Van Vugt (2012) found that identity enhancement motivations increased the desire for eco-friendly products, especially when consuming products in public. For instance, a 2010 advertisement of the Toyota Prius goes in this direction. This ad claims "I am the original […], I am the first […], I am forward […] and I am doing it cleaner. I am the next Prius full hybrid. Follow me." (http://www.youtube.com/watch?v=FuGJtIUow3o&feature=related), thus emphasizing green-self-identity enhancement. As a second step, communication efforts in Denmark should also consider the mediating role played by the EC variable in developing positive attitudes, and thus showing how using cars dramatically damages the environment (e.g., in term of CO_2 emissions, and air pollution).

Communication in Belgium could emphasize that being an eco-friendly consumer means taking into account the negative environmental consequences of using cars, and it could invite consumers to opt for eco-friendly consumption choices which have a reduced negative impact on the environment. For Belgian consumers the effect of GSI on attitudes is fully mediated by the care for the environmental consequences of specific consumption actions: "I am a green consumer, and I care about the specific environmental consequences that may derive from my driving habits. Therefore, since I want to reduce my environmental footprint, I form positive attitudes toward the adoption of eco-friendly electric cars". We may consider the 2007 Toyota Prius advertisement as an example. This ad claims that "The best way for a car company to have an impact on the environment is to have as little impact as possible" (http://www.youtube.com/watch?v=kQsNs8SWCkU).

The results for Italy indicate that, in the attempt to develop positive attitudes toward the adoption of electric cars, policy makers and marketers could rely on messages that emphasize Italian consumers' green self-identity and status, and consumers' adherence to ethical obligations and moral principles. Similar to the Danish population, ads enhancing green self-identity may be effective. In addition, since green moral obligation also plays a role in influencing Italian consumers' attitudes towards the adoption of electric cars, communication may focus on how consumers may relieve their distress and feel satisfied by obeying to moral obligations, and engaging in virtuous commendable consumption choices (i.e., the adoption of an eco-friendly vehicle). For instance, Renault's 2011 electric car advertising campaign goes in this direction. This ad shows ordinary, daily consumption activities which all create air pollution and make consumers feel morally guilty when performing these actions. Then, the ad claims "You've already switched to electricity for many things. So why not for travelling?", and a woman recharging a plug-in vehicle in a very relaxed atmosphere appears (https://www.youtube.com/watch?v=ZqN9VWb75D0&feature=related).

Consequently, different tailored policy or marketing strategies could be employed in the three countries, following the suggestions we provided above. A more standardized approach could be used in converting attitudes into consumers' intention to adopt electric cars.

8. Limitations and suggestions for further research

The present study develops a conceptual model focusing on the motivational process through which green self-identity enacts specific ethical (teleological and deontological) motives, positive attitudes and behavioral intentions toward the adoption of eco-friendly electric cars, thus contributing to developing insights into the consumer motivational process of electric cars adoption. Second, the study applies the proposed identity based eco-friendly intention formation model in the context of electric cars adoption, thus contributing to developing insights into an under-researched

high involvement eco-friendly product type. Third, this research validates the proposed conceptual model cross-nationally (Denmark, Belgium and Italy), relying on Hofstede's framework of national cultural dimensions, thus contributing to developing insights into potential cross-national differences in the adoption of high-involvement eco-friendly products.

Despite these important contributions, the present study has some limitations that should be addressed in future research. Our study assigns a pivotal importance to green self-identity, which we define as the overall extent to which individuals perceive themselves as green consumers. Research bringing identity theory into environmental sociology (Stets & Biga, 2003; Kashima et al., 2014) calls for further research on the role of 'multiple' identities in the social contexts and their (eventually conflicting) influences on pro-environmental consumption choices. Considering that electric cars represent a case where multiple social identities and the influence of relevant others may play a pivotal role in influencing consumption choices, future research is invited to explore this issue.

The proposed model tests the specific role of green self-identity in influencing ethical (teleological and deontological) motives, attitudes toward, and behavioral intentions of, electric cars adoption. It ignores the role of, for instance, perceived behavioral control and the subjective norm. Indeed, Moons and De Pelsmacker (2014), using an extended model of the theory of planned behavior, found that, in the very early stage of the adoption process of electric cars (as is the case of the countries studied here), perceived constraints and facilitators do not influence the usage intention of electric cars and the subjective norm plays a minor role for usage intention. However, with the progressive diffusion of eco-friendly electric cars in the market, these factors may play an increasingly important role. Therefore, in later electric car adoption stages, further investigation on the interplay between green self-identity, green social identity, social norms and facilitators or constraints is needed.

Finally, our results revealed cross-national differences in the process of attitude formation across Danish, Belgian, and Italian consumers. Denmark, Belgium, and Italy differ considerably in

terms of national cultural characteristics. Although the countries studied have been carefully selected to represent culturally diverse societies, they are all European. Culturally different as they may be, in a global perspective, European countries are still quite similar. Therefore, we invite future research to test the proposed model using non-European cultures in order to reveal stronger country- and culture-specific paths.

Appendix A
Comparison of the three countries based on Hofstede's national cultural dimensions

Country	Denmark	Belgium	Italy
Power distance (PDI)	18	65	50
Individualism (IDV)	74	75	76
Masculinity (MAS)	16	54	70
Uncertainty avoidance (UAI)	23	94	75
Long-term orientation (LTO)	46	38	34

Notes: Scores for Hofstede’s dimensions are measured on a 0-100 scale

Appendix B
Item list per construct , cronbach's alpha, composite reliability, average variance extracted

Constructs and items	*Denmark (n=611)*					*Belgium (n=600)*					*Italy (n=794)*				
	λCFA	λSM	α	CR	AVE	λCFA	λSM	α	CR	AVE	λCFA	λSM	α	CR	AVE
Green self-identity (GSI)			.86	.86	.68			.89	.90	.75			.87	.88	.71
I think of myself as someone who is concerned about environmental issues (GSI_1)	.87	.87				.80	.82				.72	.73			
I think of myself as a "green" consumer (GSI_2)	.86	.85				.87	.86				.91	.90			
I would describe myself as an ecologically conscious consumer (GSI_3)	.72	.72				.92	.90				.88	.88	.86	.87	.69
Care for the environmental consequences of using cars (EC)			.92	.93	.81			.86	.87	.69					
It is important to me how cars usage may affect the environment (EC_1)	.94	.94				.84	.85				.87	.88			
It is important to me whether cars cause the depletion of our natural sources such as petrol (EC_2)	.83	.83				.76	.76				.75	.75			
It is important to me whether car usage causes air pollution (EC_3)	.92	.92				.88	.87				.85	.85			
Green moral obligation (GMO)			.94	.94	.85			.93	.92	.80			.93	.93	.82
I would feel guilty if I drove a car damaging the environment (GMO_1)	.89	.89				.86	.85				.84	.84			
To buy a car that damages the environment would be morally wrong for me (GMO_2)	.96	.96				.91	.91				.95	.96			
Buying a car that affects the environment would go against my principles (GMO_3)	.91	.91				.94	.94				.91	.91			
Attitude toward the adoption of eco-friendly electric cars (AEC)			.90	.90	.73			.89	.89	.73			.87	.87	.70
I would feel satisfied about myself if I bought an eco-friendly electric car (AEC_1)	.78	.78				.82	.82				.76	.76			
I take pride in owning an eco-friendly electric car (AEC_2)	.92	.92				.84	.84				.86	.86			
I like the idea to own an environmentally friendly electric car (AEC_3)	.91	.90				.91	.90				.87	.86			
Intention to adopt eco-friendly electric cars (IA)			.84	.85	.65			.91	.92	.79			.86	.87	.68
Next time I buy a car, I will consider buying an eco-friendly electric car (IA_1)	.75	.75				.83	.83				.77	.77			
I expect to drive an eco-friendly electric car in the near future (IA_2)	.82	.82				.89	.89				.79	.79			
I have the intention to drive an eco-friendly electric car in the near future (IA_3)	.85	.85				.92	.92				.91	.91			

CFA_{DEN}	SM_{DEN}	CFA_{BEL}	SM_{BEL}	CFA_{ITA}	SM_{ITA}
RMSEA=.06	RMSEA=.07	RMSEA=.05	RMSEA=.06	RMSEA=.04	RMSEA=.05
SRMR=.06	SRMR=.07	SRMR=.05	SRMR=.070	SRMR=.04	SRMR=.06
NFI=.98	NFI=.98	NFI=.99	NFI=.98	NFI=.99	NFI=.98
NNFI=.98	NNFI=.98	NNFI=.99	NNFI=.98	NNFI=.99	NNFI=.99
CFI=.99	CFI=.99	CFI=.99	CFI=.98	CFI=.99	CFI=.99

Notes: λCFA=Factor loadings in confirmatory factor analysis; λSM=Factor loadings in structural model; α= Cronbach's alpha; CR=Composite reliability; AVE=Average variance extracted.

Appendix C
Mean scores and standard deviations per construct and correlation matrices between constructs per country

Denmark (n=611)					
	GSI	EC	GMO	AEC	IA
	(M= 4.24; SD= 1.28)	(M= 4.97; SD=1.20)	(M= 3.89; SD= 1.47)	(M= 4.30; SD= 1.53)	(M= 2.43; SD= .91)
GSI	1.00				
EC	.78**	1.00			
GMO	.6**	.52**	1.00		
AEC	.64**	.60**	.47**	1.00	
IA	.54**	.48**	.38**	.67**	1.00
Belgium (n=600)					
	GSI	EC	GMO	AEC	IA
	(M= 4.26; SD= 1.19)	(M=5.03; SD=1.14)	(M= 4.75; SD= 1.44)	(M= 4.00; SD= 1.46)	(M= 3.02; SD=1.36)
GSI	1.00				
EC	.70**	1.00			
GMO	.64**	.45**	1.00		
AEC	.52**	.61**	.41**	1.00	
IA	.43**	.48**	.33**	.77**	1.00
Italy (n=794)					
	GSI	EC	GMO	AEC	IA
	(M= 5.20; SD= 1.18)	(M= 4.63; SD= 1.59)	(M= 5.90; SD= 1.10)	(M= 5.08; SD= 1.36)	(M= 3.84; SD= .82)
GSI	1.00				
EC	.43**	1.00			
GMO	.52**	.23**	1.00		
AEC	.58**	.38**	.52**	1.00	
IA	.54**	.31**	.42**	.73**	1.00

Notes: M= Mean; SD= Standard deviation; ** = p <.01, * = p<.05, (ns)= not significant.

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