



**Doctoral School of  
Management and  
Business  
Administration**

## **THESIS**

**Marianna Piskóti**

**The Role of Environmental Identity in the Development of Environmentally  
Conscious Behaviour**

Ph.D. Thesis

**Supervisor:**

**Dr. Ágnes Hofmeister-Tóth**  
Professor

Budapest, 2015



**Institute of Marketing and Media**  
**Department of Marketing Research and Consumer Behaviour**

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## 1. BACKGROUND TO RESEARCH AND REASONING BEHIND THE THESIS

Consumer welfare society entails the process of individualism resulting in a significant change in the relationship between the individual and society. The comfort of the consumer society enables individuals not to have to depend on each other so strongly. Due to the loose binds the community spirit and the power of community has decreased. Identity can not be developed without social interactions (Mead, 1973). Because of a lack of community spirit, individual responsibility is limited to self responsibility only and formed such behavior types that have a negative impact on environment whether it be related to social connections, nature, or the planet.

A commitment to environmentally conscious behaviour can help an individual to develop a feeling of belonging to nature (Clayton, 2003) . If the self-concept is expanded to the natural world, then those behaviours which lead to the destruction of the environment will be considered as self-destructive behaviour (Mayer & Frantz, 2004), and this is why we should attempt to avoid them. The concept of environmental identity - that is the degree to which we feel that nature is an important part of the self (Clayton, 2003) - can be seen as a strong influence on the change of behaviours towards a commitment to environmentally conscious behaviour. In my dissertation I will explore the significance of environmental identity and its effect on environmentally-friendly behaviour in the interest of revealing the role of environmental identity in environmentally-friendly activities and the development of sustainable consumption.

### 1.1. OBJECTIVE OF THE RESEARCH

Along with consumer behaviour research, green marketing and social marketing, among others, environmental psychology also deals with the examination of the determining factors of environmentally-friendly behaviour, although the results do not always lend themselves to mutual use and interconnections. The themes of research in the different fields are strongly connected and thus – as I have continued my studies in both fields – I consider it to be particularly important and essential to use the results obtained in both fields in my dissertation.

The dissertation focuses on psycho-graphic factors, as personality and environmental identity in particular. In the research of the development of environmentally-friendly behaviour, the examination of the role of personality (Davis et al., 2009; Dono et al., 2010; Hinds & Sparks, 2008) is justified by the existing gap (Csutora, 2012; Kraus, 1995; Vermeir & Verbeke, 2006) between attitude and actual behaviour. In order to understand the concept of environmental identity, an emphasis is placed on the theory of the development of personality as well as on

marketing aspects. Later, I will go on to determine in detail the possibilities of examining the relationship between individuals and nature and the concept of environmental identity.

*The primary goal of my research* is to build environmental identity into the established models of consumer behaviour and examine the effect of environmental identity on the extent of environmentally conscious behaviour.

The question of my research is as follows: What are the main determining factors of environmentally-friendly behaviour and what effect does environmental identity has in particular?

I have also formulated the following sub-queries in relation to my research question:

1. What are the possible methods for measuring environmental identity?
2. Which factors have an effect on the strength of environmental identity?
3. What direction and strength has the effect of environmental identity on environmentally-friendly behaviour? Is there a direct effect of environmental identity, and if so, the mediating effect of which psycho-graphic factors needs to be taken into consideration?

The practical significance of the research is to raise the possibility of introducing and justifying the new factor of environmental identity in the focus of social marketing campaigns focusing on developing environmentally-friendly activities. With exploring the measurement, determining factors, effect, connections and complex relations of environmental identity, the foundation of the nature and possible focal points of marketing activities is laid down.

## 1.2. THEORY OF RESEARCH, PRIOR RESEARCH

A bond to nature through experiencing a natural environment as belonging a community is a prerequisite of environmentally conscious behaviour (Mayer & Frantz, 2004). If we can view nature as a community in which we live, we will learn to love, respect and protect it. The identity theories of social psychology – as symbolic interactionism (Mead, 1973) and the Social Identity Theory (Tajfel, 1981) – form the foundations of my starting point, that social interactions and group membership can have a significant effect on the individual self-concept. These feelings of identity with group members appear and can determine our attitudes and ways of thinking: that is, how one should feel and behave as a member of a group (Tajfel, 1981). The basis of examining environmental identity is for the individual to view the natural environment as a community and thus the environment will become a part of the self (Clayton & Opatow, 2003). As the environment becomes part of our identity, it will ascertain a community role and with this role comes responsibility (Clayton & Opatow, 2003). Thus, the formation of

environmental identity can directly explain how abstract global problems will become a personal issue.

In the wording of Clayton (2003), environmental identity can be captured in the following statement: ‘An environmental identity is one part of the way in which people form their self-concept: a sense of connection to some part of the nonhuman natural environment, based on history, emotional attachment, and/or similarity, that affects the ways in which perceive and act toward the world; a belief that the environment is important to us and an important part of who we are’ (Clayton, 2003:45-46). Environmental identity is thus the degree to which an individual views his relationship with nature as a key part of his own personality (Piskóti, 2013). Environmentally-friendly actions are not generally carried out for the sake of improving our usefulness, but in the interest of achieving moral satisfaction. (Clayton, 2003). An important motivation of commitment towards environmentally-friendly behaviour is to convey information about the self and membership of a community. With the help of this function, an examination of identity can provide an opportunity to predict the behaviour of others with similar identities (Zavestoski, 2003) as well as assisting in the formation of environmentally-friendly actions.

In the interest of more easily reaching the environmentally conscious consumer, many variables have been used in an attempt to characterize them by researchers. Demographic variables represent one of the most specific categories on the basis of the ease of applicability of segmentation (Straughan & Roberts, 1999). The typical environmentally conscious consumer has the following characteristics: young adult, mid-high income and highly educated, and urban woman (Diamantopoulos et al., 2003).

From another perspective, researchers examining psycho-graphical and social factors entered the fray. They confirmed that the factors have more predictive power on environmentally-friendly behaviour, than demographics (Straughan & Roberts, 1999). Among the most common concepts examined were environmental knowledge, environmental attitude, value orientations, and environmental concern (Leonidou et al., 2010). Numerous studies (Bamberg & Möser, 2007; Zsóka et al., 2013) have linked the aforementioned factors to environmentally-friendly behaviour, on average with a strong relationship, but different researchers have found varied results.

Personality has been added to the group of psycho-graphic factors in the last few years (Bartels & Hoogendam, 2011; Brügger et al., 2011). The concept of environmental identity integrates individual feelings and closeness to nature into personality. We can view bonds to the environment, a feeling of commitment as important factors in the development of

personality and identity of an environmentally conscious individual. The relationship between the environment and the individual was defined the theoretical concept of self and identity with a different emphasis (Bragg, 1996; Cantrill & Senecah, 2001; Clayton, 2003; Thomashow, 1995).

Thomashow defines ecological identity as relating to ‘all the different ways people construe themselves in relationship to the earth as manifested in personality, values, action, and sense of self. Nature becomes an object of identification’ (Thomashow, 1995: 3.). Nature thus forms the foundation of identification. Thomashow approaches ecological identity from an environmental education perspective, emphasising that in the formulation of ecological identity, the interpretation of life experiences overshadows the significance of social and cultural interactions. The formulation of ecological identity is said to occur on an individual basis, reflecting the individual's cognitive, intuitive and emotional perceptions.

In the words of Zavestoski – who based his research on the roots of deep ecology – ecological identity is ‘that part of the self that allows individuals to anticipate the reactions of the environment to their behavior’ (Zavestoski, 2003:299). In relation to formulation, and in a similar vein to Thomashow, individual experience is emphasised. Although the author focuses primarily on nature and human interactions, he also highlights the importance of social feedback whilst emphasising the role of feedback. Nature reacts fundamentally indirectly and in a delayed manner to human activities, but the feedback, that for example is given to air and water pollution (e.g. in the form of natural disasters), can have damaging effects on human health. Due to the indirect effects however, the feedback signs for the social environment are more easily realisable and must be taken into consideration when analysing this topic as these feedback signs can determine the interaction between nature and humans as well as validating actions guided by ecological identity. The power of the activity influencing of ecological identity thus lies primarily in the relationship with the rest of our social identities. This is why it is important for the social environment to not give a positive social meaning to environmentally damaging forms of behaviour.

In the aforementioned environmental identity concept of Clayton, social influence plays an important role in the analysis since the way we understand nature, its values and usage is culturally influenced, and permeates the way we consider ourselves as a part of nature (Clayton & Opatow, 2003). In the analysis of environmental identity, social influence does not mean the effect of human groups, but that of nature as a social environment. In my dissertation I examine environmental identity within this framework.



In the process of research into environmentally-friendly behaviour, the concept of environmental identity is necessary to consider, based on the following highlighted factors:

- Just as other social identities shape, guide and give meaning to social interactions, environmental identity is also a key factor in the formulation of a meaningful interaction between humans and the environment (Zavestoski, 2003).
- A part of the self-concept is individual attitudes and values. The effect of attitudes and values on behaviour is something that has occupied researchers for many years and its relevance has been demonstrated (Kraus, 1995). Consequently, the effect on personal behaviour is probable and testable (Clayton, 2003).
- The attitudes focused on by prior research was not a strong enough predictor of actual behaviour, merely behavioural intentions (Bamberg & Möser, 2007; Csutora, 2012).
- Environmentally-friendly actions are generally carried out in the interest of achieving moral satisfaction and not to increase self usefulness. (Clayton, 2003). A commitment towards environmentally-friendly behaviour is an important motivating factor in order to convey information about the self and group membership.
- Identity can be understood as a motivation system as it possesses an organizing-orienting function above behaviour and actions (Pataki, 2008). This is observable for example in personal behaviour through a whole range of situations and with a manifest consistency. Thus, identity enables the prediction of expected behaviours (Stryker & Burke, 2000), and to anticipate the behaviours of those with similar identities (Zavestoski, 2003).

One aim of my dissertation is to examine the possibilities for measuring environmental identity. The scales developed for the measurement of relations between humans and the environment can be differentiated in two main ways. Firstly, the primary difference comes from which dimension of the environment and humans the approach focuses on (Brügger et al., 2011). For example, Mayer and Frantz's (2004) Connectedness to Nature scale examines primarily the emotional attachment, whereas Clayton (2003) focuses on nature's role in personal identification. Secondly, it is worth examining whether explicit or implicit measurements are used, that is whether the relationship between individuals and nature is treated as a conscious or subconscious phenomenon. The most common scales examining environmental bonds are summarised in table 1.

Scale	Year	Concept	Method of Measurement
Schultz: Inclusion of nature in the self (INS)	2001	Adaptation of Aron (1992) scale, examination of the strength of relationship between individual and nature.	Implicit, 1 item
Clayton: Environmental Identity (EID)	2003	The role and extent of nature in individual self-definition. Cognitive and affective perspectives also examined. 1 dimension	Explicit, 24 items
Schultz: IAT - Nature	2004	Implicit measurement tool examining the strength of bonds to nature and the built environment.	Implicit Association Test
Mayer – Frantz: Connectedness to Nature (CNS)	2004	Examining the emotional bonds to nature. 1 dimension	Explicit, 14 items
Nisbet – Zelenski – Murphy: Nature Relatedness Scale (NR)	2009	Examination of a nature related personality. Emotional, cognitive and experience aspects of nature relatedness are also taken into consideration. 3 dimensions	Explicit, 21 items
Clayton: Environmental Identity (EID), short version	2011	The role and extent of nature in individual self-definition. Cognitive and affective perspectives also examined. 1 dimension	Explicit, 11 items

*Table 1.* Summary of scales examining the relations between individuals and nature

*Source:* own editing

## 2. METHODS APPLIED

In the course of my dissertation I examine one possible route to commitment to environmentally conscious behaviour with the strengthening of environmental identity. During the analysis of the relationship between environmentally conscious behaviour and environmental identity I also examine the role of those psycho-graphic factors employed in models of environmentally conscious consumer behaviour that are given priority in the literature such as environmental attitude, environmental concern, personal norms and values. The aim of the research is to examine the effect on environmental identity on environmentally conscious behaviour as well as mediating factors from a wide perspective by entering them into a conceptual model. My research is based on internalist models and within these models those emphasising pro-social motivations. I use the Value-Belief-Norm model (Stern et al., 1999) as a starting point for my dissertation.

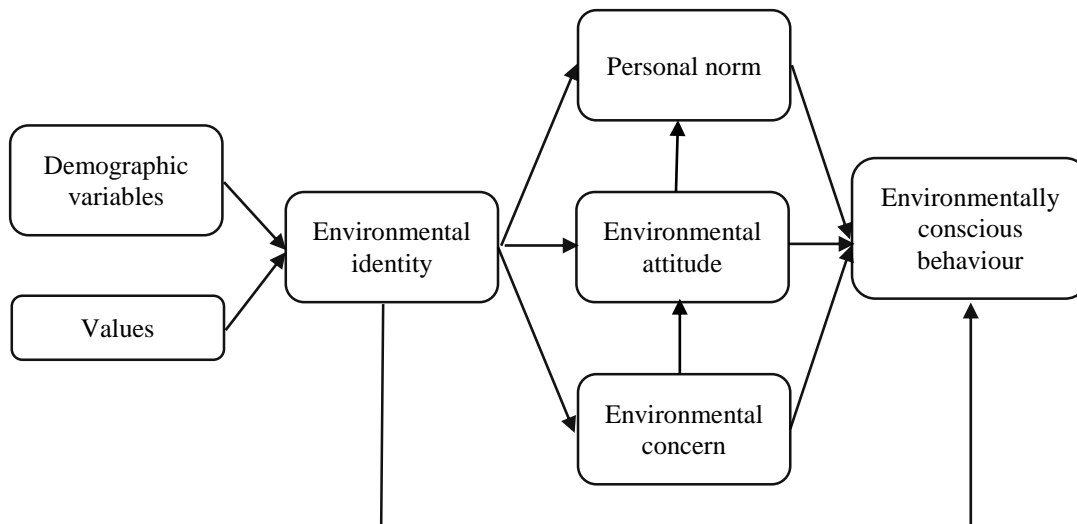


Figure 1: Theoretical model of my research  
 Source: own editing

The basic assumption of the model is that the development of environmental identity is a key component of committing to environmentally conscious behaviour, as those individuals who have stronger environmental identity carry out more environmentally-friendly activities (Clayton, 2003). Values occupying a central location in the individuals cognitive system, are stable personality characteristics which have an effect on the development of environmental identity as well as on attitudes and behaviours (Homer & Kahle, 1988; Kamakura & Novak, 1992). In the current model I take into account values as determining factors of personality. The second part of the model is based on the effects to foster behaviour of norm activation (Schwartz, 1977, Stern, 1999). Environmental attitude and concern for the environment promote the activation of personal norms and the appearance of these effects on behaviour.

My initial assumption is therefore that environmental identity is such a fundamental factor which has a strong direct effect on behaviour and indirect effect through environmental attitudes, environmental concern and norms as well.

## 2.1. RESEARCH QUESTIONS AND HYPOTHESES

The theoretical model I have established (fig.1) is based on a processing of the literature as well as primary research results obtained in the subject over the last few years. The model contains the most commonly employed psycho-graphic factors for determining the development of environmentally conscious behaviour with the goal of systematizing the examination of the concept of environmental identity. Table 2 details the two further pieces of research I carried out to answer the research questions stemming from previous studies. During the course of research for my dissertation I analysed the reliability of the possibilities for

explicit and implicit measurements and their relationships with actual behaviours. My initial assumptions on environmental identity viewed as a subconscious concept are the following:

The positive effect of implicit environmental identity on environmentally conscious consumer behaviour is stronger than the positive effect of explicitly measured identity.

*The second research* focuses on the quantitative examination of the relationship between environmental identity and environmentally-friendly behaviour. Based on the model presented I have defined 6 hypothesis groups:

H1: Environmental identity positively affects environmentally-friendly behaviour. That is the stronger the environmental identity is, the more environmentally-friendly behaviour will be done.

H2a: The level of education has a positive effect on environmental identity. That is the higher the level of education, the stronger the environmental identity.

H2b: Women have a stronger environmental identity.

H2c: Income has a positive effect on environmental identity. That is the higher the individual's income, the stronger their environmental identity.

H2d: Age has a negative effect on environmental identity. That is younger people have a stronger environmental identity.

H3: Internal values have a stronger effect than external values on environmental identity.

H4a: Environmental identity has a positive effect on environmental concern.

H4b: Environmental identity has the strongest effect on biospheric concern compared to egotist and altruistic concerns. That is those individuals with a stronger environmental identity tend to have biospheric concerns whereas those individuals with low environmental identity tend to have egotistic concerns.

H4c: Environmental concern has a positive effect on environmentally conscious behaviour.

H5a: Environmental identity has a positive effect on environmental attitudes.

H5b: Environmental attitudes have a positive effect on environmentally conscious behaviour.

H6a: Environmental identity has a positive effect on personal norms.

H6b: Personal norms have a positive effect on environmentally conscious behaviour.

Research method	Description of research method	Respondents	Sample size	Date of data collection	Method of analysis and processing
Qualitative preliminary study   Examining interpretations of nature	Narrative analysis, analysis of essays on positive and negative experiences of nature	First year university students (MA)	34 people (68 essays)	May 2011	Atlas Ti 5.2 qualitative analysis software with additional use of IBM SPSS software
Quantitative preliminary study   scale testing	Online research	Third year university students (BA)	299 people	November 2011	Using IBM SPSS software package
Implicit Association Test   Testing of methods of implicit measurement	Measurement of the implicit relationship between the individual and nature using IAT-Nature methods	Second and third year university students (BA)	199 people	December 2012	D-Measurement, Using FreeIAT program, and the IBM SPSS software package
Quantitative research   Creation of regression path analysis	Online research, national representative sample	Hungarian residents who are regular internet users	954 people	April 2012	Using IBM SPSS and AMOS software package

Table 2. Research methods

Source: own editing

### 3. RESULTS OF THE THESIS

During the course of my dissertation, certain research phases built on each other; thereby, I attempted to examine the questions of the effects and measurements of environmental identity in a detailed and structured manner. The starting point was a qualitative exploratory research and I went on to test my hypotheses during the quantitative analysis.

#### *Qualitative Research – Preliminary Study*

The goal of the research was to understand and analyse what the nature means to the respondents. Through the narration of the student's experiences, the positive and negative experiences relating to nature were revealed. These were the main conclusions of the research:

- Nature can be interpreted in a number of manners which depend strongly on positive or negative emotional experiences. The most commonly emerging negative phenomenon was the weather whereas hiking or walking in the forest as well as water experiences were listed as positive.
- Experiences as a small child (primary school) were mentioned more often than current experiences.
- In the case of parents, leading by example and the importance of common experiences were emphasised in the essays, whereas in the case of their contemporaries, common experiences, and relaxation were the emphasised viewpoint for socialising.
- The 5 dimensions of environmental identity – identification with nature, positive experiences in nature, salience of the identity, ideological support and the autobiographical component – which Clayton (2003) suggests for the interpretation of the concept all appeared in the essays although with varying emphasis.

In summary, the research confirmed the broad interpretation of the concept of nature. In the narratives about the bonds to nature as well as emotional attitudes to nature the dimensions applied in the analysis of environmental identity were present. These confirmed the relevance and appropriate approach of the concept of environmental identity. On the basis of these results I have prepared the followed preliminary study which focused on the concrete possibilities for measurement of the concept of environmental identity.

#### *Quantitative Research – Preliminary Study*

The goal of the research was the testing of the scales developed for the examination of relationships with nature in the interest of choosing the appropriate measurement tool.

- The reliability and validity measures of the scales examined [Schultz (2001) Inclusion of nature in the self (INS) scale, Nisbet – Zelenski – Murphy (2009) Nature Relatedness (NR) scale, Clayton (2003) Environmental Identity (EID), short version] supported the application of Clayton’s Environmental Identity scale.
- The EID scale showed appropriate reliability, the exploratory principal component analysis resulted 1 factor representing 47% of the variance.

The research promotes the choice of Clayton’s Environmental Identity scale for application in the second quantitative research conducted for model development. However, the applicability related to implicit measurement draws attention to a more accurate research, on the basis of which I prepared my research with the use of the Implicit Association Test.

### *Implicit Association Test*

In this section, the goal of the research was a deeper examination of the relationship between the individual and nature. In the analysis of Dunlap et al. (2000) the bond between the individual and the environment is not a conscious experience, we do not consider it regularly. Due to this, they recommend the application of implicit tests, of which I employed the Implicit Association Test based on the work of Schultz et al. (2004).

- In the process of the indirect examination of the connection between nature and the individual I experienced similar preferences from the respondents between the built environment and the natural environment. A weaker bond to nature was shown compared to previous experiences in an international comparison.
- There was no relationship between the results of the implicit measurement and environmentally-friendly activities.
- In the case of direct measurements I found equally medium strength correlations between environmental attitudes and environmentally-friendly behaviour as well as between environmental identity and environmentally-friendly behaviour.

The research confirms the applicability of explicit measurements on the basis of which I created my quantitative research concept for examining environmental identity and environmentally conscious behaviour.

### *Quantitative Research, Regression Path Analysis*

The goal of the research was to examine the determining factors of environmental identity as well as an exploration of the effect of environmental identity on environmentally-friendly behaviour. Further psycho-graphic factors were also included in the analytical model and I

tested the mediating effects of personal norms, environmental attitudes and environmental concerns.

- Clayton's Environmental Identity scale has the appropriate level of reliability (on the basis of the Cronbach Alfa and Split-half methods). The structure of the scale was examined with confirmative factor analysis, which confirms the unidimensionality; however, among the fit indices the AVE index is slightly lower than expected (AVE=0.47) and the RMSEA index exceeds 0.05 (0.085). The results confirm that the scale is fundamentally well structured, but more refinements are required.
- Among the demographic factors of gender, age, family status and the size of household have a significant effect on environmental identity. Women and older people have a stronger environmental identity. Single people show a significantly weaker environmental identity which is also reflected in the size of household (the highest average on environmental identity scale was those households of 2 people).
- The sense of accomplishment, Self-fulfilment and Security are among the values that have a significant effect on environmental identity.
- The environment friendly activity is explained as 24% in the model based on environmental identity, personal norm, environmental attitude and environmental concern ( $R^2=0.24$ ).
- There is a positive relationship between environmental identity and environment friendly activity, full effect of environmental identity has a regression coefficient of 0.446.
- Environmental identity, environmental attitude and personal norm related to personal responsibility have direct positive effect on environmentally friendly activity.
- There is a weak negative effect of personal norms related to business responsibility, calling attention to the negative effects of passing responsibility to environmentally-friendly activities.

On the basis of the results, the summary of the results of the evaluation of the hypotheses as well as the 6 final theses compiled as a result of the hypothesis test are shown in table 3. Research results can be summarized in a way that environmental identity has a medium strong positive effect on environment friendly activity. I wish to outline that environmental identity has the most significant effect on behaviour compared to the psycho-graphic factors examined. The results are in line with researches incorporating social identity into the examination of environmentally-friendly behaviour (Davis et al., 2011; Dono et al., 2010; Hinds & Sparks,



2008), and that showed significant effect. My dissertation model emphasises the role of environmental identity thus focusing it for social marketing campaigns supporting environment.

<b>Hypothesis</b>	<b>Acceptance</b>	<b>Final thesis</b>
Preliminary assumption for IAT research: The positive effect of implicit environmental identity on environmentally conscious consumer behaviour is stronger than the positive effect of explicitly measured identity.	Not proven, no detectable effect	
H1: Environmental identity positively affects environmentally-friendly behaviour. That is the stronger the environmental identity is, the more environmentally-friendly behaviour will be done.	Proven	1. Environmental identity has a medium strong positive effect on environmentally conscious behaviour even indirectly through mediating variables.
H2a: The level of education has a positive effect on environmental identity. That is the higher the level of education, the stronger the environmental identity.	Not proven, no detectable effect	2. Among the demographic factors of gender, age, family status and the size of household have a significant effect on environmental identity.
H2b: Women have a stronger environmental identity.	Proven	
H2c: Income has a positive effect on environmental identity. That is the higher the individual's income, the stronger their environmental identity.	Not proven, no detectable effect	
H2d: Age has a negative effect on environmental identity. That is younger people have a stronger environmental identity.	Not proven, positive effect	
H3: Internal values have a stronger effect than external values on environmental identity.	Partially proven	3. The sense of accomplishment, Self-fulfilment and Security are among the values that have a significant effect on environmental identity.
H4a: Environmental identity has a positive effect on environmental concern.	Proven	4. Environmental identity has a positive effect on each type of concern. The strongest relationship appears in connection with biospheric concern.
H4b: Environmental identity has the strongest effect on biospheric concern compared to egotist and altruistic concerns. That is those individuals with a stronger environmental identity tend to have biospheric concerns whereas those individuals with low environmental identity tend to have egotistic concerns.	Proven	
H4c: Environmental concern has a positive effect on environmentally conscious behaviour.	Not proven, no detectable effect	
H5a: Environmental identity has a positive effect on environmental attitudes.	Proven	5. Environmental attitude has a mediating role with positive effect on the relationship between environmental identity and environmentally conscious behaviour.
H5b: Environmental attitudes have a positive effect on environmentally conscious behaviour.	Proven	

H6a: Environmental identity has a positive effect on personal norms.	Proven	6. Environmental identity has a positive effect on personal norms. As for personal norms, individual responsibility has a positive effect while responsibility owing to business has negative effect on environmentally conscious behaviour.
H6b: Personal norms have a positive effect on environmentally conscious behaviour.	Partially proven	

Table 3: Summary of hypothesis test results

Source: own analysis

In the current research we examined the effect of environmental attitudes in the framework of two concepts. In the case of an environmental worldview (NEP scale) we found a positive but weaker than medium level positive effect. On the basis of the factor analysis of a domestic sample with the New Environmental Paradigm scale, 3 main dimensions are examined (for more details see Hofmeister-Tóth et al., 2012), the belief in the superiority of individuals, scepticism in the face of environmental innovations, and concern over the environmental crisis. These concepts have a general approach and thus a strong direct relationship is not to be expected on the measurement of concrete environmentally conscious behaviour (Ajzen & Fishbein, 1977). Environmental concern has no direct effect on environmentally-friendly behaviour and merely affects the environmental worldview. Thus environmental identity does not just have a direct effect, but with the positive effect on biospheric environmental concern, it is a strong determining indirect variable on worldview. In the hypotheses of my research I took into account the measurement of environmental attitudes as a mediating factor, which was confirmed by the empirical research. Environmental identity has an effect on both concepts. It is also important to emphasise that the strong connection I supposed between environmental identity and environmental concern was confirmed by the model. This coincides with Schultz's theory which proposes that if an individual views nature as a part of identity then they will have a stronger biospheric concern than altruistic or egotistical concern (Schultz, 2000).

From a point of view of the practical usefulness of the results it is necessary to elaborate on the interpretation of personal norms. In every sub-scale, environmental identity has a generally perceivable positive effect on personal norms. Therefore, environmental identity also has a role in how much an individual accepts personal responsibility and to what extent they attribute responsibility to governments and businesses. The strongest effect of environmental identity was perceivable in the case of individual norms of responsibility, and norms also have a direct positive effect on environmentally-friendly behaviours. In my view, this relationship reflects the fact that individuals with a stronger environmental identity – through the fact that their identity is viewed as a part of nature – can more easily accept personal responsibility as they know that if their norms are breached, there will be a negative effect on what is important to them, that is nature (Stern, 2005). An individual takes into account the consequence of their

own actions as it has an effect on their internalised and activated personal norms and thus actively carries out environmentally friendly activities (Babcock, 2009). For the evolution of sustainable development, recognition of the responsibility of others concerned such as of governments and businesses is of course indispensable. The expectations of individuals and consumers towards governments and businesses can also put pressure on government regulations and business activities. The results however show that the internalisation of business responsibility as a norm has a weak negative effect on environmentally-friendly behaviour, which in my view can be explained by the possibility to pass the buck.

### 3.1. THE THEORETICAL AND PRACTICAL SIGNIFICANCE OF EXAMINING ENVIRONMENTAL IDENTITY

In marketing, in the field of environmental protection researches primarily examined the concept of identity in the form of products and shopping situation specific social identity (e.g. green consumer identity, see Sparks & Shepherd, 1992; Whitmarsh & O'Neill, 2010). The aim of the current research is to analyse the identity outside concrete shopping situations, examining it on a general level in order to make a wider range of environmentally-friendly activities more explainable. In the interests of this, my research analyses in detail the concept of environmental identity – nature as a social environment interpretative identity. The concept is already established in the field of environmental psychology but the models place a different emphasis on the explorations. The significance of my dissertation is to prove the existence of a direct effect between a relationship with nature and environmentally friendly behaviours.

The novelty of my research is the placing of environmental identity in a model, based on my previous studies and on the concept model of Stern Value – Belief – Norm (1999). Thereby I took into account the effects of environmental identity on environmental attitudes, environmental concerns and personal norms. The results explored by analysing in detail the effects of environmental identity demonstrated new relationships, that I summarized in my theses, strengthening the forecasting role of environmental identity in the determination of environmentally friendly consumer behaviour. Involving psycho-graphic variables into the model means the first step in the testing of environmental identity in Hungary and in the preparation of its practical use. Environmental identity has a positive effect on both environmentally conscious behaviour and the mediating variables, thus the results support the application of environmental identity in the further researches on the concept of environmentally friendly behaviour.

The practical significance of the research is that in social marketing campaigns directed at developing environmentally-friendly activities, environmental identity is raised as a new factor to be introduced. The toolbox of social marketing is applicable for the support of behavioural change; however, the problem often arises that social marketing experts often do not receive the knowledge obtained by environmental psychology and consumer behaviour researchers (McKenzie-Mohr, 2000). With my dissertation I aim to further promote the flow of knowledge and communication between the two fields. Social marketing campaigns aimed at developing and supporting environmentally-friendly behaviour fundamentally approach it from two directions. On the one hand, ensuring the formation of positive attitudes and environmental knowledge, on the other hand a desire to influence people with economic motives. These concepts are built fundamentally on the concept of a rational individual who alter their behaviour according to economic and individual interests. The results of my dissertation, in accordance with the literature, emphasise however that biospheric value orientations and a close personal bond with nature can provide a basis for the development of environmentally-friendly behaviour. In the interests of this, campaigns should focus not only on overcoming the obstacles to environmentally-friendly behaviour but to the formation of environmental identity with the promotion of a close relationship with nature.

In approaching integrated marketing, a broad range of stakeholders can take part in the activities of social marketing. Direct experiences of nature have to be implemented alongside indirect and symbolic experiences of nature into environmental education more strongly, based on governmental policies. The civil sphere can promote the formation and internalisation of environmental personal norms, whilst businesses can encourage the appearance of environmental identity and environmentally-friendly activities with choice editing.

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