Consumer behaviour and lifestyle patterns of Hungarian students in view of environmental awareness

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The aim of this paper is to describe the consumer behaviour and everyday lifestyle patterns of Hungarian university and college students. The results are gained from an international survey, carried out by the Department of Environmental Economics and Technology at the Corvinus University of Budapest, supported by the Norwegian Financial Mechanism. As background literature, characteristics of the consumer society and the development of sustainable consumption as a concept are interpreted in the paper. The empirical analysis aims to describe the most important clusters of students, based on the factors of their consumer behaviour, environmental activism and pro-environmental everyday habits. Our results identify two extreme clusters which most significantly differ from each other: the environmental activists and the indifferent group. However, a third cluster has the most modest consumer behaviour, namely the group which considers product features, energy consumption and the behaviour of producers. They spend the least on consumer goods. The three other clusters show quite mixed lifestyle patterns.

JEL-codes: C83, M31, Q01, Q56

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1. Introduction

The European Economic Area (EEA) and the Norwegian Financial Mechanism support a large scale project on the issue of sustainable consumption, production and communication. In the frame of this project, the Department of Environmental Economics and Technology at the Corvinus University of Budapest carried out an online questionnaire-based survey[2] with the participation of 2,956 university and college students from all over Hungary during October-November 2009. One of the most important parts of the online questionnaire aimed at

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exploring consumer behaviour and lifestyle patterns of the respondents. After a short literature review about the concept of sustainable consumption, the paper summarises the main findings of the research. Students were classified into clusters, based on the factors of their behaviour patterns, including purchasing habits of consumer goods, the consideration of producer and product features, hedonism, environmental activism, waste-management habits, water and energy saving practices, handling of electronic devices and reading habits.

2. The way towards sustainable consumption – literature review

Consumption plays a significant role in human development, but this statement does not necessarily mean that the relationship is definitely positive. The functions of consumer goods and services beyond the satisfaction of functional needs are various (construction of identity, pursuit of status and social distinction, maintenance of social cohesion, social selection, pursuit of personal and collective meaning, etc.) which creates complexity and makes decisions towards sustainable consumption quite difficult. Consumption options are affected by several factors like income, availability and infrastructure of essential goods and services (water, sanitation, education, health care etc.), time allocation (between work and leisure), information, social barriers (missing access to opportunities), decision-making and family upbringing, etc. (UNDP 2006). This variety also leads results in a wide range of possibilities as to how sustainable consumption should be addressed.

Furthermore, consumption is linked with human development in a fairly ambiguous way. It directly exerts positive impacts on the consumer through reduced hunger, improved health, reduced morbidity and mortality, increased mobility, opportunities for employment and interaction; and negative ones through pollution, accidents, unhealthy food, dangerous medicines, addiction, etc. Consumption also results in externalities both positive (see vaccination, or a beautiful garden) as well as negative (via environmental pollution, social inequality and exclusion).

The model of the consumer society has become so dominant in economically developed countries that the negative effects have reached disturbing proportions and clearly endanger the long term survival of our planet. This is what led to the emergence of the concept of sustainable consumption, as the element of sustainable development that is perhaps the easiest to grasp for shaping public attitudes and a possible way out of the self-perpetuating cycle of consumption. The Earth Summit held in Rio de Janeiro in 1992 saw the birth of Agenda 21, the 4th chapter of which is entirely devoted to changing the characteristics of consumption. Two years later in Oslo an important round table was held with the participation of government, business and civil society representatives. The 1998 Human Development Report prepared by the United Nations Development Programme (UNDP) also focused on the issue of sustainable consumption, and a year later, in the framework of the United Nations Environment Programme (UNEP) a network on sustainable consumption was created aiming to collect information on the main initiatives in this area. The subject also emerged at the Earth Summit of 2002 in Johannesburg – because of its importance, but also because progress in this area is much slower than necessary – leading to the start of the so-called Marrakesh process in the form of meetings and expert groups (UNEP 2005a). In 2005, UNEP and the Wupperthal Institute together created the Collaborating Centre on Sustainable Consumption and Production; and we could continue the list of various initiatives aiming to make consumption more sustainable (see UNEP 2005b and 2005c).

Meanwhile, a great variety of definitions of the concept have been formulated, as it is not easy to determine what sustainable consumption should mean. The definitions of sustainable

consumption include consuming „not unsustainably" (Jackson 2006), changing lifestyles, consideration of constraints posed by environmental limits (Ofstad 1994), consuming less (see the movement of voluntary simplicity, e.g. Elgin 1993), producing more sustainable products more efficiently, and consuming more efficiently. The dominant institutional consensus has moved from the „change lifestyles" approach to the „consume efficiently" approach. According to a widely accepted definition „sustainable consumption is not about consuming less, it is about consuming differently, consuming efficiently, and having an improved quality of life" (UNEP 1999). Criticizers of the lifestyle change approach argue that it is "too subjective, too ideological, too value laden, and too intractable to be amendable to policy intervention" (Jackson 2006:6). In their opinion, intervening in consumer behaviour would jeopardize „sovereignty" of consumer choice, and reducing consumption may threaten a lot of material interests, and undermine the key structural role of consumption in economic growth as well as to undermine legitimate efforts by poorer countries to improve their quality of life (Jackson 2006: 6). Furthermore, campaigns based merely on motivating individuals to change their lifestyles seem to be quite unsuccessful and isolated (Robins and Roberts 2006). These arguments make it difficult to represent this issue at the political level.

On the other hand, stressing only the efficiency of consumption also has its drawbacks. It tends to obscure the scale of resource consumption patterns (see "rebound effect"), it does not eliminate the tension of what should be or should not be consumed and it does not solve the problem of difference between material resource consumption and economic consumption (Robins and Roberts 2006). The representatives of this opinion argue that lifestyle change is essential, not only desirable.

The relationship between consumption and human well-being, as well as happiness is also disputable. Conventional economics assumes an obviously positive relationship between the GDP and well-being, while the so-called "life satisfaction paradox" (see Easterlin 1974; Inglehart and Klingemann 2000) states that relative income has higher impact on life satisfaction than absolute levels of income and experienced happiness depends mainly on personality and on the hedonic value of the activities to which people allocate their time. Life circumstances influence the allocation of time, and the hedonic outcome is often mixed. Conditions that make people satisfied with their life do not necessarily make them happy.

Of course, there are some obstacles to practical progress like poor systems for waste separation, collection and recycling of materials; inadequate environmental information on products; low priority given to the durability of products; the low costs of waste disposal compared to other alternatives (like prevention, reuse, recycling), failure to include the costs of waste management in disposable products (see the problem of hidden costs in management accounting in Csutora and Kerekes 2004). Increased advertising and consumer society culture with all its driving forces behind modern lifestyles also result in limited success.

Furthermore, increasing environmental knowledge does not necessarily result in behavioural change, although the knowledge of environmental problems raises concern in people (see Kollmuss and Agyeman 2002). Arbuthnott (2009) argues that even change of attitudes and values is insufficient in altering behaviour (although this change is necessary for action). In addition to attitudes, several factors influence behaviour: socio-cultural factors like social norms (Ajzen 1985; Widegren 1998), group identity (Bonaiuto et al.1996), and interpersonal relationships (Jaeger et al. 1993); as well as contextual support (Stern 2000; Arbuthnott 2009); and habitual behaviour (Kollmuss and Agyeman 2002; Arbuthnott 2009). The impact of situational factors like economic constraints, social pressure, opportunity to select between

various actions, established old traditions, the sacrifice required by the behaviour, lack of infrastructure (Hines et al. 1986) are also significant: Fliegenschnee and Schelakowsky (1998) claim that 80% of motives influencing environmental awareness or the opposite can be traced back to situational or other internal factors.

Looking at the efforts undertaken to promote sustainable consumption since the 1990s, we see on the one hand that there is no united "movement" to encourage a fundamental shift away from consumption oriented lifestyles; furthermore, we can also see that the progress made in this direction is indeed marginal. Consumption remains the driving force behind economic growth; a shift towards the service based economy – which could allow the GDP to grow with much lower levels of resource use – is still only a dream. A change requires solutions across a range of critical areas.

The global dimensions of consumption lead to an ethical crisis, since we cannot even dare to imagine the consequences if everyone lived and consumed the in the same way as the citizens of Western countries. This would probably result in an ecological catastrophe – at the same time, it is unethical to prevent developing countries from pursuing their rightful aim of an improved quality of life. The debates which have emerged at the climate summit held in December 2009 in Copenhagen (for example between the United States and China, see http://en.cop15.dk) also highlight the conflicting interests of developed and developing countries regarding production, consumption and material well-being. It is also questionable what the overall outcome will be of the increase in consumption brought about by the convergence of developing countries and the limiting of consumption by small groups in the developed countries.

Promoting lifestyle changes is no easy task. Creative campaigning is necessary (humour, arts, "disruptive" advertising, "don't buy anything day", etc.), as people do not readily change their established habits and measures requiring large sacrifice and presenting environmental protection as a restraint are hugely unpopular. (Robins and Roberts 2006). The movement of "voluntary simplicity" seems to represent a viable alternative only for a small minority, "who possess enough resources to resist the pressure of consumption" (Ghazi 1996) – wider social groups are primarily striving to maintain their livelihoods. Markets can also be used as spheres of positive influence: alongside and instead of boycotting harmful products, emphasizing positive aspects – supporting socially responsible companies, environmentally friendly products and solutions – may yield greater results. As focusing on the individual is not enough to achieve a change in established habits, community based initiatives are also much needed. We need to understand the driving forces of consumer demand and find possibilities for effective intervention. This is certain to involve the combined use of several methods to achieve sustainability.

3. Hypotheses, methodology and limitations

At the outset of the research, three hypotheses were formulated regarding the pro-environmental behaviour of students.

Hypothesis a): Declared environmental consciousness and actual environmentally conscious behaviour are often not in (full) accordance with each other. We expect respondents to evaluate their own environmental consciousness more positively than what is reflected in their actual behaviour.

Hypothesis b): Respondents can be differentiated according to their pro-environmental and consumer behaviour, but it is mainly the extreme groups who can be described with significantly differing behavioural characteristics.

Hypothesis c): Environmentally conscious behaviour is rarely (if ever) purely black or white: there are no groups who display all characteristics considered positive from the point of view of the environment at the same time. Environmental activist behaviour is not necessarily accompanied by low levels of consumption or an everyday lifestyle free of contradictions. The same is also true vice versa: those who consume less do not necessarily like to attend environmental demonstrations. People are not even consistent across the elements of an environmentally conscious lifestyle, as everyone considers different actions to be more effective or easier to implement.

The hypotheses are statistically tested primarily via factor and cluster analyses. Limitations of the research mainly arise from the possible bias inherent in the use of questionnaires (self-reporting bias). It can be assumed that those completing the questionnaire already have a certain level of interest in environmental issues, therefore the frequency statistics show positive environmental consciousness. However, the questionnaire includes several control questions to test the consistency of the responses, and the methods applied allow any strong differences from average answers to be clearly identified. Any bias can therefore be controlled for when interpreting the results.

4. Empirical results: consumer behaviour and lifestyle of students

4.1. Sample characteristics and methodology

The sample consisted of students from 23 higher education institutions who we reached with the help of the schools' internal information systems. The online questionnaire was completed by almost 3500 respondents, 2998 of whom could be included in the sample. The students came from across the entire spectrum of study areas, including natural sciences (22%), economics (20%), engineering (14%), humanities (13%), other social sciences (14%), teacher specializations (8%), medicine (6%), and law (3%). Two third of the respondents were full-time students, the other one third part-time ones. Age average was 24,2 years, the rate of woman was two times the rate of men. The representative feature of the sample could not be verified as the composition of the total population is unknown; however, the high number of respondents may allow the drawing of some general conclusions.

In order to obtain a general picture of students' environmental consciousness, we first conducted frequency analyses and crosstabulations, the results of which are presented in another article discussing the connections to environmental education (Marjainé Szerényi, Zsóka and Széchy 2009). Regarding the consumer behaviour and lifestyle of students however, it is more worthwhile to explore the possibility of identifying relatively homogenous groups among the respondents and to analyse their characteristics.

4.2. Results of factor analysis

First, a factor analysis (principal component method) was conducted on the variables describing lifestyle and consumption habits. The Varimax rotation provided results in six iterations, compressing the 29 variables in 10 factors which explain 60.86% of the original variance. The KMO value showing the adequacy of the factor analysis is fairly high (0.806), as is the result of the Bartlett's test of sphericity (10670.580). The rotated component matrix shows the factors in decreasing order of their explanatory power. It can be seen that first few

factors comprise a much higher number of variables than the latter ones, and it can also be seen that the contents of the factors are clear and easy to explain, making them a suitable basis for clustering the respondents.

The contents of the 10 factors obtained can be seen in Table. Consumer behaviour can be considered hedonistic if the respondent readily spends his/her money on consumer goods, likes to shop, finds it difficult to resist discounts, likes to keep up with fashion and technological trends, and also tends to buy unnecessary things, not only those necessary for satisfying real needs.

Table 1. The names, contents and weights of the factors

Name of factor	Variables included in the factor	Factor weights
Hedonistic consumer behaviour	If I have some money I usually buy something.	**.773**
	Sometimes I shop just for the pleasure of shopping.	**.762**
	It happens sometimes that I buy something but then I almost never use it.	**.739**
	I only buy something if I really need it. (with a negative sign)	**-.675**
	I find it hard to resist discounts.	**.654**
	I try to keep up with fashion trends/technological progress.	**.521**
Environmental activist behaviour	Do you do any volunteer work for green NGOs?	**.777**
	Are you a member of a green NGO?	**-.775**
	Do you provide financial support to any green NGO?	**.702**
	Do you take part in environmental campaigns / demonstrations?	**.650**
Decisions related to the product and its producer	I considered the reputation of the producer when choosing a product	**.716**
	I chose locally produced products or groceries	**.699**
	I bought environmentally friendly products marked with an environmental label	**.670**
	I used less chemicals (eg. for cleaning)	**.574**
Waste treatment habits	I collected hazardous waste separately	**.747**
	I collected waste selectively	**.719**
	I compressed plastic bottles/packaging before discarding	**.643**
Transportation habits	I chose an environmentally friendly way of traveling (in the past month)	**.874**
	I used my car less	**.845**
Purchasing electronic and sports equipment	Please indicate how often you purchase electronic devices	**.795**
	Please indicate how often you purchase sports equipment	**.763**
Water and energy conservation	I cut down my water consumption	**.820**
	I cut down my energy consumption	**.768**
Purchasing cosmetics and clothes	Please indicate how often you purchase cosmetics	**.629**
	I am not willing to invest much time/effort	**.623**

	in my purchases (in the opposite sense)	
	Please indicate how often you purchase clothes, accessories	**.554**
Appliances	I did not leave appliances on stand-by	**.723**
	Bought energy efficient light bulbs/appliances	**.629**
Buying books/newspapers	Please indicate how often you purchase books/newspapers	**.799**

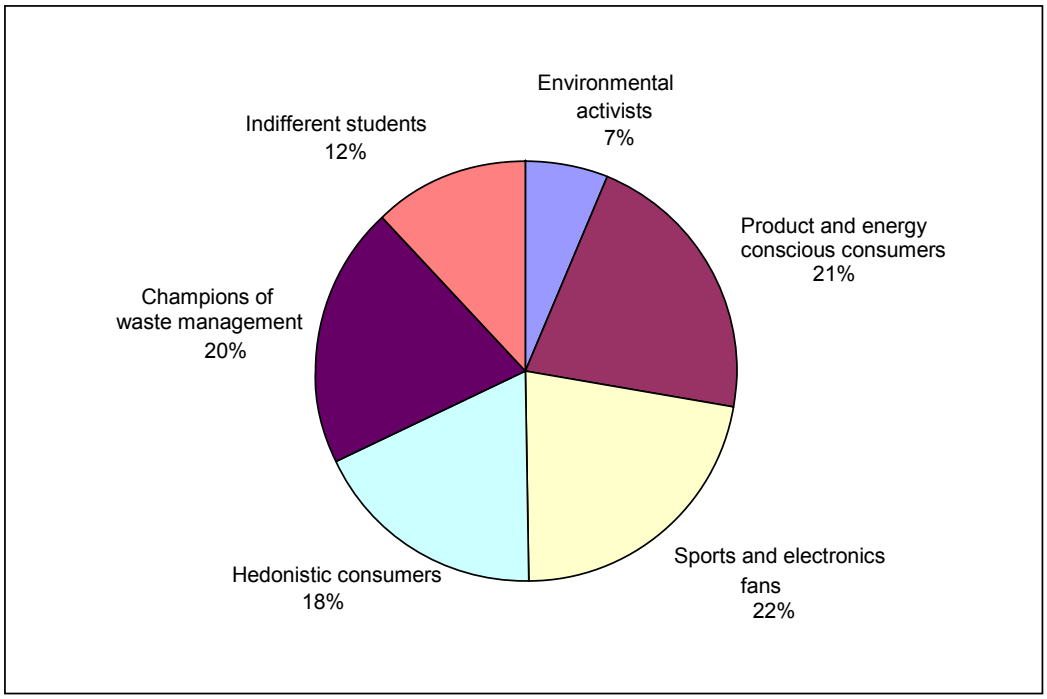
Environmental activist behaviour can be characterised by attendance at demonstrations, as well as membership in environmental organisations and supporting them through donations and volunteer work. Regarding products, an aspect of sustainability may be local production, the product's environmental characteristics (indicated by an environmental label), and the consideration of the producer's reputation also appears in this factor. Waste treatment habits cover selective waste collection, the separate collection of hazardous waste and the compression of bottles, while transport habits include choosing environmental friendly modes of transportation and reduced car use. Water and energy conservation habits compose a separate factor, as well as decisions regarding the energy efficiency and switching off of appliances.

Last but not least, habits regarding specific product categories form three separate factors: unsurprisingly, sports equipment and electronic devices belong in the same factor, books and newspapers in another and clothes and cosmetics in another in the third. The latter factor also includes the willingness to invest time and energy in shopping: the three variables are positively correlated.

4.3. Grouping respondents via cluster analysis

A cluster analysis was conducted using the groups of consumption and lifestyle characteristics obtained through factor analysis. From the hierarchical methods, the Ward method was chosen, which ensures that a sufficient number of members is assigned to each cluster. After filtering out missing values, only 1789 respondents could be included in the analysis. Several different solutions were analysed, and, taking into account the cluster means and within-group variances, the 6 cluster solution was finally chosen where all 6 factors were significant. The distribution of respondents among the clusters can be seen in figure 1 .

Figure 1. Distribution of respondents among the clusters



Cluster 1: Environmental activists

The first cluster consists of the 117 respondents who are the most deeply engaged in environmental activist behaviour, at least concerning participation in demonstrations, as well as membership in and support of environmental organisations. Their consumption (in their own account) is modest, especially regarding the frequency of buying clothes, cosmetics, sports equipment and electronic devices, as well as the time and energy devoted to shopping. Interestingly however, they do not completely reject hedonistic values, they like to shop slightly more than the average (although, in another question, they indicate the opposite). Our results show other clusters of respondents who are less hedonistic in their consumer behaviour. The monthly spending by this group on consumer goods is also in the medium range.

The habits of the environmental activist group are also slightly (though not extremely) contradictory: they appear more environmentally conscious than average when it comes to transportation habits, water and energy consumption, switching off appliances and considering product and producer characteristics; but are below the average regarding selective waste collection and management. They clearly like to read, buying books and newspapers more frequently than the average of respondents included in the cluster analysis.

Cluster 2: Product and energy conscious consumers

Product and energy conscious consumers – 384 students – pay more attention than average to buying locally produced and or/environmentally friendly products, from producers with good reputation and to reducing their water and energy consumption. This consciousness also includes the complete switching off of electronic devices and buying energy efficient equipment. Like the environmental activist group, they actively seek information from books and newspapers, but are not actively involved with environmental organisations. Their transportation and waste-related habits are also more environmentally conscious than the average, and they are not very enthusiastic shoppers, especially when it comes to sports equipment and electronic devices. The purchasing of clothes and cosmetics is close to the average frequency.

Looking at this group, we again see the phenomenon that different levels of consciousness can live side by side, as these students are far more environmentally conscious than average in their everyday lifestyle, however, they show no inclination to addressing these issued in an organised, activist way. From the respondents included in the cluster analysis, this group has the lowest monthly spending on consumer goods.

Cluster 3: Sports and electronics fans
The name of the cluster shows that the 394 members of this group buy sports equipment and electronic devices significantly more often than the others. They are also more active buyers of clothes and cosmetics, but this group also appears somewhat contradictory – not so much in their behaviour as in their responses. The possibility of inconsistencies is inherently present in the nature of the survey, which is based on a questionnaire and includes several attitude-type questions. Namely, the questions on the hedonistic nature of consumption habits are attitude questions, which do not require exact answers but are more a reflection of the respondents' self perception and projected image. The frequency of buying certain consumer goods is a more exact indicator of the intensity of consumption, and thus it also serves as a control question. In this case, members of the cluster describe themselves as less hedonistic in the attitude-questions than is shown by the frequencies of purchases – all of course compared to the average. The less hedonistic nature of shopping is also shown in the spendings: this group spends less than average on consumer goods in a month.

The presence of environmentally conscious lifestyle elements is also varied in this group. While they cannot be considered environmentally conscious regarding to product properties, origin and reputation of the producer, and also do not pay attention to switching off electronic devices and buying energy efficient appliances, they are slightly above average when it comes to selective waste collection, and highly in their transportation habits. Their activism is on an average level, and they tend to buy books and newspapers a little less often than others.

Cluster 4: Hedonist consumers
The 325 respondents in this cluster reportedly enjoy to spend their money on shopping more than the average, even if they sometimes do not use the purchased products. They find it hard to resist discounts. Their affection for shopping is mainly realised in buying clothes and cosmetics, the buying of sports equipment and electronic devices is below average for this group. Their lifestyle shows a quite mixed picture: they are above the average in waste selection, the switching off of appliances and buying energy efficient products, however, they are the most wasteful of the groups regarding water and energy use. They are not very concerned with product or producer characteristics and do not engage in environmental activist behaviour. The purchasing of books and newspapers is about average for this group, and their reported spending on consumer goods is relatively low.

Cluster 5: The champions of waste management
This cluster contains 362 respondents who are the most active in the selective collection of waste, the separate collection of hazardous waste and the compressing of bottles. At the same time, it may well be that they take the waste to the collection sites by car, since this group has the least environmentally friendly transportation habits in the sample. They do not pay attention to product and producer characteristics, conserving energy or water, and they are also not involved in the work of environmental organisations. They mainly like to buy sports equipment and electronic devices; much less cosmetics and clothes, and their shopping habits

are reportedly not hedonistic. They buy books and newspapers at the average rate. This is the group with the highest monthly spending on consumer goods.

This cluster has the highest proportion correspondence students (44.5%, the sample average is 35%) and those, who regularly work in parallel to their studies (46.7%, the sample average is 38.7%).

Cluster 6: Indifferent students
The 216 members of this cluster are definitely consistent in that they show no interest whatsoever in environmental issues – least of all the selective collection of waste, but other factors expressing environmental consciousness (consideration of product and producer characteristics, water and energy saving, transportation habits, activist behaviour) are also below average for this group. Regarding hedonistic consumer behaviour and the frequency of buying consumer goods, they are close to, or slightly more modest than the sample average. They are the ones who buy books and newspapers the least often.

These characteristics are very interesting since for all the other groups, we were able to find certain elements of environmental consciousness, even if their overall behaviour was inconsistent. However, this group consistently falls below the sample average regarding all forms of environmentally conscious behaviour. Experience shows that addressing such groups with environmental values tends to be difficult, and though their reported consumption is not high, their monthly spending is the second highest among the clusters.

4.4. Characterisation of clusters
The results show that, according to field of study, participation in environmental education and the sex of respondents, it is mainly the two "extreme" clusters, the environmental activists and the indifferent students who differ most from the sample average. Regarding the field of study, the difference is that students of the natural sciences are strongly overrepresented in the environmental activist group (their proportion is twice as high as the sample average). 44% of environmental activists are students of natural sciences, and many of them are boys, which is the main difference in gender proportions among the clusters. In the indifferent group, we can find more students of humanities, economics and other social sciences as well as engineering students, who are all underrepresented in the environmental activist cluster. In the other four clusters, the distribution of respondents according to field of study is close to the sample averages.

Participation in environmental education also has a significant effect on cluster membership. In the environmental activist group, there are almost three times as many students specialising in environmental issues than could be expected according to their proportion in the sample, while those who have not received any kind of environmental education are far underrepresented. The opposite is true for the cluster of indifferent students. The other four clusters again show close to average distributions regarding participation in environmental education.

The role of age is interesting: the sample average is 24.6 years; with hedonist consumers (23.3 years), indifferent students (23.66 years) and sports and electronics fans (23.85) being younger while the champions of waste management (26.1 years), product and energy conscious consumers (25.8 years) and environmental activists (25.1 years) are older. It thus seems that the slightly older age groups are more sensitive to environmental issues and less consumption oriented.

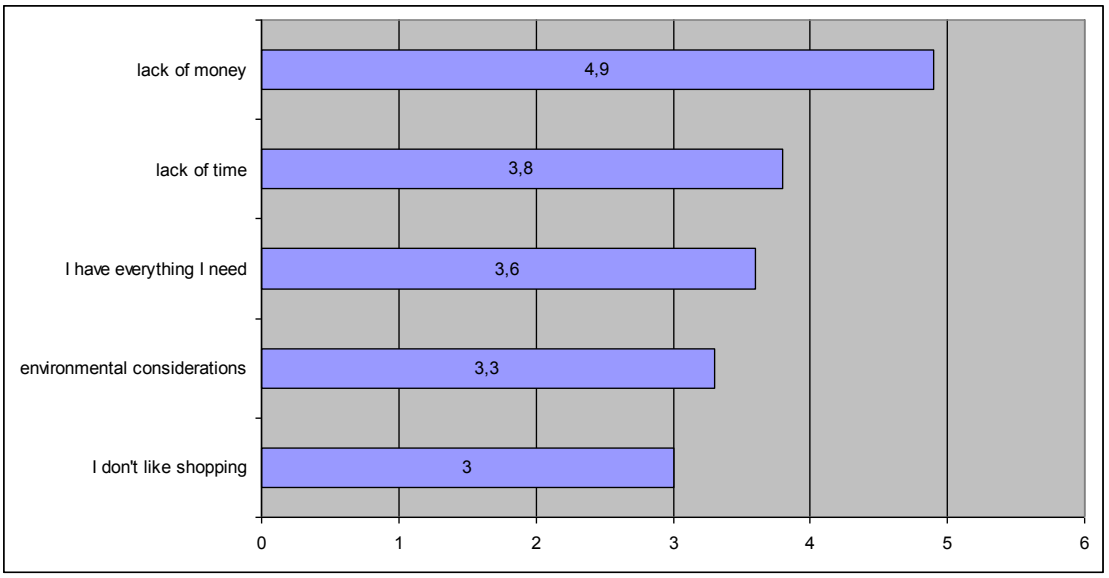
The respondents' perception of their own environmental consciousness is as can be expected, with the highest proportion of those considering themselves to be more environmentally conscious than the average being found among environmental activists and product and energy conscious consumers. It is among the indifferent students that relatively many are admittedly not very environmentally conscious, in the other clusters the proportions are close to the sample average.

The clusters also show differences when it comes to the readiness to accept a reduction in consumption. Environmental activists, as well as product and energy conscious consumers, are the most willing to support measures which would limit everyone's individual consumption if this guaranteed the solution of environmental problems. It is not surprising that hedonistic consumers and indifferent students are the least supportive of such a solution.

The attitude towards consumption is also shown in the barriers to consuming more (the strength of each withholding factor was measured on a scale of 1 to 6, see figure 2). The most important barrier to higher consumption for every group is the lack of money (sample average 4.9), but least for the environmental activists (4.5). This is despite the fact that the environmental activists have the worst opinion on their own financial situation (52.2% believe that their living standards are above average, while this proportion is 62.7%, in the whole sample and 70.4% among the champions of waste management and 65.3% among the indifferent students).

Differences between the clusters are especially noticeable in case of the weaker factors, underscoring our previous picture of the groups: the role of environmental considerations as withholding factors (sample average 3.3) is the most important for the environmental activists (4.2) and the product and energy conscious consumers (3.8) and least important for the indifferent students (2.6). A dislike for shopping (sample average 3) can also be found most often among the environmental activists (3.5) and least often among indifferent students (2.7). It is also environmental activists who most often feel that they already have everything they need (4.1) – the average for the indifferent students is again the lowest (3.2; sample average 3.6).

Figure 2. How much do the following factors hold you back from shopping more?
(Sample averages, where 1=does not hold me back at all, 6=holds me back strongly)



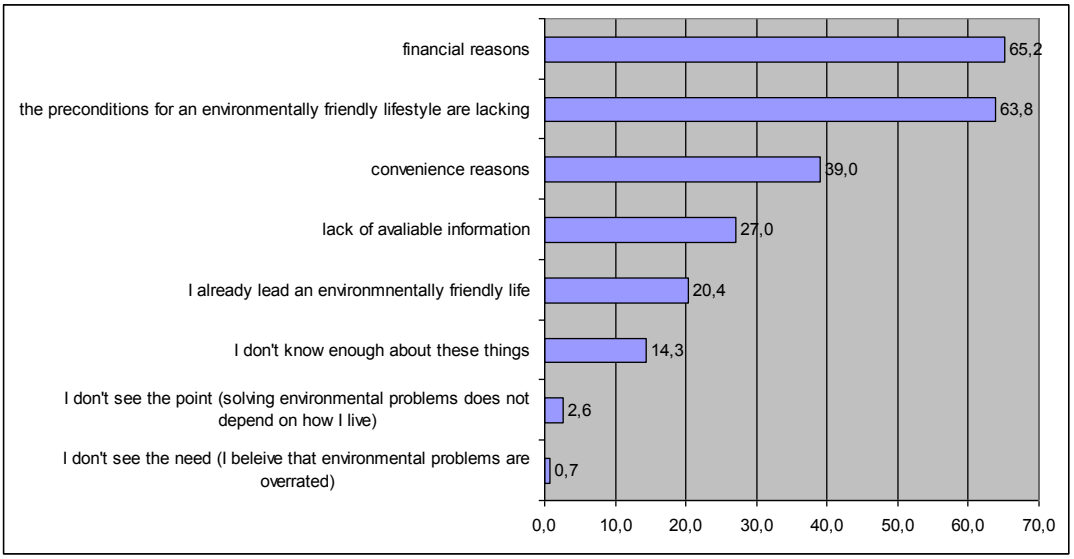
The willingness to purchase more expensive environmentally friendly products seems more influenced by the environmental consciousness of the respondent than his/her financial situation: 77% of environmental activists and 75% of product and energy conscious consumers are fully in part ready to do this, while among the indifferent students, this proportion is only 45%.

It is also interesting to compare the general barriers to an environmentally friendly lifestyle (figure 3). The factors chosen most frequently in the overall sample were financial reasons, the lack of the institutional and infrastructural background and reasons of convenience. The differences between the clusters speak for themselves: the lack of knowledge (sample average 14.3%) is least present among environmental activists (7.7%) and most felt by indifferent students (18.1%); environmental activists and product and energy conscious consumers are the most satisfied with their current level of environmental awareness (33.3% and 30.5% said they already live an environmentally friendly life, the sample average is 20.4; but only 6.9% for the indifferent students).

The different level of commitment can also be seen from the citing of convenience reasons (sample average 39%), which was only mentioned by 25.6% and 26.8% respectively of the environmental activists and product and energy conscious consumers but by 57.4% of indifferent students and by 49.2% of the champions of waste management. Regarding the lack preconditions for an environmentally friendly lifestyle, the differences are less outspoken, this is least felt by sports and electronics fans (58.1%) and most by the indifferent students (67.6%) and the champions of waste management (67.1%). For the indifferent students, this reasoning probably serves the shifting of responsibility from themselves, while the champions of waste management are probably criticising the lack of infrastructure for selective waste collection. Financial reasons were mentioned by 76.1% of the environmental activists, while there were no marked differences between the other clusters (sample average 65.2%).

Overall, very few respondents stated that they do not believe environmental problems to be truly serious or that they believe to have no effect on their solution – however, indifferent students cited both arguments far more often than the average.

Figure 3. What are the main factors that currently prevent you from adopting a more environmentally friendly lifestyle?
(Proportion in the entire sample of those choosing the given factor – a maximum of 3 answers was permitted.)



Comparing the issues discussed above leads to very interesting conclusions. It seems that groups more sensitive to environmental issues (environmental activists, product and energy conscious consumers) – although their overall financial situation is worse – feel less impeded from shopping more by the lack of money and are in general more satisfied with their current level of consumption. For the environmental activists, the lack of money is more of a barrier when it comes to pro- environmental behaviour, although they are still the ones willing to spend the most on environmentally friendly products. At the same time, the indifferent cluster, whose members are the least susceptible to environmental considerations – although they have a positive opinion of their living standards and their average spending is relatively high – feel the least that their needs are sufficiently covered and would gladly consume more if they could afford to, while reportedly not being hedonistic. Living in an environmentally conscious way, as it does not really interest them, does not hinge on their financial means. The group named the champions of waste management is different again, as their living standards are also high (they are older and a higher proportion has income from work) and, although they are not willing to sacrifice comfort for the sake of the environment, they do show a certain willingness to pay more for environmentally friendly products. The characteristics of the clusters are summarised in Table 2.

5. Conclusions

Results show that students in the sample have a very positive view of their own environmental consciousness, indicating the presence of a positive bias in the responses: reported environmental consciousness (attitudes) and actions are not always in line with each other; this was made clear by the control questions. It the deeper analysis, we strived to expose differences from the average by forming clusters of the respondents based on consumer behaviour and lifestyle which are internally homogenous but very different from each other.

The results also support our hypothesis that individuals or groups who are fully consistent in their lifestyle, consumer behaviour and environmental activism are very rare; contradictions can also be found within the behaviour itself. Regarding an environmentally conscious lifestyle, two groups proved consistent: the cluster of product and energy conscious consumers deviates positively from the sample average, while indifferent students

consistently do nothing for the sake of environment protection. Environmental activists tend to live consistently, but their consumption levels are not low; the consumer behaviour and lifestyle of other clusters is very mixed.

Table 1. Summary of cluster characteristics

Characteristics **Clusters**	**By factors** (outlying values)	**Average monthly spending on consumer goods**	**Field of study**	**Environmental education**	**Age**	**Support for consumption-reducing measures**	**Barriers to higher consumption** (outlying values)	**Barriers to an environmentally friendly lifestyle** (outlying values)	**Willingness to buy more expensive environmentally friendly products**
Environmental activists	- activist behaviour - mediocre hedonism - largely conscious lifestyle	7385 HUF mediocre	Natural sciences	Specialising in environmental issues	Older	Above average "yes"	- Environmental considerations - „I have everything" - „I don't like shopping"	- Financial reasons - „Already lead an environmentally friendly life"	Higher than average
Product and energy conscious consumers	- not hedonistic - frugal - environmentally conscious lifestyle	6372 HUF low	Corresponds to the sample average	Corresponds to the sample average	Older	Above average "yes"	- Environmental considerations - „I have everything"	-„Already lead an environmentally friendly life" - Lack of conditions	Higher than average
Sports and electronics fans	- frequent shopping - mixed lifestyle	6565 HUF low	Corresponds to the sample average	Corresponds to the sample average	Younger	About average "yes"	- Average answers on all factors	- Average answers on all factors	Average
Hedonistic consumers	- Hedonistic values - mixed lifestyle	6764 HUF low-mediocre	Corresponds to the sample average	Corresponds to the sample average	Younger	Below average "yes"	- Lack of money (+)	- Convenience	Average
Champions of waste management	- intensive selection of waste, but - less conscious lifestyle	8816 HUF high	Corresponds to the sample average	Corresponds to the sample average	Older	About average "yes"	- Lack of money (+)	- Convenience - Lack of conditions	Average
Indifferent students	- not environmentally conscious - mediocre hedonism	8799 HUF high	Humanities Economics Engineering Other social sciences	Have not studied about environmental issues	Younger	Below average "yes"	- Lack of money (+)	- Convenience - I don't know enough - Lack of conditions -„Doesn't depend on me"	Below average

Regarding activist behaviour, two other groups produce large differences compared to the sample average, and these are the ones showing the most significant connections with sample characteristics and other answers: environmental activists and indifferent students. Product and energy conscious consumers do not actively participate in the work of environmental organisations; therefore they do not represent the positive extreme, although their consumer behaviour is the most modest.

Results show the logical directions for further research. First step for promoting a more sustainable and environmentally conscious lifestyle is to examine the total environmental burden of our lifestyle, to see whether the balance of compensating activities leans toward environmental consciousness or the lack of it and to consider how our activities contribute to the behaviour of the community we live in. A good example for the former is the low consumption and high consciousness of the product and energy conscious consumer group; for the latter activist behaviour can be mentioned and those activities (such as working for environmental causes) which may indirectly exert a positive influence on the environmental attitudes and consciousness of the community within our reach.

The array of incentives is wide, but those applying them, those involved in environmental education or anyone aiming to shape public awareness, must be aware of the fact that both attitudes and actual behaviour appear very differently within the society, so improving consciousness can only be effective if the methods used are targeted at the various groups involved. Policies for a more sustainable consumption should definitely (1) further strengthen the positive behavioural elements at the target groups via continuous positive feedback and information while (2) weaken the negative elements in order to reduce inconsistencies. Strengthening positive features is expected to exert spillover effects on other behavioural areas and to increase commitment. Based on both the literature and research results, internal motivation is crucial in behavioural change: committed people tend to be much more consistent in their everyday life. Socio-cultural factors like norms, group identity and interpersonal relationships also seem fundamental which makes a wide scale of behavioural change necessary in the society. However, as seen from the responses (and the literature), the promotion of sustainable consumption should be definitely supported by appropriate infrastructure and institutional background, in order to make environmentally friendly behaviour alternatives widely available and acceptable without any space for individuals to find excuses against behavioural change. Examination and evaluation of the specific tools for shaping environmental consciousness will be the subject of our upcoming research.

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