

Sustainable Development From the Family to the Society

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Abstract "Sustainability" means the consideration of economical expectations with environmental and social concerns. This study examines individual's sustainable consumption behavior. Participations of this study consist of individuals who have married and live with his/her family in Karabük, Turkey. The sample size is determined using a random sampling method (n=500). Behaviors of individuals towards sustainable consumption was measured with "Sustainable Consumption Behavior Scale (SCBs)" developed by Kiracı and Karalar (2010). Scale consists of 36 items. Beside descriptive statistics, t-test and one way variance analysis (ANOVA) is used in the analysis of the data. According to the results of the study, it was found that frequency of SCBs was mid-level (=2.83). Analysis of variance tests show significant differences ($p<.05$) in perceptions of sustainable consumption behavior to gender, and socio-economic level, education and occupation. The results of this research have significant implications for policymakers and educators in their search of strategies for improving the roles of families' to sustainable development. The ability to act as a responsible and democratic citizen is a prerequisite for a sustainable development. This skill can be improved by reaching the recent knowledge and lifelong learning.

Key word: family sustainability, society sustainability, sustainable development, family to society sustainability.

Introduction

From the beginning of the life, human beings have continued their lives by changing their environment. Man's attempt to reach the more advanced civilizations is provided with generous use of natural resources (İlkin & Atkin, 1991). However, due to the unconscious use of some of these sources in many parts of the world some of which are nonrenewable characteristics formed an environment not suitable to human life (Uçar, 1991). Damage to the environment was not noticed at first because of the ability of nature renewing itself, and even the opinion that environment could dispel this pollution over time, became widespread. However, on the contrary to the expectations over time, industrialization, urbanization and rapid population growth and an irregular increasing pressure on natural resources by human activities has led to heavy damages on the world's eco-system (Öztaş, 1996; Ehrlich & Ehrlich, 1991). Therefore, the use of natural resources consumed by the degree of destruction, environmental pollution, lead to deterioration of the balance of the human-nature to live at a density, which is part of the long-term nature and human life has become a threat to the future of civilization (Uçar, 1991; Ehrlich & Ehrlich, 1991; Oskamp, 2000). These changes in people's lives and to take suitable measures to protect the lives of future generations has arisen (Koçak & Balcı, 2010).

The Concept of Sustainable Development

In order to provide development in a country, and only ecological, economic, and social sustainability by sustaining the industry can take (Yapıcı, 2005; Dobers & Strannegard, 2005).

Today, developed and developing countries in the world, widely accepted that understanding, preventing incorrect applications will decrease the harmful impacts on resources and the environment (Midden, Kaiser & L McCalley, 2007).

There are numerous definitions of the term sustainable development (Ciegis at al. 2009; Li at al. 2011). "Sustainability" means the consideration of economical expectations with environmental and social concerns. On the basis of sustainable development lies protection and renewal of the resources. The economy and the natural environment interact. The condition of one is of importance to the other. On the one hand, economic activity based on the continued availability of sufficient material and energy resources and an environment that is sufficiently clean attractive. Insofar as the economy is based on renewable resources, the proper functioning of natural processes and systems may become an essential precondition for society's continuity. On the other hand, by discharging pollution and by other features associated with human activities, society is interfering with this environmental processes and systems (Opschoor & Reijnders, 1991). The concept of growth is considered to be sustained as long as compatible with the environment (Bener

& Babaoğul, 2008). According Chambers and Conway (1991) "A livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation and which contributes net benefits to other livelihood at the local and global levels and in the short and long term" (Chambers & Conway, 1991).

The nation ecology owes its sociological acceptance to the Stockholm Conference on the Environment in 1972, whereas this new nation sustainable development owes its systematic definition and widespread recognition to the World Commission on Environment and Development, which published its famous discussion paper in 1987, with the title *Our Common Future* (d'Entremont, 2007). The Brundtland Report vigorously promotes the idea of sustainable development, which it defines as:

"Sustainable development is that meets the needs of future generations without compromising the ability of future generations to meet their own needs" (Pezzey, 1992). The concept of sustainable development is intended to embrace the idea of ensuring that the future generations inherit the Earth which supports their livelihood in such a way that they are no worse off than generations today (Pearce & Atkinson, 1998). In this paper, the concept of sustainable development is considered improvement of lifestyles and well-being, preserving natural resources and eco system in family life, for the present and future generations.

It is becoming increasingly apparent that the future of any society depends on the ability of its citizens to develop their full potential and have the opportunity to lead productive and meaningful lives. The family no doubt plays a critical role in the health and well-being of the earth and its inhabitants (Cortese, 2003).

How can we meet today's needs without diminishing the capacity of future generations to meet their own? This is the challenge of "sustainable development".

The notion of sustainable development has gained a broader political usage. Here, it embodies a concern for taking a broad view of what human welfare entails, and for balancing the goals of economic efficiency, social development and environmental protection. Sustainable development also underscores the importance of taking a longer-term perspective about the consequences of today's activities, and of global cooperation among countries to reach viable solutions. These elements have made sustainable development a key objective for domestic and regional policy formulation, as well as for international relations between countries in the 21st century (OECD, 2001).

Sustainable Development in Family

The family is the fundamental unit in society and perhaps the oldest and most resilient institution (Defrain, 2007). Family is the first place where the individual is prepared for the society and the socialization begins (Erkal, Şafak & Yertutan, 2011). Thereby family is the most basic and most important institution that creates social consciousness of individuals, which is required to develop and sustain the communities (Hojat at al., 2000; Levin & Trost, 1992; DeFrain & Asay, 2007). The multifaceted function performed by it in a society makes it a much-needed institution. Therefore in a traditional culture family ties are considered to be the most important factor that holds people together (UN; Hojat at al. 2000).

The relationships between individual, family, society and environment have changed according to the conditions. Generally human beings continued life in accordance with its environment. However, in some cases, this balance is disturbed. Changes in the environment are transforming the structure of the society. This change affects the most important unity of the society, which is family. There is a constant interaction between the environment and the family (Erkal, Şafak & Yertutan 2011). Therefore, practices such as misuse and incorrect consumption, underdevelopment or misidentification of resources by some families have affected the amount and the shape of resources that have been used by the other families. (Gönen & Özmete, 2006)

Family, being the smallest unit of the society, has to learn the ways of improving its wealth and life quality in the current lifestyle brought by the continuously changing social, cultural and economic conditions by using all of its resources along with preserving the resources of future generations. Having an acceptable living standard and eliminating the obstacles for the wealth of family members are necessary for a quality and ideal family life and growing the children well in such a continuously changing living conditions (Özmete, 2004). In this context, families have to determine their needs for new knowledge and methods of using the resources. The standard of living is an intangible concept and numerous attempts have been made to represent it empirically (Deeming, 2011).

Sustainability depends on how the people live in the social life to meet their needs. A sustainable development preserves the vitality and quality of the ecosystem and the physical and mental health of the workforce as well as the social and structural environment that hosts the production (Bener & Babaoğul, 2008).

Sustainable development approach for consumption is the adoption of sustainable consumption all over the world. For the widespread adoption of sustainable consumption approach, it is necessary to investigate the factors affecting this

behavior in terms of the sustainability of the family, society and the resources. Unsustainable consumption models of the family are very affective on achieving the success in sustainable development targets because of its important roles in consumption. The families affect the environment either positively or negatively with their choices such as water and energy consumption, waste production, communication and food. Sustainable consumption should develop solutions for improving the frequency of the sustainable consumption behavior and spreading this behavior to the whole society. The problem should be investigated deeply to determine the factors affecting the problem before developing a solution. Therefore, this study is planned and conducted to investigate the sustainable consumption behaviors of the families.

Method

The study designed to explore factors influence sustainable consumption behaviors of Turkish families. Participants of this study consisted of families which have live in Karabük city. The research is composed of 500 people living in the neighborhood of 100. Yil (Centennial) Karabuk /Turkey. Participants were selected via simple random sampling method. Of the participants included in the research, 234 (46.8%) were female and 266 (53.2%) were male. The ages of the participants ranged from 19-83 with a mean of 38.8 ± 9.9 and the present of 35.4 participants was "35 – 44 years old" age group. The vast majority (97.6%) of the sample was married; the average length of marriage was fifteen (± 10.9) years, with a range from one to fifty-seven years. The average number of children was two in the families. The participating families monthly income was obtained via an open-ended item and the mean monthly income was determined to be 1.757 (± 1091.64) TL (1 U.S. dollar is equivalent to about 1.80 TL).

Participants were contacted in person and surveys were given individually. Upon arrival at their living sites, and following the researcher's self-introduction, the purpose of the study was explained. Participants were also informed that participation in the study was voluntary. After obtaining their consent, the survey packets, which subjects read and completed on their own, were distributed, and then researchers collected all surveys once they were completed. 36 of the contacted individuals refused to participate. Data were collected between March - June 2010.

Instruments and Data Collection

Data collection tools, used in this study was demographic variables, Socio-Economic Level Scale and Sustainable Consumption Behavior Scale (SCBS).

Demographic Variables: The study involved participants' demographic variables of gender, age, education, occupation, marital status, number of children and monthly income.

Socio-Economic Level Scale (SEL): Socio-economic level of families was measured by the Socio-Economic Level Scale (SEL) (Bacanli, 1990). The SELs was rearranged and improved by Çıtak (2008). SEL includes 14 items such as educational level of individuals, their spouses', fathers' and mother's, occupation of individual (spouses', fathers' and mother's occupation) number of members lived in household, family type, type of home owner, number of room in the house, number of available equipment, appliance or tools in the house. According to Çıtak (2008) the Cronbach's alpha for the SELs was .80, and split-half coefficient was .87. The analyses showed that the SEL scale seems to be a reliable and valid scale.

Sustainable Consumption Behavior Scale (SCBs): This scale developed by Kiracı and Karalar (2010). Sustainable consumption was measured using the Sustainable Consumption Behavior Scale (SCBs), which includes 36 items such as "I avoid products in aerosol containers." Responses were given on a 5-point Likert Scale, ranging from 1 ("never") to 5 ("every time"). 8,13,14,15,16 items was coded reverse. In this study the Cronbach's alpha coefficient was used to determine the internal consistency reliability of scale used. It was determined that alpha value for SCB scale was 0.63. SCB scales do not have high alpha values and so the scale could be improved in future research. But in this study Cronbach's alpha coefficient was found .75.

Data Analysis

Data analysis began with calculating frequencies of the sample on all independent variables. Independent samples T - Tests were then used to compare mean values on the SCBS between males and females. To compare between SCBs and SELs were use Paired T - Tests. One-way analysis of variance (ANOVA) was then computed to compare means among categories of subjects on each remaining independent variable. When the F test indicated significant (.05) mean differences on a given variable, LSD multiple comparison test was used to isolate the specific between-category means that were significantly different.

Results

This study investigated that, among the family members means of behaviors vary from 1,60 to 4,20. Findings indicated that "I use my own bag when going shopping, rather than one provided by the shop" (4.20) has the highest mean. The other items which have the highest mean are: "I buy high efficiency light bulbs to save energy." (=4.01), "I donate old household items to charity or friends, instead of putting them warehouse or garbage can them." (=3.89) and "I buy recycled writing paper or toilet paper." (=3.73). As for the behavior which has the least mean score, it can be seen that the behavior which stated as "when I need a car, I rent one" (=1.86) exhibited less than others. The others are "I buy energy saving white goods B, A, A+ energy label" (=1.86) and "I keep TV on if I'm at home even I don't watch it (-)" (=1.87) (Table 1).

The results of study showed that males sustainable consumption behavior ($M=107.40$, $SD = 15.10$) a bit higher (but statistically significant at the .05 level) than that of females ($M=104.38$, $SD = 12.97$), ($t_{(498)} = 2.403$; $p<0.05$) (Table 2.).

According Table 3 the findings of paired sample t-test has showed that there are meaningful differences between levels of mean of SELs ($M=56.98$, $SD = 9.87$), and SCBs ($M=105.99$, $SD=14.21$) ($t_{(499)}=77.736$; $p<0.05$). It can be said that participants who have higher socio-economic status exhibited SCBs more frequently any more.

Results of the ANOVA showed that education significantly (at least .05) affected scores on the SCBs. Table 4 shows the results of one-way ANOVA for education, where the means of educational levels was significant, ($F_{(2,497)}=3.570$, $p<0.05$). For those variables showing significant differences, LSD multiple comparison test was used to determine which pairs of categories of each variable were significantly different. For education, significant differences were found between the primary school education category and university graduates high school graduates and university graduates.

The differences in perceived adequacy of resources among the occupations categories are shown in Table 4. The ANOVA concerning occupations status was also significant, ($F_{(6, 497)}= 3.746$, $p<0.05$). As can be seen, to LSD test, there were significant differences the group with unemployed and the following four groups: retired, servant, and tradesman and self-employed; the group between employed and retired, servant are also were significant differences.

Discussion

In almost every domain of human life, change is accelerating. This is true wherever we look, in the ecological, intellectually, politically professional, psychological, social or technological aspects of our lives. Along with other changes, human aspiration are growing at an accelerating, rate not least because of the rapidly of technological change in access to information. It is not just that change is fast; it is getting faster and faster (Chambers & Conway, 1991).

The impact of human behavior on the natural environment has now led to transformations that have the power to amplify ordinary weather phenomena into increasingly more devastating disasters. The environmental impact of people, whether as individuals, as households, or as societies, can thus be roughly assessed as a function of their numbers, their affluence, and the technology they currently use (Midden, Kaiser, and McCalley, 2007).

The purpose of this study was determinant sustainable consumption behavior of individuals who have married and live with his/her family. In addition the research examined individuals' sustainable consumption behavior according to selected demographic and socioeconomic variables.

This paper gives place to various definitions about sustainable consumption behavior and then presented the findings of a research. In the study, frequency of sustainable consumption behavior of people who have married and live with his/her family was presented here. According the results, it can be stated that very few of people live in Karabuk be aware to sustainable consumption behavior.

As a result of the study, the level of individuals' exhibit the sustainable consumption behavior was not high (total SCBs mean=2.83). This indicates that the level of the SCB is not within the ideal degree. Nevertheless, the frequency of "I use my own bag when going shopping, rather than one provided by the shop", "I buy high efficiency light bulbs to save energy." "I donate old household items to charity or friends, instead of putting them warehouse or garbage can them." "I buy recycled writing paper or toilet paper" behaviors are at high level.

The least mean score "when I need a car, I rent one" (=1.86) stem from family members' habits, income levels, or this service is limited and expensive in the city.

Income level is directly related to the health, education, social interaction, housing, leisure time an overall living style conditions along with expressing the level of meeting the needs of the family (Aydiner Boylu & Terzioğlu, 2008). Resources are used to meet our most basic needs—and if resources are plentiful, they can be easily allocated to satisfy the comforts and luxuries we desire. Unfortunately most families possess limited resources and must manage them in an

effort to meet their needs and desires. Comfort can be derived from resources not only when they are in abundance but also when they can be relied on to help solve problems and provide a sense of security (Fox & Bartholomae, 2005).

The present research found that women had not significantly higher SCBs scores that did males. The status of women is one factor that has effects on sustainable development (Ukpore, 2009). What is termed "women's consumption" of household goods and services is more often representative of family consumption as a whole. Women are responsible for activities such as shopping, food preparation, gift-buying, and disposal of used items. Women spend more than men on consumer goods, including in the categories of hygiene, medical care and health, clothing and shoes, books and culture (OECD, 2008a). In contrast to this study, a study conducted in United Kingdom showed that in families, women tend to be more sustainable consumers. Women are more likely to recycle, buy organic food and eco-labeled products and place a higher value on energy-efficient transport (OECD, 2008b). According a study conducted in Sweden women use public transportation, even in households with cars, more often than men and travel short distances closer to home, while men more often travel in their own car and for greater distances (Johnsson-Latham, 2007).

They make more ethical consumer choices, paying closer attention to issues including child labor and sustainable livelihoods and are more apt to buy socially labeled goods such as Fair-trade.

Parallel to the literature (Cortese, 2003; Haron at al., 2005) the present research also found that education has significantly affected sustainable consumption behavior. Generally, more highly educated people, who have higher incomes, consume more resources than poorly educated people, who tend to have lower incomes. In this case, more education increases the threat to sustainability (UNESCO, 2006).

Finally sustainable development can only be achieved through long-term investments in economic, human and environmental capital. The first strategies ranked as most important for improving families' role in sustainable development are based on educating the children and become more involved in politics, social and economy of the nation.

Family, as a natural institution at a base of society, has such a great role to play improving and maintenance to sustainable development. It can be said that clearly and unequivocally be stated, without a shadow of a doubt, that only a sustainable and sustained family can lead to true sustainable and sustained development in society.

Families, as the basic unit of society, have an important role in the training of conscious individuals for environment, as user of many consumer goods. Family is the first place to start socializing of the individual and where one is prepared for the community. Therefore, families not only create a behavioral model for children but also direct effect to the development while they grow up, within or outside the family for the child about the consumption behavior. So families should pay attention to products to whether they are reusable products or not and be careful about consuming reusable goods and take these as habits are significant in terms of children's taking these habits as examples. The foundation of regular, healthy, and a civilized way of life, depends on being able to find coherent solutions to environmental problems.

Table 1. The arithmetic mean and standard deviation values of the family members about sustainable Consumption Behaviors

Behaviors	Means	Ss
1. I keep off tap when cleaning teeth or soaping up.	2.05	1.31
2. Dirty dishes are cleaned in dishwasher.	3.10	1.46
3. At home, vegetables and fruits is cleaned in a pots and pans.	3.10	1.41
4. I control all taps, if there were any problem I would repair or have someone to repair them.	1.88	1.17
5. I wait until I have a full load before putting on the washing machine	2.08	1.26
6. In winter I keep the heat on so that I do not have to wear a sweater	2.44	1.39
7. In winter, I turn down the heat when I leave my apartment for more than 4hours	3.70	1.51
8. In the winter, I leave the windows open for long periods of time to let in fresh air. (-)	3.06	1.27
9. I reduce the heating in rooms that aren't being used	2.92	1.58
10. Some of my doors, walls, loft and windows are insulated	2.14	1.31
11. I use solar panels to produce energy	2.35	1.60
12. I buy high efficiency light bulbs to save energy.	4.01	1.34

13. At home, I keep computer on even if I do not it. (-)	1.89	1.32
14. I keep TV on if I'm at home even I don't watch it (-)	1.87	1.29
15. I leave electronic apparatus in the position –stand-by (-)	2.39	1.49
16. I drive my car in or into the city (-)	2.88	1.53
17. I go to work by public transportation	3.09	1.56
18. I bike or walk to work	3.71	1.41
19. For long journey, I drive the car instead of bus or train.	2.88	1.54
20. I drive on freeways at speeds under 100 kHz.	2.95	1.46
21. I use rechargeable batteries instead of disposable batteries.	2.74	1.46
22. I buy second-hand (used) products	2.00	1.28
23. I buy organic products	2.23	1.24
24. I buy energy saving white goods (B, A, A+ energy label).	1.86	1.19
25. I buy recycled writing paper or toilet paper.	3.73	1.40
26. I avoid products in aerosol containers.	3.01	1.50
27. I share some household appliances (with effects of ecological concern)	3.63	1.39
28. When I need a car, I rent one	1.60	1.14
29. I use my own bag when going shopping, rather than one provided by the shop.	4.20	1.23
30. I donate old household items to charity or friends, instead of putting them warehouse or garbage can them.	3.89	1.24
31. When electrical appliance like iron, vacuum cleaner, blow dryer, toaster breakdown, I prefer to have someone repair them rather than buy new ones.	2.08	1.37
32. I do not demand receipt when I transact by ATM.	2.84	1.60
33. I want they to send to me the receipts of credit card, telephone, internet vb. only by e-mail.	3.28	1.64
34. I buy local produce whenever possible	3.72	1.25
35. I reuse scrap paper (e.g. for writing notes)	3.60	1.35
36. I put dead batteries, used paper and bottles in recycling bin.	3.11	1.44
Whole SCB Scale	2.83	0.28

Table 2. The t-test results of family members scale scores towards sustainable consumption and gender

Gender	N	Mean	Std. deviation	df	t	P
Female	234	104.38	12.97	498	2.403	.018*
Male	266	107.40	15.10			

*p<0.05

Table 3. Paired-sample t-test (Socio-economic Level SEL– Sustainable Consumption Behavior SCBS)

	Mean	Std. deviation	Std. error	t	df	p
SEL	56.98	9.87	0.44	77.736	499	.000*
SCBS	105.99	14.21	0.63			

*p<0.05

Table 4. The ANOVA results of family members scale scores towards sustainable consumption and education and occupation status.

Source of variance	Sum of squares	df	Mean square	F	P
Between groups	1427.489	2	713.745	3.570	.029*
Within groups	99361.461	497	199.922		
Total	100788.950	499			
Occupation					
Source of variance	Sum of squares	df	Mean square	F	P
Between groups	2277.835	6	379.639	3.746	.001*
Within groups	49958.443	493	101.336		
Total	52236.278	499			

*p<0.05

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