18. Lee, M.-Y., Kim, Y.-K., Knight, D. (2008) "Brand analysis of a US global brand in comparison with domestic brands in Mexico, Korea, and Japan", Journal of Product & Brand Management, Vol. 17, No. 3, pp. 163-174.

19. Low, G. S., Lamb Jr., C. W. (2000) "The measurement and dimensionality of brand associations", Journal of Product & Brand Management, Vol. 9, No. 6, pp. 350-368.

20. Mäder, R. (2004) „Messung und Steuerung von Markenpersönlichkeit: Entwicklung eines Messinstruments und Anwendung in der Werbung mit prominenten Testimonials", Wiesbaden, Gabler Verlag.

21. Özsomer, A., Altaras, S. (2008) "Global Brand Purchase Likelihood: A Critical Synthesis and an Integrated Conceptual Framework", Journal of International Marketing, American Marketing Association, Vol. 16, No. 4, pp. 1-28.

22. Reppel, A., Szmigin, I., Gruber, T. (2006) "The iPod phenomenon: identifying a market leader's secrets through qualitative marketing research", Journal of Product & Brand Management, Vol. 15, No. 4, pp. 239-249.

23. Riesenbeck, H., Freeling, A. (1991) "How global are global brands", The McKinsey Quarterly, No. 4.

24. Solomon, M. R. (2008) "Consumer Behavior: Buying, Having, and Being", 8th international edition, New Jersey, Pearson Education.

[1] Younger than 18 and older than 24 years was calculated with 18 years resp. 24 years.

RELATIONSHIP BETWEEN ENVIRONMENTAL CONCERN AND GREEN PURCHASING BEHAVIOR

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ABSTRACT

The aim of this paper was to establish the relationship between environmental concern and consumers' green purchasing behavior. A survey instrument was developed that used scales to measure general environmental beliefs (HEP-NEP general environmental beliefs questions) and consumer's intention to buy environmental friendly products. Data were collected from a convenient (non-probability sampling method) sample of 150 consumers in the Sarajevo region. The results indicated that significant positive correlation does not exist between the environmental concern and consumer's green purchasing behavior. Expected gender difference on environmental concern scale and green purchasing scale was noticed, confirming that females scores higher than males. Other demographic characteristics: age, education and income did not generate significant differences on the environmental concern scale and green purchasing scale. The sample size was relatively small (n =150) and data collection took place only in Sarajevo. The other influences that encourage consumer's intention to purchase environmentally friendly products need renewed attention. It would be useful to investigate in detail how various influences support green purchasing behavior.

JEL classification: M31, Q50, A12

Key words: environmental concern, consumer behavior, green purchasing behavior, environmental responsibility

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1. INTRODUCTION

Over the last decades, a number of environmental issues that threaten the environment and human lives have been identified that include global warming, depletion of stratospheric ozone layer, pollution of sea and rivers, noise and light pollution, acid rain and farmland erosion. One of the main causes of these problems is over-consumption of natural resources. Human behavior is the key source as well as the main solution to these problems. This situation brought a new awareness of environmental problems and a new sense of urgency that enabled people to be mobilized for environmental causes all over the world. Environmental concern has triggered responses from national governments, community, industry and consumers. Environmental concern and green consumer demand has led to the emergence of "green marketing", which attempts to balance the pursuit of sales and profits with a concern for the environment and society. In this new world, both business and the environment can win. Being green is no longer a cost of doing business; it is a catalyst for innovation, new market opportunity, and wealth creation.

2. LITERATURE REVIEW

Since the early 1970s psychologists, sociologists, environmental scholars and marketing scholars from around the world have been investigating and attempting to explain the theoretical and practical significance of environmental consciousness. The majority of work has concentrated on defining and conceptualizing the construct of ''environmental consciousness".

Beginning in the 1970s, Dunlap and Van Liere (1978) developed a scale that measured a general orientation toward nature and the relationship between people and the environment. Their conceptualization of what they called the *New Environmental Paradigm* (NEP) focused on beliefs about humanity's ability to upset the balance of nature, the existence of limits to growth for human societies, and humanity's right to rule over the rest of nature. Dunlap and Van Liere discovered, using a 12- item measure assessing the consumer attitude that a large number of respondents agreed with this new paradigm. Their scale had a reliability of 0.813 and with it they assured predictive, content and construct validity. High scores on the NEP scale indicate pro-environmental attitude – they indicate that the respondent "endorses a worldwide view in which humans adapt to the changing limits dictated by the environment" (Vining and Ebreo, 1992, p. 1582). The NEP scale was originally designed to be unidimensional. However, empirical results (Bostrom

et al., 2006; Scot and Willits, 1994) found that the NEP is multidimensional. Three distinct underlying factors were identifies, labeled as balance of nature, limits to growth and man over nature.

Progress toward solving environmental problems is likely to depend on environmental behavior more than environmental concern. Although there seem to be both theoretical and practical interest in knowing the determinants of environmental behavior, there is considerable confusion as to what constitutes this behavior and how to define it conceptually. From the consumer perspective, the concept of environmental behavior has been measured in several ways and through different variables which are also related to each other. This is due to the large amount of manifestations it involved (buying, use, consumption, reuse, recycling, willingness to pay more for environmental friendly products, etc.).

Moreover, different terms such as green behavior, pro-environmental or pro-ecological behavior, environmentally significant behavior, or environmentally friendly behavior are used, often in similar meanings.

A past studies have put focus on examining the relationship between environment concern and environmental behavior in general. However, research has produced mixed results that support both a positive relationship between environmental concern and environmental behavior as well as weak relationships. More specifically it has been suggested that consumers with a higher level of environmental concern will be more likely to engage in green consumer behavior (Antil, 1984; Sheltzer et al., 1991). These claims have been supported by a number of surveys carried out between 1989 and 1990 which reported a dramatic increase in the number of consumers expressing environmental concerns and claiming to have purchased environmental friendly products.

Nevertheless, a number of post 1990 studies have produced results that do not fully support the above. For example, the 1991 Simmons Market Research Bureau's (SMRB) study reported low correlation between environmental concern and consumers' willingness to change their buying behavior in favor of environmental friendly products. Such findings are in line with research carried out by, among others, Kleiner (1991) and Schlossberg (1991) who concluded that there is little evidence to suggest that positive attitudes towards environmental issues are manifested in the form of actual purchase behavior.

Over the last decades, marketing scholars have tried to answer puzzling question about why despite concern towards the environment (attitude) consumers fails to purchase environmental friendly or green products (behavior)?

Despite theoretical efforts, predictive ability of attitude in the domain of environmental consumerism has been debatable. Researchers have attempted to explain this inconsistency between attitude and behavior by attributing it to a number of factors: low correlations among environmental behaviors, different levels of specificity in the attitude - behavior measures, effects of external variables and lack of measurement reliability and validity (Mainieri et al., 1997). Past research has shown that pro-environmental behaviors performed by the same individual are not significantly correlated (Tracy and Oskamp, 1983-1984) where an individual who performs one type of such behavior, e.g. carpooling is also expected to engage in other similar behaviors such as recycling. Lack of measurement specificity between attitude and behavior suggests that the inconsistency exists as a result of researchers failing to measure behavior specific attitude instead focusing on a generalized view of environmental attitude and behavior (Mainieri et al., 1997). Therefore, it has been recommended that in order to predict specific behavior, i.e. purchase of green products, the attitudes measured need to be pointed at a specific environmental issue. Additionally, personal (knowledge, motivation or attitudes) and situational (social norms, other attractive choices or economic constraints) factors may also confound the relationship between environmental attitudes and behavior (Mainieri et al., 1997).

The green purchasing behavior refers to the consumption of products that are:

- benevolent/beneficial to environment;
- recyclable/conservable; or
- sensitive/responsive to ecological concerns (Mostafa, 2007)

Drawing on research from North America, Australasia, and Europe, there is a wealth of evidence that suggests that a wide variety of factors influence environmental behavior and, in turn, green purchasing behavior. These factors can be characterized as environmental concern, environmental knowledge, attitudes toward green products, perceived consumer effectiveness, altruism and skepticism towards environmental claims.

3. Research methodology

The primary aim of this research was to determine the level of consumer's environmental concern and to establish the relationship between environmental concern and green purchasing behavior. Based on the literature review, the following subjects of consideration were defined:

- Determine the level of environmental concern and green purchasing behavior among the consumers in the area of city Sarajevo and whether such attitude is different considering the demographic characteristics (gender, age, education, income) of respondents;
- Determine the correlation between environmental concern and consumers' green purchasing behavior.

3.1. Research methodology

The consumers, who shop in general stores, departmental stores, boutiques, shopping malls and retail store in the area of city Sarajevo were taken as population for this study. A convenient (non-probability sampling method) of 150 consumers was pooled up for this study in which respondents were requested to complete the questionnaire on voluntary basis. The measuring instrument was structured as follows. The first part contains the HEP-NEP questions to measure general environmental beliefs. The possible responses were: strongly disagree, midly disagree, midly agree and strongly agree. The second part included questions about green purchasing behavior, and the range of responses to the question "Do you do any of the following? " was: never, sometimes, frequently and always. The third part included general demographic questions such as gender, age, education and income.

3.2. Research results

Frequency tests were conducted to provide descriptive information regarding variables, including demographics (Table 1). As can be seen in table, the sample of respondents included more females (58.3 percent) than males and more respondents with secondary and high education (80.7 percent) than other categories Moreover, the majority of respondents was between the ages of 26 and 45 (55.4 percent).

Table 1 Sample characteristics

Factor	Category	Percentage
Gender	Male Female	34,9 58.3
Age Group	18-25 26-35 36- 45 46-55 56 and above	18.7 28.7 26.7 13.3 12.6
Education	Primary school Secondary school High school Master's Degree and Doctorate	4.0 50.7 30.0 15.3
Monthly income	600 KM and below 601KM- 1000 KM 1001 KM - 1800 KM 1801 and above	7.3 40.0 28.7 24.0

Source: author's research

The first topic on the research agenda was to determine the level of environmental concern and green purchasing behavior among the respondents and whether such attitude differs in relation to demographic characteristics of respondents. An overview of arithmetic mean and standard deviation indicates a moderate level of environmental concern ($M=4.06$; $\sigma=0.679$) among the consumers and the low tendency towards green purchasing behavior ($M=2.75$; $\sigma = 0.739$). One-way ANOVA test was conducted to examine whether there were any statistically significant differences in environmental concern and green purchasing behavior among the respondents with different demographic characteristics. Findings indicated that only one of the characteristics, *gender*, yielded significant difference ($p<0.01$) in level of environmental concern and green purchasing behavior (Table 1). Results showed that compared to male consumers, female consumers scored significantly higher in environmental concern and green purchasing behavior. This result implies that women are generally more concern about environmental issues and have more positive attitudes towards green purchase than men. Female children are often socialized to be more expressive, compassionate, nurturing, cooperative, independent and helpful in care-giving role (Davidson and Freudenberg, 1996). These social values may shape females to become more concerned about environmental threats

to health and safety. Moreover, since most environmentally relevant behavior takes place at home (e.g. saving of electricity, recycling), and most of the household purchase is much more often done by females than by males, green purchasing may be a concept more relevant to females than males.

Table 2 Means and standard deviation on the environmental concern and the green purchasing behavior scale

	Environmental concern		Green purchasing behavior	
	Mean	σ	Mean	σ
Gender				
Male Female (F)	3.76 4.27 25.532a	0.577 0.670	2.37 3.03 35.161 a	0.744 0.605
Age group				
18-25 26-35 36- 45 46-55 56 and above (F)	4.02 4.08 4.12 3.80 4.42 2.281	0.617 0.728 0.643 0.662 0.646	2.83 2.63 2.85 2.44 3.00 2.035	0.763 0.692 0.775 0.729 0.661
Education				
Primary school Secondary school High school Master's Degree and Doctorate (F)	4.01 4.06 4.14 4.30 0.484	0.692 0.715 0.812 0.753	2.44 2.66 2.78 3.12 1.550	0.685 0.802 0.623 0.877
Monthly income				
600 KM and below 601KM - 1000 KM 1001 KM - 1800 KM 1801 and above (F)	3.79 4.08 4.11 4.18 2,417	0.613 0.687 0.595 0.744	2.67 2.62 2.89 3.00 1.873	0.569 0.851 0.645 0.680
a $p<0.01$				

Source: author's research and calculations

Other demographics characteristics such as age, education and monthly income did not yield to significant difference ($p>0.05$) in level of environmental concern and green purchasing behavior. This result supports Hoyer and MacInnis' (2004) arguments that demographics, with the exception of gender, are not a good indicator of environmental attitudes and behaviors.

The second issue has been to determine a correlation between the environmental concern and green purchasing behavior. Correlation analysis was conducted to examine whether there is a significant positive correlation between environmental concern and green purchasing behavior. Results showed that relationship between environmental concern and green purchasing behavior is positive ($r=0.154$), but not statistically significant ($p>0.05$). This result implies that there is a gap between environmental concern and green purchasing behavior, which is commonly referred as the value-action gap. In the other words, what people think is a good idea does not always predict what they actually do, especially in the case of environmental attitides and behaviors.

4. CONCLUSION

Purpose of the research was to clarify the relationship between environmental concern and green purchasing behavior. Besides, this research was conducted with a purpose to find out whether such attitude and behavior differ in relation to demographic characteristics of consumers. The findings suggest that consumer's level of environmental concern is relatively high, but the level of green purchasing behavior is still rather low. Correlation analysis did not prove that there is a significant positive link between environmental concern and green purchasing behavior. The research has established that female consumers achieve statistically higher environmental concern scores and green purchasing behavior scores. Other demographics characteristics such as age, education and monthly income did not yield to significant difference in level of environmental concern and green purchasing behavior.

Results suggest several implications for green marketers. First, green marketers need to market their products through gender-based market segmentation. It would be unwise for green marketers to presume that what works best for the female consumers also works best for the male consumers. Second, to be effective, green marketing needs to include information on the benefits of the product to the consumer and product improvements, such as "new improved formula and/or design". Such information would help reduce the gap between attitudes and behav-

iors. Finally, green marketers should work on identifying and profiling segments of ''green consumers'.

This study has several limitations that need to highlight. The sample size was relatively small (n=150) and data collection took place only in Sarajevo. Thus, it would be interesting to conduct a cross-cultural study to compare the green purchasing behavior in different countries presenting different cultures and different levels of economic development, and among transition economies. Future research may also need to examine the impacts of some marketing variables and situational factors on green purchasing behavior**.**

REFERENCES

1. Antil, J.A. (1984). Socially responsible consumers: profile and implications for public policy, Journal of Macromarketing, Fall, pp. 18-39.
2. Bostrom, A., Barke, R., Turuga, R. M. R., O'Connor, R. E. (2006). Environmental concerns and the New Environmental Paradigm in Bulgaria, Journal of Environmental Education, Vol. 37 No. 3, pp. 25-40.
3. Chan, R. (2001). Determinants of Chinese consumers' green purchasing behavior, Psychology and Marketing, Vol. 18 No. 4, pp. 389–413.
4. Davidson, D.J. and Freudenburg, W.R. (1996). Gender and environmental risk concerns: a review and analysis of available research, Environment and Behavior, Vol. 28 No. 3, pp. 302-339.
5. Dunlap, R. and Van Liere, K. (1978). The 'new environmental paradigm': a proposed measuring instrument and preliminary results", Journal of Environmental Education, Vol. 9, pp. 10–19.
6. Gooch, G.D. (1995). Environmental beliefs and attitudes in Sweden and the Baltic states. Environment and Behavior, Vol. *27*, pp. 513–539.
7. Hoyer, W. and MacInnis, D. (2004). Consumer Behavior, Houghton Mifflin, Boston, MA.
8. Kleiner, A. (1991). What does it mean to be green?, Harvard Business Review, Vol. 69, pp. 38-47.
9. Mainieri, T., Barnett, E. G., Valdero, T. R., Unipan, J. B., Oskamp, S. (1997). Green buying: The influence of environmental concern on consumer behavior, Journal of Social Psychology, Vol. 137 No.2, pp. 189-204.

10. Mostafa, M. M. (2007). Gender differences in Egyptian consumer's green purhase behavior: the effects of environmental knowledge, concern and attitude, International Journal of Consumer Studies, Vol. 31, pp. 220-229.
11. Schlegelmilch, B. B., Bohlen, G. M., Diamantopoulos, A. (1996). The link between green purchasing decisions and measures of environmental consciousness, European
12. Journal of Marketing, Vol. 30 No. 5, pp. 35-55.
13. Schlossberg, H. (1991). Green marketing has been planted - now watch it grow, Marketing News, Vol. 4, March, pp. 26-30.
14. Scott, D., & Willits, F. K. (1994). Environmental attitudes and behavior: A Pennsylvania survey. Environment and Behavior, Vol. *26*, pp. 239–260.
15. Shetzer, L., Stackman, R.W. and Moore, L.F. (1991). Business environment attitudes and the new environmental paradigm, Journal of Environmental Education, Vol. 22, Summer, pp. 14-21.
16. Tracy, A. P. and Oskamp, S. (1983-1984). Relationships among ecologically responible behaviors, Journal of Evnironmental Systems, Vol. 13, pp. 115-126.
17. Vining, J. and Ebreo, A. (1992). Predicting behavior from global and specific environmental attitudes and change sin recycling opportunities, Journal of Applied Social Psychology, Vol. 22, pp. 1508-1607.