

Designing a Structural Model for Explaining Environmental Attitude and Behavior of Urban Residents (Case of Tehran)

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ABSTRACT: Earlier, environmental problems have been considered as technical and economic problems. In the last decades of the twentieth century the societal dimensions of environmental problems and environmental issues attracted more public attention. As a result of this circumstances a new social scientific discipline, "environmental sociology" was appeared to investigate the environmental behavior of the societies. This paper is an attempt to investigate the environmental issue in grate Tehran and design a structural model for explaining environmental Attitude and behavior of urban residents. To achieve this objective a conceptual model derived out from review of literature to examine structural relations among personal factors, attitude towards environment and environmental behavior. To examine this model, 1200 individuals of Tehran residents were randomly chosen and interviewed about their opinion on environmental legislations, environmental knowledge and information, environmental attitude and behavior. The results of this study show that for Tehran residents the environment is not yet thought to be an important problem, when compared with other social and economic issues. Overall, results of the survey show that people are ready to spend time or to organize themselves to take part in a campaign to protect the environment, but they believe that money for environmental protection should come from the government. The structural model indicates that, feeling of stress, environmental information, preparedness to act and environmental legislation have an important impact on environmental attitude and behavior.

Key words: Environment, Attitude, Behavior, Urban, Structural model, Tehran

INTRODUCTION

Environmental problems and the accelerating changes in living conditions have become a fundamental part of the world in general and metropolises in particular. Earlier, environmental problems have been considered as technical and economic problems; while in the recent decades the social dimensions of environmental problems such as public attention and people's attitudes towards environment have become one of the areas of environmental sociology and environmental psychology. In this respect, environmental attitudes and ecological behavior and their environmental consequences have been investigated in developing and developed countries during the last few decades. These issues are also increasingly taking more attention of policy into

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account in Iran in the recent decades. Particularly, increasing population density in Tehran is putting pressure on the city's environment. Specifically, air pollution constitutes to the most serious environmental problems and threatening public health. Therefore, investigating environmental behavior of Tehran residents is a major concern of this paper. There is hardly any empirical study of environmental behavior in Iran. Thus this study was the first attempt in this respect.

The main objective of this study was to formulate a structural model for explaining environmental behavior of Tehran's residents. On the basis of this main goal, the following specific objectives were investigated:

- 1) To find out some individual and social factors affecting environmental behavior.
- 2) To identify relationships among personal factors, environmental attitudes and environmental behavior.

Environmental attitudes are recognized as an indicator and component of environmental behavior. There are many theoretical and empirical approaches to investigate attitude towards environment in the respected literatures (Tarrant *et al.*, 2003). Most of the studies related to this issue have been conducted since 1970 onwards when conceptualization of environmental attitudes as a scientific research concept gained closer attention by researchers (Dunlap *et al.*, 2004). Dimensionality was one of the most critical factors of environmental attitude studies. Initial researches looked at environmental attitudes as a uni-dimensional concept. Later, many studies explored the multi-dimensionality of environmental attitudes. Albrecht *et al.* (2002) used factor analysis and found three dimensions; “balance of nature” “limits to growth”, and “man over nature”. Cluck *et al.* (2003) took United States nation-wide data and conceptualized environmental attitudes as a three dimensional concept, including “environmental worldview”, “environmental concern”, and “environmental commitment”. Environmental worldview represents basic and general form of environmentalism of the respondents. This form of environmentalism indicates respondents’ general perceptions about the environment, relationships between the environment, economic growth, and industrialization and effects of sciences and technology on the environment. Environmental concern represents values of respondents about the relationship between the environment and society and relationship between individual and the environment and perceptions of respondents about specific environmental problems. Environmental commitment represents values of respondents about commitment issues for better environmental quality. The environmental commitment issues might have willingness to pay higher taxes or costs for better environmental protection and be willing to reduce living standards to achieve a higher environmental quality (Vogel, 2002).

Thus literatures available on the issue indicate that most approaches identify environmental

attitude and behavior as multi-dimensional phenomena (Tuna, 2004). These studies reveal some factors that are consistently related to environmental behavior over time and across studies. Several studies have shown that a cognitive hierarchical framework consisting of basic values, general believes, specific attitudes, and behavior provide a suitable basis for understanding environmentalism. General believes in turn, influence specific attitudes and actions or behaviors (Schultz & Zelezny, 1999; Gärling, *et al.*, 2003). Although the effect of knowledge is not conclusive, there have been several studies suggesting that knowledge plays an important role in enhancing the environmental attitude and behavior relationship by providing individuals with the ability to better formulate alternative views and present arguments to support their believes and behaviors (McFarlane & Boxall, 2003).

On the basis of available empirical studies and several major theories and models on environmental attitude and behavior, coherent structural model in respect to environmental attitudes and behavior in urban areas was developed (Fig.1). This leads to a view of environmental behavior in terms of a structural model of cause and effect that is dependent of the attitudinal components and on selected exogenous variables derived from the social status and background of the individuals. The model forms the basis of this study and the environmental behavior. The components of environmental behavior include “environmental attitudes”, behavioral tendencies to act or “preparedness to act”, the cognitive components including attitudinal elements derived from “environmental information” and the emotional component of “feeling of stress”. The “environmental legislation” is also an important factor, which can affect environmental behavior (Kalantari *et al.*, 2007). Conceptualization and investigation of environmental behavior on the basis of various individual and psychological factors also provides an important contribution to our understanding of environmental attitudes and behavior in metropolis of Tehran. The main hypothesis of this paper is that, the people’s environmental information, their feeling of stress, their preparedness to act and environmental legislations are the main factors which explain people’s environmental attitude and behavior.

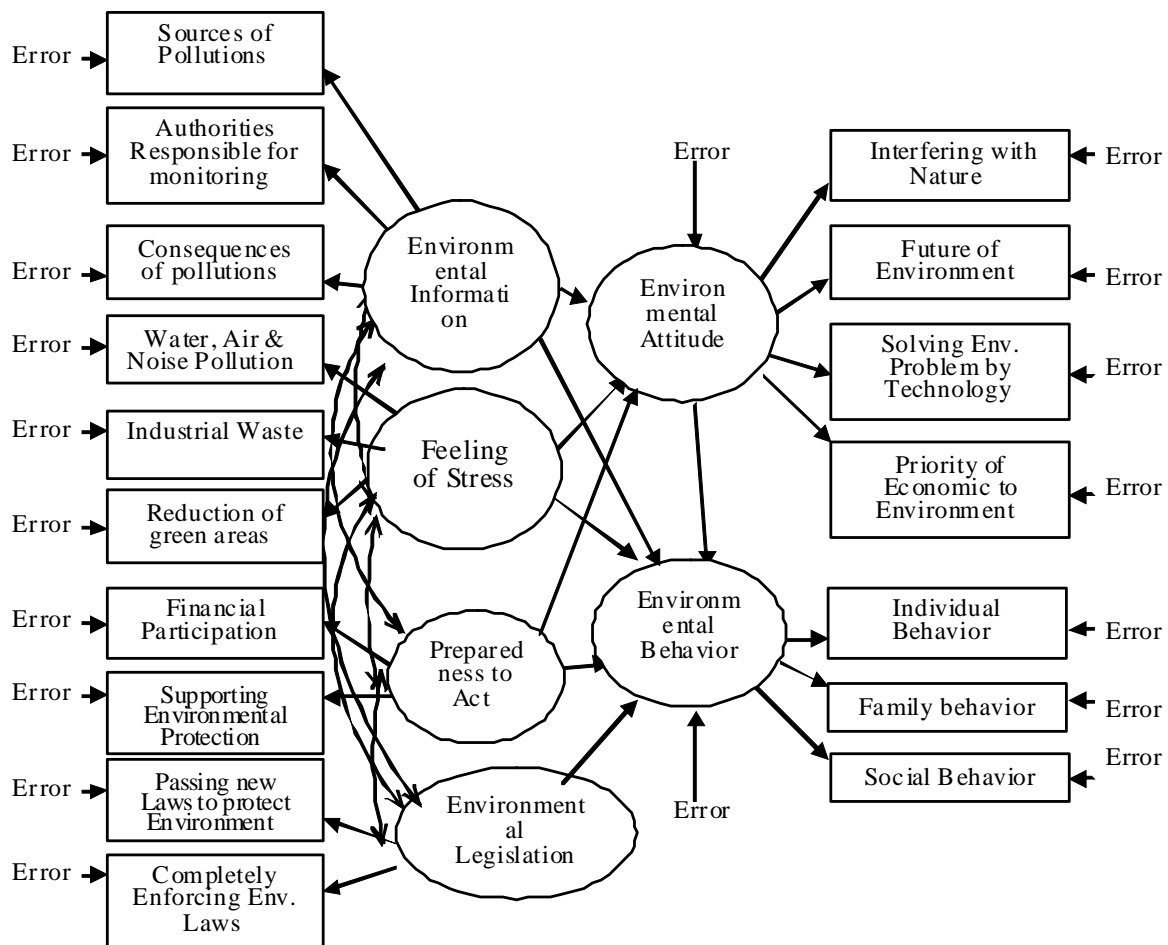


Fig. 1. Conceptual model for explaining environmental behavior of Tehran residents

MATERIALS & METHODS

The present study was based on a field survey. The research population of the study was all the Tehran’s residents aging over 16 years old. To derive a representative sample, the research population was divided into three strata units according to the place of residence Viz; North, South and Central part of Tehran. Then, based on gender (Male & Female) proportionate samples were drawn from each strata unit. In total, 1200 questionnaires including 400 from the north, 400 from the center and 400 from the south of Tehran were completed. In total 1403 persons were stopped for the interview but only 1200 persons were interviewed. Thus the non-response rate was 17%. A questionnaire was used for data collection and the survey worked out through face-to-face interview at local parks. A pilot study was conducted to test the questionnaire, and two questions were

modified consequently. To examine the reliability of the latent variables, composite reliability value for each latent variable was calculated. To do this, the information on indicator loadings and error variances calculated by LISREL were used and by applying the following formula, the composite reliability of various latent variables was calculated (Diamantopoulos and Sigauas, 2000).

$$P_c = (\sum \lambda)^2 / [(\sum \lambda)^2 + \sum (\theta)]$$

Were:

Pc = Composite reliability

λ = indicator loadings

θ = indicator error variance (ie. variances of the δ s or ϵ s)

Σ = summation over the indicators of the latent variables

Table 1 shows the composite reliability for all six latent variables included in the structural model. Statistical analysis was carried out using the SPSS and LISREL software.

Table 1. Composite reliability of latent variables

Latent variables	Composite reliability
Environmental attitude	0.796
Environmental behavior	0.830
Preparedness to act	0.792
Environmental legislation	0.739
Feeling of stress	0.806
Environmental information	0.769

Table 2. Respondents by education level

Education	Frequency	Percent
Illiterate	11	0.9
Functional	24	2.0
Primary school	52	4.4
Secondary school	138	11.6
High school	136	11.4
Diploma	517	43.4
Bachelor	275	23.1
MSc & Ph.D	37	3.1
Religious education	2	0.2
Total	1192	100

RESULTS & DISCUSSION

In the present study 1200 people were interviewed in Tehran, out of whom 33.39% lived in the north, 33.47% in the center and 33.14% in the southern part of Tehran. Out of them, 48.8% were female and 51.2% were male. In terms of age structure, about 19.1% of them were under 20, 43.5% were in their 20s, 20.4% in their 30s, 9.7% in their 40s, 5% in their 50s, 1.9% in their 60s and 0.3% in their 70s. Table 2 represents the profile of the respondents based on their level of education. About 23% of them had received secondary and high school certificate, 43.4% of them had diploma, and 26.2% had received higher education certificates, including bachelor, M.Sc and Ph.D, while only 0.9% of them were illiterate (Table 2).

In relative terms when compared with other issues, environmental concerns do not appear to be a priority for the great majority of the respondents. Most of the respondents think inflation problems are important or very important (Table 3). Economic development is next with 6 percent of people perceiving it as important or very important, while environmental problems are reported as important or very important by only 4 percent of respondents. Moreover, a large share, (34 percent of respondents) believes that environmental problems are not important at all, and 53 percent do not have any opinion regarding their importance. Housing and job opportunities are also identified at a lower level of importance by respondents.

Table 3. Opinion about different social issues

Social Issues	Very Important		Important		Not so Important		Not Important		No opinion		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Job opportunity	9	0.8	33	2.8	74	6.2	290	24.2	791	66.1	119	100
Economic development	30	2.5	40	3.3	114	9.5	453	37.9	558	48.7	7	100
Inflation	30	2.5	46	3.9	94	7.9	320	26.9	698	58.8	118	100
Environmental problems	15	1.3	32	2.7	103	8.6	408	34.1	638	53.3	5	100
Housing	13	1.1	17	1.4	58	4.8	234	19.5	878	73.1	115	100
											5	
											119	
											6	
											119	
											7	

When specifically asked about some environmental issues, however, the people of Tehran exhibit concerns about the negative consequences of pollution with water pollution being the most crucial issue (Table 4). Air pollution follows closely with 60 percent and citizens responding as very worried about pollution from cars, and 51.3 percent responding similarly to continuous reduction of green areas. Relevant responses of very worried are registered regarding household garbage (45.3 percent), air pollution caused by industries (44.3 percent), disposal of industrial waste (42.3 percent) and noise pollution (40.4 percent).

The respondents showed mixed environmental attitudes, as illustrated in Table 5. More than 56 percent strongly agree or agree that “many of the claims about environmental problems are exaggerated,” but on the other hand, almost 84 percent fully agree or agree that “interfering with nature has bad consequences,” and almost 80 percent strongly agree or agree that “most activities are harmful to natural environment.” There is a general belief that technical progress and modern technologies will help solving environmental problems, but only 33.3 percent agree or strongly agree with the statement, “The environmental situation will be better in future.”

Respondents are quite aware that legislation plays a key role in the protection of the environment and almost 50 percent consider that the current legislation is not adequate (Table 6). 77.4 percent strongly agree or agree that there is good legislation about the environment, but that enforcement is poor. There is a generalized consensus about the need for more legislation, which could

orient the decisions of both ordinary people and of companies. In both cases, more than 85 percent of respondents agree with the call for better legislation.

The questionnaire used six items designed to measure how much Tehran citizens are prepared to act for environmental protection (Table 7). The statement, “The government should reduce environmental problems without charging any money from the people,” elicits strong agreement from 38.8 percent of respondents. On the other hand, only 21.3 percent of them strongly agree, “everybody should care for the environment, even if it costs money.” These responses indicate that, Tehran residents believe that protection of environment is a duty of the government. Overall, results of the survey show that people are ready to give time or to organize themselves to take part in a campaign to protect the environment, but they believe that money for environmental protection should come from the government.

To explore the real environmental awareness of Tehran residents, respondents were asked about their daily behavior concerning ten simple actions (Table 8). Picnicking with family and friends, for example, is a common way to spend time over the weekend. Most people responded that they always or almost always clean the picnic areas before leaving and going back home. Another simple daily act is water saving at home, and more than 60 percent of respondents declared that they turn off the faucet while brushing their teeth. Another common action is putting the family garbage on the street only a short time before garbage collection to avoid smell, rats or stray cats:

Table 4. Worries about environmental problems

How much are you personally worried about	No Opinion		Not Worried at all		Not so Worried		Worried		Very Worried		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
	1) Air pollution caused by industries	47	3.9	24	2.0	195	16.3	403	33.6	531	44.3	1200
2) Air pollution caused by transportation	11	.9	15	1.3	137	11.4	317	26.4	720	60.0	1200	100
3) Noise pollution	34	2.8	95	7.9	237	19.8	349	29.1	485	40.4	1200	100
4) Reduction of green areas	13	1.1	48	4.0	178	14.8	345	28.8	616	51.3	1200	100
5) Water pollution	18	1.5	36	3.0	148	12.3	258	21.5	740	61.7	1200	100
6) Industrial waste	69	5.8	43	3.6	240	20.0	341	28.4	507	42.3	1200	100
7) House garbage	25	2.1	57	4.8	205	17.1	370	30.8	543	45.3	1200	100

Table 5. Opinion about different statements of environmental attitudes

Statements	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1) Many of the claims about environmental Problems are exaggerated.	243	20.3	437	36.4	216	18.0	236	19.7	68	5.7	1200	100
2) Interfering with nature has bad consequences	440	36.7	565	47.1	100	8.3	74	6.2	21	1.8	1200	100
3) Modern technology can solve environmental problems.	212	17.7	436	36.3	237	19.8	259	21.6	56	4.7	1200	100
4) Solving the present economic problems is more important than caring about the future environment.	324	27.0	312	26.0	153	12.8	313	26.1	98	8.2	1200	100
5) Most activities in modern life are harmful to the natural environment.	430	28.3	595	49.6	126	10.5	111	9.3	28	2.3	1200	100
6) Humans have the right to modify the natural environment to suit their needs.	133	11.1	240	20.0	116	9.7	474	39.5	236	19.8	1200	100
7) Industrial activities in the suburbs can lead to irretrievable damage to the urban environment.	445	37.1	538	44.8	112	9.3	81	6.8	24	2.0	1200	100
8) Urban environmental improvements must be made regardless of their cost.	327	27.3	448	37.3	135	11.3	231	19.3	59	4.9	1200	100
9) The environmental situation will be better in the future.	114	9.5	286	23.8	294	24.5	350	29.2	156	13.0	1200	100
10) It is possible to have good economic growth and to protect the environment at the same time.	470	39.2	570	47.5	91	7.6	50	4.2	19	1.6	1200	100

Table 6. Opinions about environmental legislation

Statements	Strongly Agree		Agree		Neither Agree nor Disagree		Disagree		Strongly Disagree		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1) Current legislation about the environment is adequate for preventing environmental degradation	122	10.5	254	21.2	225	18.8	491	40.9	108	9.0	1.200	100
2) There is good legislation about the environment, but it is not completely enforced	342	28.5	587	48.9	145	12.1	106	8.8	20	1.7	1.200	100
3) Government should pass more laws to make ordinary people protect the environment	489	40.8	537	44.8	99	8.3	57	4.8	18	1.5	1.200	100
4) Government should pass more laws making business protect the environment	492	41.0	537	44.8	101	8.4	50	4.2	20	1.7	1.200	100

this is done regularly by 58.4 percent of respondents. Environmental problems are also becoming a relatively frequent matter of conversation. Some respondents say that they always talk about such issues, and more than 50 percent affirm that they talk with friends and relatives about such negative aspects of the modern urban life “most of the time” or “sometimes.” A good share of respondents also try to use plastic and paper bags several times and they also purchase some food items (milk, etc.) in returnable bottles. In both cases, such actions result in some savings to the family. Other acts are much less frequent: separation of papers and bottles for recycling, non-use of the car in case of pollution or respect for speed limits. The motivations for these apparently contradictory behaviors are clear; the first case requires space and organization, while the second and third ones are very difficult to adopt in a so vast metropolis where many people have to commute daily on long distances.

A conceptual model for environmental attitudes and behavior, (Fig. 1). was used as a cause/

effect chain to explain environmental attitude and behavior of Tehran residents. This model is composed of two confirmatory factor models (one for the latent exogenous variables and one for the two endogenous variables) linked together by a structural model. The parameter estimates for the model produced by the LISREL program are shown in Table 9 and these are presented in equation form, whereby each dependent latent variable is expressed as a linear function of the relevant independent latent variables. More specifically, for each free parameter in each equation, there pieces of information, namely (a) the unstandardized parameter estimate, (b) its standard error and (c) the relevant t-value were calculated. The unstandardized parameter estimates show the resulting change in a dependent variable from a unit change in an independent variable, with all other independent variables being held constant. The structural equation of environmental attitude (Envir At) shows that changing environmental information (Envir In) by one unit results in a 0.752 unit change in environmental

Table 7. Opinion about different statements of preparedness to act

Statements	Strongly agree		Agree		Neither agree nor disagree		Disagree		Strongly disagree		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1) My action can make a real difference to the environment	368	30.7	556	46.3	141	11.8	122	10.2	13	1.1	1200	100
2) It is important that people organize themselves in-groups to support the environment protection.	392	32.7	632	52.7	127	10.6	42	3.5	7	0.6	1200	100
3) It is important that each of us cares for the environment, even if it takes time.	447	37.3	589	49.1	101	8.4	55	4.6	8	0.7	1200	100
4) It is important that each of us cares for the environment, even if it costs money.	255	21.3	529	44.1	184	15.3	187	15.6	45	3.8	1200	100
5) The Government should reduce environmental problems, but it should not cost me any money.	466	38.8	398	33.2	121	10.1	190	15.8	25	2.1	1200	100
6) It is important that each of us takes part in a campaign to clean up the green areas in the mountains.	425	35.4	548	45.7	144	12.0	57	4.8	26	2.2	1200	100

attitude. Similarly, one unit change in feeling of stress (Feel Str) in respect of urban environment or change in preparedness to act (Prep Act) results 0.665 and 0.578 unit change in environmental attitude respectively. Factors affecting environmental behavior (Envir Be) of Tehran residents also indicate that, environmental information, environmental attitude and environmental legislations (Envir Le) have an important role on environmental behavior of people. The structural equation of environmental behavior shows that one unit change in each of the above factors result 0.775, 0.683 and 0.579 unit change in environmental behavior of Tehran residents. In these equations, below each parameter estimate, its standard error is calculated. This shows how precisely the value of the parameter has been estimated. The smaller the standard error is the better the estimation. The t-values are given under the each standard error. These values show that all parameter estimates are significantly different from zero (as indicated by t-values greater than (The t-values

between -1.96 and 1.96 indicate that the corresponding parameter is not significantly different from zero, at the 5% significant level (Diamantopoulos, 2000). The R^2 values (0.702 and 0.734) indicate that independent latent variables explain a considerable portion of the variance in the endogenous latent variables. Finally, the covariances among the independent latent variables show that all these variables are significantly related to one another, as indicated by the related t-values (Table 10).

The path diagram produced by LISREL program is shown in fig. 2. The standardized estimation of the path model is calculated in the model. These standardized values show the direct and indirect impact of exogenous latent variables (independent variables), on endogenous latent variables (dependent variables). This path diagram indicates that feeling of stress (Feel St) has a strong impact on environment attitude (Envir At) and environmental behavior (Envir Be). These

Table 8. Environmental behavior

Statements	Always		Most of the Time		Sometimes		Not Applicable		Never		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1) I put house garbage outside the door on time	540	45.0	161	13.4	301	25.1	143	11.9	55	4.6	1200	100
2) I reuse plastic and paper bags.	199	16.6	286	23.8	185	15.4	68	5.7	462	38.5	1200	100
3) When air is polluted, I do not use my car	129	10.8	206	17.2	115	9.6	595	49.6	155	12.9	1200	100
4) When I brush my teeth, I do not leave the faucet running	508	42.3	213	17.8	249	20.8	44	3.7	186	15.5	1200	100
5) I drive to keep my fuel consumption as low as possible	240	20.30	152	12.7	144	12.0	590	49.2	74	6.2	1200	100
6) I buy milk an coke in returnable containers	325	27.1	302	25.2	246	20.5	125	10.4	202	16.8	1200	100
7) I respect speed limits on freeways	290	24.2	107	8.9	167	13.9	561	46.8	75	6.3	1200	100
8) I separate empty bottles, papers and other garbage	217	18.1	298	24.8	171	14.3	98	8.2	416	34.7	1200	100
9) After a picnic, I leave the place as it was originally	621	51.8	200	16.7	241	20.1	58	4.8	80	6.7	1200	100
10) I Talk with my friends about environmental problems	192	16.0	463	38.6	144	12.0	75	6.3	326	27.2	1200	100

impacts are 1.15 and 0.59 respectively. Environmental information (Envir In) is the second important factor which affects environmental attitude and behavior of urban residents. Preparedness to act (Prep Act) and environmental legislations (Envir Le), place in third and fourth positions respectively (Fig.2).

The purpose of models overall fit is to determine the degree to which the model as a whole is consistent with the empirical data at hand. (Table 11). shows the range of fit indices produced by the LISREL program. The first fit measure included in the Table is the RMSEA=0.070, which suggests reasonable fit of the model (In respect of the RMSEA fit measure, values less than 0.05 are indicative of good fit, between 0.05 and under 0.08 of reasonable

fit, between 0.08 and 0.10 of mediocre fit and >0.10 of poor fit, (MacCallum, Browne and Sugawara, 1996). Test of the closeness of fit (testing the hypothesis $H_0: RMSEA < 0.050$) and a 90% confidence interval for the RMSEA also are provided, which emphasize the goodness of fit of the model. The next measure of fit is the Root Mean Square Residual (RMR) which is a summary measure of fitted residual. A problem with interpreting fitted residuals (and, therefore, the RMR statistic) is that their size varies with unit of measurement and the latter can vary from variable to variable. This problem can be avoided by concentration on the standardized residuals which are the fitted errors. Generally, the standardized RMR values below 0.05 are indicative of acceptable fit. In our model, the values of

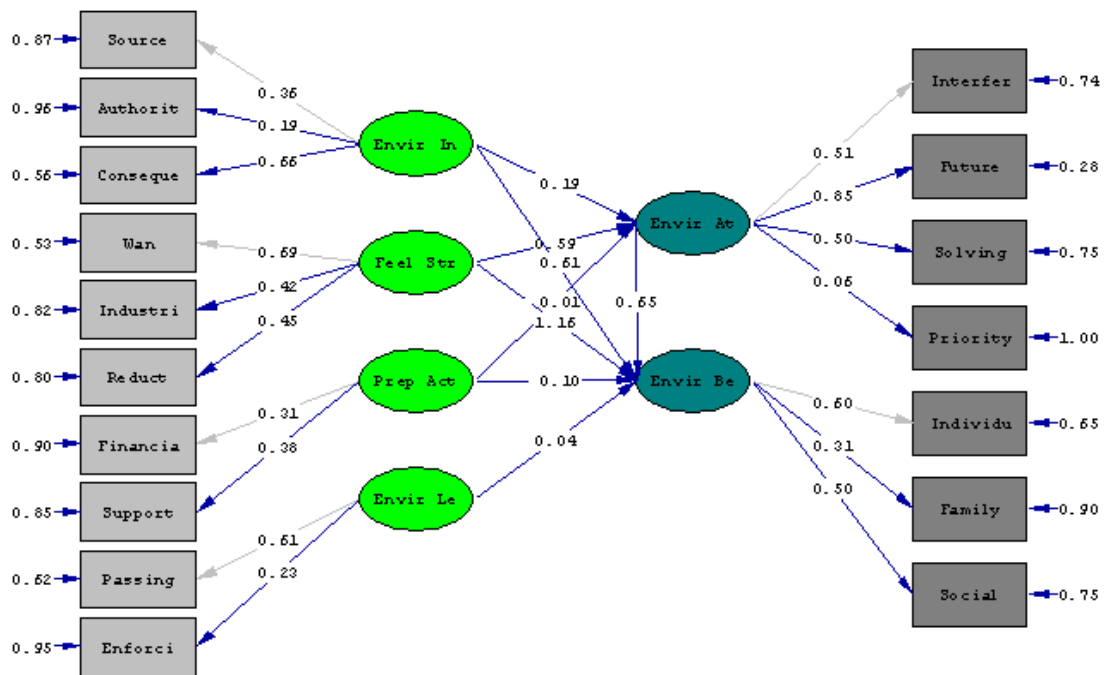
Table 9. LISREL Estimates: Structural equations model of environmental behavior

Envir At= 0.752*Envir In+ 0.665*Feel Str+ 0.578*Prep Act, Errorvar.= 1.863, R ² =0.702				
(0.059)	(0.124)	(0.104)	(0.436)	
12.746	5.363	5.557	4.273	
Envir Be= 0.683*Envir At+ 0.775*Envir In+ 0.391*Feel Str+ 0.483*Prep Act+ 0.579*Envir Le, Errorvar.= 0.317, R ² =0.734				
(0.015)	(0.073)	(0.038)	(0.140)	(0.104)
11.572	10.616	5.557	3.451	5.567
				4.594

* Envir At= Environmental Attitude, Envir In = Environmental Information, Feel Str= Feeling of Stress, Prep Act= Preparedness to Act, Envir Be= Environmental Behavior, Envir Le= Environmental Legislations

Table 10. Covariance matrix of independent variables

Envir In	Feel Str	Prep Act	Envir Le
Envir In	1.227		
	(0.064)		
	19.078		
Feel Str	0.972	0.533	
	(0.022)	(0.023)	
	44.537	23.617	
Prep Act	0.436	0.338	0.177
	(0.020)	(0.010)	(0.050)
	21.852	32.883	3.499
Envir Le	0.265	0.472	0.395
	(0.023)	(0.017)	(0.018)
	11.505	27.030	21.468
			7.439



Chi-Square=3724.17, df=105, P-value=0.000, RMSEA=0.0620

Fig. 2. The path diagram produced by LISREL program for explaining environmental attitude and behavior of Tehran residents

Table 11. Goodness of Fit Statistics

Root Mean Square Error of Approximation (RMSEA) = 0.070
90 Percent Confidence Interval for RMSEA = (0.165; 0.074)
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.000
Root Mean Square Residual (RMR) = 0.285 Standardized RMR = 0.126
Goodness of Fit Index (GFI) = 0.967
Adjusted Goodness of Fit Index (AGFI) = 0.952
Parsimony Goodness of Fit Index (PGFI) = 0.664

RMR and standardized RMR come to 0.0481 and 0.0411 respectively (Table 11). As the latter value is below 0.05 thresholds, it indicates that the model fit is acceptable. In structural equation models, the GFI is generally recommended as the most reliable measure of absolute fit in most circumstances (Bentler, and Bonett, 1999). Value of the GFI should range between 0 and 1, and values, >0.90 are usually taken as reflecting acceptable fits (Hoelter, 1983). For our model, GFI = 0.967. Thus this index also confirms the fitting of the model (Table 11).

CONCLUSION

The results of this study show that for Tehran residents the environment is not yet thought to be an important problem, when compared with other social and economic issues. When specifically asked about their daily experience with the environment, however, it becomes clear that most people do worry about the quality of air and water. This consciousness does not translate into real actions, because only a tiny minority participates in the activities of environmental groups and very few respondents affirm to have done something positive in relation to environment. This lack of action is partially due to the belief that

environmental protection should be the government’s duty, more than an individual’s responsibility. Environmental information is low and few respondents, however, are able to indicate clearly which authority is responsible for air quality control and for the diffusion of data regarding air quality. In addition, the study confirms the need for a properly focused information campaign to raise the level of knowledge about the environment and to form the consciousness that could motivate people to act or to accept the changes imposed by the authorities. It is emerged from the present study that improving problem-based knowledge and environmental information, awareness of people in respect of consequences of environmental problems and thereby increasing feeling of stress can affect environment attitude and environmental behavior of urban residents. Preparedness to act and environmental legislations also play an important role in changing environmental behavior.

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