

A MULTI-CULTURAL INVESTIGATION INTO CONSUMER ENVIRONMENTAL CONCERN

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ABSTRACT

The main objectives of this study were to investigate the relationship between consumer attitudes and perceptions towards environmental concern and to measure levels of environmental concern amongst multicultural groups. The study was based on past research in the field and uses a modified version of a questionnaire developed by various authors. A non-probability convenience sample (N=340) was drawn from English, Afrikaans and Xhosa-speaking respondents in the Eastern Cape. Fieldwork was carried out by students of Industrial Psychology at the University of Port Elizabeth. Results suggest that cultural influences deduced from home language and suburb are an important factor in determining environmental concern. Results further suggest that environmental concern influences buying preferences and attitudes toward environmental conservation and behaviour. These results have important implications for market segmentation, town planning and development..

OPSOMMING

Die hoof doelstelling van hierdie studie was om die verband tussen verbruikershoudings en waarnemings ten opsigte van omgewingsbesorgdheid te ondersoek en vlakke van omgewingsbesorgdheid by multikulturele groepe te meet. Die studie is gegrond op vorige navorsing in die veld en gebruik 'n aangepaste weergawe van 'n vraelys ontwikkel deur verskeie outeurs. 'n Nie-ewekansige gerieflikheidsteekproef (N=340) is getrek uit Engels, Afrikaans en Xhosa-sprekende respondente in die Oos-Kaap. Veldwerk is uitgevoer deur Bedryfsielkunde studente van die Universiteit van Port Elizabeth. Bevindinge suggereer dat kulturele invloede, afgelei van huistaal en voorstad, belangrike faktore is in die bepaling van omgewingsbesorgdheid. Bevindinge suggereer verder dat omgewingsbesorgdheid, koopvoorkeure en houdings ten opsigte van omgewingsbewaring en optrede beïnvloed. Hierdie resultate het belangrike implikasies vir marksegmentasie, stadsbeplanning en ontwikkeling.

Environmental concern has been described by Parker and Mc-Donough (1999) as a composite of environmental attitudes and environmental behaviour. Minton and Rose (1997) define environmental concern as a strong positive attitude toward preserving the environment. Hampel, Boldero and Holdsworth (1996) conceptualise environmental concern in terms of five behaviour modifications viz. willingness to make financial sacrifices for environmental amelioration, willingness to accept constraints on individual liberty in the interest of the environmental protection, knowledge of environmental problems, attitudes toward environmentally destructive acts and self reports of involvement in pro-environmental behaviour.

From the above it seems as though the construct environmental concern includes both attitudinal and behavioural components. For the purpose of this study an environmental attitude is defined as a person's positive or negative feeling towards the natural surroundings of humankind including air, water, land, wild life and man-made structures. Environmental behaviour is further defined as an action that can occur as a result of a person's environmental attitude. Since behaviour is a function of both personal and situational characteristics Mainieri, Barnett, Valdero, Unipan and Oskamp (1997) suggest that attitude-behaviour studies may benefit from examining other factors that can influence behaviour: personal characteristics (knowledge, motivation, attitudes) and situational characteristics (social norms or economic constraints). These influencing variables are portrayed in figure 1.

As the behaviour of interest in this study was consumer environmental concern the construct was defined as a composite of environmental attitudes and environmental behaviour that result in the purchasing of products that benefit or cause less harm to the environment than do more conventional consumer goods. Environmentally responsible consumers are therefore persons who are highly concerned with the environment related attributes of the goods they purchase (Ebreo, Hershey & Viking, 1999).

Environmental concern has become an important topic of debate and research in recent times. Studies by various authors (Newell & Green, 1997, Parker & Mc Donough, 1999, Klineberg, Mc Keever & Rothenbach, 1998) have highlighted the growing need for research in this area. Most studies have focused on the influence of demographic variables and racial differences on public awareness and attitude towards environmental concern (Arp & Kenny, 1996). Much of this research has been done in the United States. Environmentally sustainable development is presently an issue of great concern in South Africa, especially due to the nature of past development practices. Little research however, has been done locally, to assist the Government in its commitment to reconstruction and development, integration, housing provision, land reform and environmentally sustainable development (Hanekom 1999).

In the United States Newell and Green (1997) investigated the influence of racial differences on environmental concern. Results of the study showed that there are significant differences between African Americans and white Americans in their environmental concern at lower income and educational levels. However as income and education rise, the gap in environmental concern between blacks and whites significantly decreases. Parker and Mc Donough (1999) use subculture and Barriers Theory to explain observed differences in environmental concern amongst White and Black Americans. The authors conclude that differences in participation styles, barriers to joining environmental groups and feelings of disenfranchisement and powerlessness may cause racial differences.

Arp and Kenny (1996) also undertook studies on Black environmentalism. Their research demonstrates that the extent to which communities are involved in environmental issues depends on the nature and severity of the pollution threat from nearby industries. On specific issues such as seriousness of pollution in their communities, significant differences were found amongst Black respondents. Regarding general environmental concern however, no significant differences were found amongst respondents in a more seriously threatened community than in a less seriously threatened one.

Various researchers investigated the effect of demographic predictors on environmental concern. Klineberg, Mc Keever and Rothenbach (1998) found in their investigations that the only two demographic variables that consistently correlated with environmental concern across all the different measures, were age and education. Ebreo, Hershey and Viking (1999) also found that age and gender were positively related to environmental concern. Gender and environmental concern have also received much attention by Davidson and Freudenberg (1996) and Blocker and Eckberg (1997). These authors conclude that women tend to be more concerned about general environmental issues than men.

With regard to environmentally responsible consumer behaviour the research by Blocker and Eckberg (1997) showed that women had greater concern for health and safety issues. Specifically women tend to be more concerned about pollution and more "green" in their personal lifestyle. Another survey on public response to solid waste issues indicated that respondents were most concerned about product toxicity and least concerned about product packaging (Ebreo et al. 1999). The influence of environmental concern on consumer behaviour or "green buying" i.e. buying products that are environmentally beneficial, were further investigated by Mainieri, Barnett, Valdero, Unipan and Oskamp (1997). These authors found that on average environmental concern among the respondents was moderate to strong, but this concern did not carry over to environmental buying habits and participation in environmental behaviours. Minton and Rose (1997) supported this finding in their research. Consumer attitude may be a good predictor of intentions to act environmentally responsible but a sense of personal moral obligation is more likely to lead to action.

In Southern Africa, urbanisation, the environment and public participation are amongst the most important planning issues of the decade. The population explosion and the resulting urbanisation have created great pressure on the environment whilst the potential of public demand to influence decisions suggests that the community can no longer be excluded from planning and decision making processes (Kok, 1995). Unfortunately a large part of the population reside in township areas where the quality of life is poor, due to the greater demand for land, the increase in "squatter camps" and need for social services. Pollution, littering and waste are serious threats in these areas. Kitson (1994) reported that litter accumulation in some of Port Elizabeth's townships was becoming a serious problem. Chanda (1999) found that the issue of litter and pollution was a dominant variable accounting for more than 20 percent of the variation in mean environmental concern amongst residents of Gaborone.

From the above it is apparent that rapid urbanisation often results in many socio-economic and environmental quality problems. This is particularly evident in South Africa where large parts of cities have been developed for years whereas the townships were neglected due to past political ideologies.

Contextualisation of Consumer Environmental Concern

To further clarify the construct "consumer environmental concern" and build theoretical connections between the construct and various influencing variables, outcome-based actions and external manifestations, the model depicted in Figure 1 is proposed.

The flow diagram illustrates the various influencing variables' internal manifestation (varying levels of environmental concern) that results in outcome-based environmental behaviours impacting on various areas. The model was used as the basis for selecting items to include in an instrument to measure the latent variables, such as pollution and litter, relating to the dimensions of environmental concern.

It is important for planners and marketers to understand the outcome-based actions of consumers. This will help them to conceptualise the underlying factors influencing environmental concern as well as consumer and consumption patterns based on environmental concern.

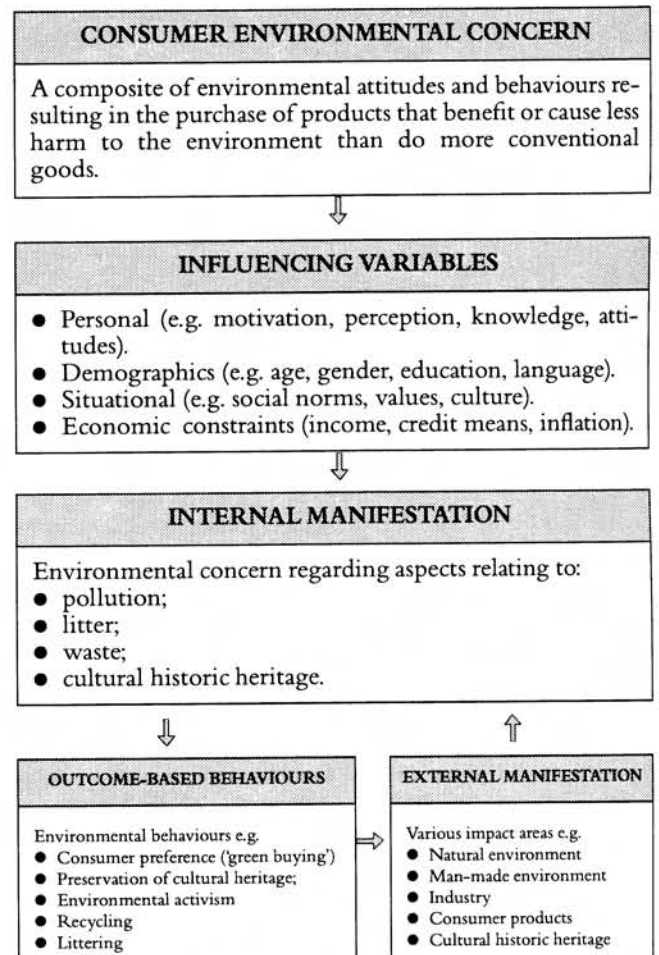


Figure 1: Consumer environmental concern contextualised

The main objective of the present study is to investigate consumer attitudes and perceptions towards environmental concern cross-culturally, and to measure the construct in terms of demographic variables. Based on the literature review the following hypotheses were formulated:

Hypothesis 1:

A significant relationship exists between the measured construct environmental concern and culture. (Newell & Green, 1997; Parker & Mc Donough, 1999)

Hypothesis 2:

Significant relationships exist between environmental concern and the following demographic variables (Klineberg, McKeever & Rothenbach, 1998; Davidson & Freudenberg, 1996; Blocker & Eckberg, 1997)

- > Age,
- > Gender,
- > Education.

METHOD

Instrument

A questionnaire was constructed based on items used in previous studies (Newell & Green, 1997; Mohr, Eroglu & Ellen, 1998) as well as new items derived from the model depicted in figure 1. Five areas from the literature were identified to examine environmental concern. These were attitudes towards litter, attitudes towards environmentally conscious living, attitudes towards pollution and waste, attitudes towards the threat to the natural environment and attitudes towards the conservation of cultural historic heritage. Both Kok (1995) and Opie (1990) state that cultural heritage and aesthetic appeal are important aspects of environmental concern.

All items used in the questionnaire related to the various impact areas of consumer environmental concern. A five point

Likert rating scale, as suggested by Malhotra (1996), was used in the study.

The questionnaire consisted of 33 items and concluded with measures of several demographic variables. Age, gender, educational level, household income per month, home language and residential area were recorded. The authors assumed that an indication of home language and suburb would accommodate respondents from different cultural backgrounds. The motivation for using home language and suburb as proxies for culture is based on historical differences between the language groups and the effect of the Group Areas Act of the apartheid era.

Sample

A multicultural non-probability convenience sample (N=340) was drawn from the Port Elizabeth metropolis. Quotas were used to ensure that all the important sub-populations in the area were included in the sample. Respondents were selected from upper, middle and lower income groups. Residential suburbs served as a basis for socio-economic groups. Respondents were representative of the three main languages, Afrikaans, English and Xhosa, spoken in the province.

Procedure

Fieldwork was carried out by students of the University of Port Elizabeth. All the field workers were properly briefed on sample selection and interview procedures. Households in various residential areas were chosen for interviewing. Only one respondent per household, either a husband or wife completed the questionnaire. In cases where respondents did not understand the question in English, fieldworkers were allowed to translate it into respondents' home language.

Respondents were asked to rate each of the thirty three items in the questionnaire on a five point Likert type scale ranging from agree completely to disagree completely. Field workers explained to respondents that there were no right or wrong answers to the questions in the questionnaire. The only answer that was important was the one that gave a true reflection of how respondents felt about the question. The questionnaire concluded with a section on demographic information.

Data analysis

The statistical package BMDP program 4M (Frane, Jenrich and Samson 1979) was used to perform exploratory factor ana-

TABLE 1
OBLIQUE ROTATED FACTOR ANALYSIS MATRIX

Item	Factor: 1 Pollution	2 Heritage	3 Litter	4 Waste	5 Consumerism
26 Our beaches are threatened by pollution	0,769				
28 Pollution in Port Elizabeth is creating a harmful environment for me to live in	0,767				
25 Industrial waste is threatening the natural environment in Port Elizabeth	0,766				
21 Pollution in Port Elizabeth threatens my health	0,738				
22 Port Elizabeth's natural environment is threatened by pollution	0,658				
24 The Coega project will have a disastrous effect on the natural environment	0,556				
18 Local industry doesn't do enough to consider the environmental impact of their practices	0,545				
8 Litter on Port Elizabeth beaches is a problem	0,487				
19 Industry can do more to preserve the environment	0,400				
30 Construction of modern buildings should not involve the destruction of old historic sites		0,795			
29 Port Elizabeth's historic buildings should be preserved at all costs		0,794			
32 Historic buildings in Govan Mbeki Avenue should be preserved		0,755			
33 Restoration of Port Elizabeth's historic buildings should be a priority		0,723			
31 No Modernisation should be allowed in Port Elizabeth Central		0,452			
2 Seeing litter in streets and parks bothers me			0,804		
3 Litter is a problem in Port Elizabeth			0,698		
4 Seeing someone litter upsets me			0,696		
1 I am concerned with the amount of pollution in Port Elizabeth			0,678		
6 Port Elizabeth should have a strong anti-litter campaign			0,530		
15 Port Elizabeth is running out of places to dispose of rubbish				0,695	
13 The public is not concerned about buying environmentally safe products				0,629	
14 South Africa is facing a rubbish and refuse disposal problem				0,560	
16 My suburb has insufficient places to dispose of rubbish				0,554	
20 Local government is not doing its best to cope with the threats of pollution				0,531	
10 I never buy products that harm the environment					0,769
9 When I buy products, I consider how the use of them will affect the environment					0,745
7 I never litter					0,606
11 Many of the products available in Port Elizabeth are not environmentally friendly					0,491
12 People should be encouraged to buy products that will not harm the environment					0,340
N = 340					
Cumulative percentage of total variance	26,9%	34,8%	41,0%	46,2%	50,9%
Cronbach's coefficient alpha	0,85	0,79	0,79	0,69	0,680

lysis on the 33 items in the questionnaire. The method of principal component analysis was used with direct quartimin oblique rotation. Cronbach's coefficient alphas were calculated to determine the reliability of the derived summated factor scale scores. Results are summarised in Table 1.

Descriptive statistics such as the mean and standard deviation, frequency distribution and Pearson Product Moment correlations were calculated by means of BMDP programs 2D, 4F and 8D respectively. The statistics are reported in Table 2. The BMDP program 1D was used to calculate mean factor scores for the various socio-demographic variables. These results are shown in Table 3. The BMDP program 2V was subsequently used to perform analysis of variance (ANOVA) to investigate which of the socio-demographic variables are significantly related to the various factors. These results are shown in Table 4. To test the statistical significance of factor score differences between the various socio-demographic groups, including language groups, one-way analysis of variance (BMDP program 7D) was performed. These results are also summarised in Table 3.

RESULTS AND DISCUSSION

Table 1 shows the results of the factor analysis performed in the study.

The analysis resulted in five factors emerging from the total item sample with all factor loadings in excess of 0,34. Items relating to the preservation of the cultural historic heritage

loaded on a factor labelled *Heritage*. Items concerning consumer behaviour and related perceptions loaded on a factor labelled *Consumerism*. The three other factors were labelled *Pollution*, *Litter* and *Waste* based on their constituent items. The Cronbach's alphas for three of the factors exceeded the required 0,70 criterion for reliability, while those for the other two are only marginally below this norm, and can be regarded as acceptable in view of the exploratory nature of the study. The "cumulative percentage of total variance" for each factor refers to the percentage of total variance of the items explained by the factors.

Table 2 shows descriptive statistics for the derived factors.

As can be seen from the table, highly significant positive correlations occur between all the factors identified. It may be meaningful to observe that 89 percent of the respondents, scored high (greater than 3,4) on *Litter* and 70 percent scored high on *Pollution*. The majority of respondents also scored high on *Waste* and *Heritage*. This profile suggests a serious environmental concern among residents in Port Elizabeth. Although the possibility of respondents giving social desirable answers cannot be ruled out, environmental activists such as the Swartkops Trust and the local press have played a major role in sensitising the general public of Port Elizabeth to the threat of pollution in the area.

Table 3 shows descriptive statistics for the factors grouped according to demographic variables obtained from the sample, as well as those factor score differences that are significant.

TABLE 2
DESCRIPTIVE STATISTICS AND CORRELATIONS

Factor	Frequency Distribution			Correlations						
	Mean	S.D.	Low	Average	High	1	2	3	4	5
1. Pollution	3,72	0,67	26 7,6%	76 22,4%	238 70,0%	–	0,408**	0,512**	0,534**	0,461**
2. Heritage	3,61	0,81	45 13,2%	101 29,7%	194 57,1%	0,408**	–	0,314**	0,219**	0,335**
3. Litter	4,30	0,60	6 1,8%	31 9,1%	303 89,1%	0,512**	0,314**	–	0,389**	0,414**
4. Waste	3,80	0,68	15 4,4%	101 29,7%	224 65,9%	0,534**	0,219**	0,389**	–	0,310**
5. Consumer	3,47	0,66	54 15,9%	117 34,4%	169 49,7%	0,461**	0,335**	0,414**	0,310**	–

N = 340

* significant at 95% C.L. ($r \geq 0,089$)

** significant at 99% C.L. ($r \geq 0,126$)

TABLE 3

RESULTS OF ANOVA'S BY HOME LANGUAGE, AGE, GENDER, EDUCATION, SUBURB AND INCOME

	Factor 1 Pollution			Factor 2 Heritage			Factor 3 Litter			Factor 4 Waste			Factor 5 Consumerism			
	N	\bar{X}	SD	\bar{X}	SD		\bar{X}	SD		\bar{X}	SD		\bar{X}	SD		
Home Language																
English	127	3,59	0,72	a	3,51	0,88	a	4,27	0,66	a	3,80	0,67	b	3,43	0,63	a
Afrikaans	84	3,98	0,64	b	3,83	0,76	b	4,48	0,55	b	4,03	0,58	b	3,78	0,72	b
Xhosa	123	3,69	0,61	c	3,58	0,75		4,24	0,50	c	3,66	0,71	c	3,34	0,59	c
Age:																
18 – 29	204	3,64	0,67	d	3,55	0,83		4,20	0,60	d	3,70	0,69	d	3,36	0,61	d
30 – 44	73	3,87	0,61	e	3,74	0,80		4,48	0,51	e	3,93	0,59	e	3,67	0,62	e
45 +	63	3,81	0,72		3,69	0,74		4,42	0,62	f	3,96	0,68	f	3,63	0,80	f
Gender:																
Male	140	3,61	0,67	g	3,40	0,84	g	4,23	0,61	g	3,78	0,69	g	3,34	0,64	g
Female	197	3,81	0,67	h	3,77	0,76	h	4,36	0,58	h	3,81	0,67	h	3,57	0,66	h
Education																
School	147	3,80	0,70		3,77	0,76	i	4,30	0,61		3,83	0,72		3,51	0,74	
Technikon	70	3,57	0,69		3,45	0,91	i	4,28	0,56		3,81	0,64		3,47	0,56	
University	120	3,71	0,63		3,52	0,78	k	4,32	0,61		3,75	0,64		3,43	0,63	
Suburb:																
Black	103	3,72	0,58	l	3,58	0,73		4,24	0,52		3,69	0,72	l	3,33	0,59	l
Coloured	64	4,15	0,60	m	3,87	0,71	m	4,46	0,56		4,12	0,64	m	3,62	0,73	m
White	173	3,57	0,69	n	3,54	0,87	n	4,28	0,64		3,74	0,62	n	3,51	0,67	
Income:																
Lower	112	3,84	0,62	o	3,69	0,76	o	4,29	0,54		3,90	0,69		3,44	0,65	
Lower	103	3,78	0,64		3,76	0,76	p	4,38	0,53		3,80	0,69		3,55	0,64	
Middle	110	3,56	0,74	q	3,38	0,89	q	4,27	0,69		3,76	0,64		3,47	0,70	
Upper/ Middle/ Upper																
Total Sample:	340	3,72	0,67		3,61	0,81		4,30	0,60		3,80	0,68		3,47	0,66	

Home Language	**ab, bc	*ab	*ab, bc	**bc	**ab, bc
Age	*de		**de, *df	*de, df	**de, *df
Gender	**gh	**gh	*gh	*gh	*gh
Education		*ij, ik			
Suburb	**lm, mn	*mn		**lm, mn	*lm
Income	*oq	*oq, pq			

Lower case letters indicates significant differences according to Scheffé Tests (* p<0.05, ** p<0.01)

From Table 3 it can be seen that middle aged Afrikaans speaking females with school education only (or university in the case of *Litter*) residing in the coloured suburbs and representative of the lower income group were most concerned about pollution, litter and waste as environmental threats to the Port Elizabeth metropolis. These respondents were also more concerned about preserving Port Elizabeth's heritage. They were also most sensitive towards buying products that are harmful to the environment (*Consumerism*). Bearing in mind that members of the Afrikaans community generally have a more conservative outlook on life, it is not surprising that they scored high on these factors.

Table 3 shows significant differences between the various demographic categories and the identified factors. For home language categories, regarded as a proxy for cultural groups, significant differences were observed for all the factors. Afrikaans speaking respondents were significantly more concerned about all five factors. With regard to age, table 3 shows significant differences between various age groups on *Pollution*, *Litter*, *Waste* and *Consumerism*. In all these instances the findings suggest that younger respondents were least concerned about the environment. A similar result, although not statistically

significant, was found for *Heritage*. These findings suggest that younger people need to be educated, either at school or in early adulthood on the importance of conservation of the environment.

With regard to gender, Table 3 suggests significant differences on *Pollution*, *Heritage*, *Litter* and *Consumerism*, with females scoring consistently higher than males. This implies that women are on average more concerned than men regarding environmental concern. In the case of education and income categories, significant differences were observed for *Heritage*, respondents with school education only, were most concerned and the upper income group least concerned. The lower income group was significantly more concerned than the upper income group regarding pollution as an environmental threat. This may be due to the fact that respondents from the lower income group reside near industrial areas and are therefore more directly affected by the threat of pollution.

Table 4 shows, which of the socio-demographic variables are significantly related to factor scores, based on the results of multi-way analysis of variance.

TABLE 4

ANALYSIS OF VARIANCE TO DETERMINE RELATIONSHIPS BETWEEN SOCIO-BIOGRAPHIC VARIABLES AND FACTORS

	df	Factor 1 Pollution		Factor 2 Heritage		Factor 3 Litter		Factor 4 Waste		Factor 5 Consumerism	
		F	p	F	p	F	p	F	p	F	p
Home	2	1,24	0,2922	1,00	0,3702	2,55	0,0800	1,58	0,2083	5,24	0,0058**
Language	2	3,01	0,0509			5,56	0,0042**	2,51	0,0829	4,32	0,0140*
Age	1	4,33	0,0383*	12,8	0,0004**	4,83	0,0287*			11,07	0,0010**
Gender	2			2,07	0,1286						
Education	2	8,46	0,0003**	0,50	0,6077			4,19	0,0159*	0,57	0,5673
Suburb	2	0,85	0,4297	4,38	0,0133*						
Income											
	df =		310		307		325		327		323
	N =		320		317		331		334		331

* p < 0,05; ** p < 0,01

From Table 4 it can be seen that the following are significantly related:

- Culture (indicated by home language and suburb) and *Pollution*, *Waste* and *Consumerism*;
- Age and *Litter* and *Consumerism*;
- Gender and *Pollution*, *Heritage*, *Litter* and *Consumerism*;
- Income and *Heritage*.

The trends observed in Tables 3 and 4 suggest the importance of demographic variables when identifying target groups, sensitive to environmental concern. The results further suggest that cultural influences deduced from home language and suburb are important factors in determining environmental concern, including the buying of products that may be harmful to the environment.

Hypotheses testing.

With regard to hypothesis one, stating that significant relationships exist between the measured constructs regarding environmental concern and culture, Table 4 shows that home language significantly influences consumer environmental concern (*Consumerism*) while suburb influences *Pollution* and *Waste*. Based on these results for home language and suburb,

the proxies for culture, hypothesis one may be accepted. This finding supports that of Newell and Green (1997) and Parker and Mc Donough (1999) stating that significant differences in environmental concern between black and white Americans still exist.

Hypothesis two stating that significant relationships exist between environmental concern and various demographic variables (age, gender and education) can only partially be upheld. Table 4 shows that age significantly influences *Litter* and *Consumerism* (sub-hypothesis 2.1) and gender significantly influences *Pollution*, *Heritage*, *Litter* and *Consumerism* (sub-hypothesis 2.2). Education did not significantly relate to any of the factors measuring environmental concern. Therefore sub-hypothesis 2.3 is rejected. The observation that age significantly influenced *Litter* and *Consumerism* supports research by Klineberg et al (1998) stating that age is an important predictor of environmental concern. The observation that gender significantly relates to *Pollution*, *Heritage*, *Litter* and *Consumerism* also supports previous research by Blocker and Eckberg (1997) who state that women have a greater concern for the environment than do men, especially when the threat is local.

From the above discussion it seems that the identified factors

of environmental concern as well as the demographic variables operative, cannot be ignored when investigating the construct. The observed inter-correlations between all factors suggest that they should all be included in environmental awareness campaigns. Furthermore the results of the study suggest that younger consumers and males in particular need to be sensitised on issues of environmental concern.

CONCLUSION

The main objectives of this study were to investigate consumer attitudes and perceptions towards environmental concern and to measure levels of environmental concern amongst multi-cultural groups in terms of demographic variables. The study was based on past research in the field and used a questionnaire that included items derived from the literature.

It was hypothesised that significant differences between levels of environmental concern would emerge for the different cultural groups indicated by respondents' home language and suburb. The results indicate that culture does play a significant role in consumer environmental concern.

The results of the study further suggest that various demographic variables such as age and gender do play a significant role in determining environmental concern. Other variables such as income and education may also influence environmental concern to a lesser degree. It is important for marketers to realise the need for demographic segmentation of the market if they wish to promote environmentally safe products to various groups. The significant relationships between *Consumerism* and the other factors relating to environmental concern have important implications for marketers in this regard. It is also important to note that women scored significantly higher on environmental concern for all factors tested. This is meaningful for marketers as women represent an important buying force.

Industries should also be aware of the importance of their practices. The modern consumer will not overlook pollution and environmentally hazardous products because they are better informed and educated about the impact of consumer products than twenty years ago. For this reason industry must be aware of the impact of their practices if they are to ensure the success of their products.

City planners may also benefit from this survey. It is important to realise the impact that town planning and local government can have on the environment. Similarly public response and participation in the development process is essential to ensure acceptance of the planned development.

In summary, the findings of this study, despite its limitations of a small sample and a measuring instrument that needs further refinement, do point to the need for more empirical research in this area. Follow-up research may serve as a guideline for public policy makers, town planners, local government and marketers.

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