

Psychosocial Analysis of Environmental Attitude of Residents in a Nigerian Urban City

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Abstract: Empirical evidence is needed to better understand the influence of psychosocial factors on environmental attitude of residents in an urban city in Nigeria. Therefore, this study examined the influence of psychosocial factors (altruism, environmental self-efficacy, locus of control, self-concept, self-monitoring, age, gender and educational qualification) on environmental attitude among residents of Ibadan metropolis. A correlational research design was adopted for this study. Using multi-stage sampling technique, one thousand, three hundred and sixty participants from two Local Government Areas in Ibadan metropolis participated in the study. Their ages ranged from 18 to 65 years. Data collection was through a battery of measures combined into a single questionnaire. Pearson product-moment correlation and stepwise multiple regression statistical techniques are tools of hypothesis. Findings indicated that altogether, self-monitoring, self-concept, locus of control and environmental self-efficacy explained 62% of the variance in environmental attitude. The relative contributions revealed that self-monitoring, self-concept, locus of control and environmental self-efficacy accounted for a considerable percentage of variance in environmental attitude (71, 38, 26 and 5%, respectively). These findings provide link between psychosocial factors and human environmental attitude behaviour and suggest reasons for ineffectiveness of environmental policies. Thus, the personality factors identify in this study can be included in development of environmental attitude change strategies and during environmental policy formulation.

Key words: Psychosocial • Environmental attitude • Nigerian • Urban city

INTRODUCTION

Psychosocial Analysis of Environmental Attitude of Residents in a Nigerian Urban City: Various attempts by the Oyo State Government direct at creating environmentally friendly mindset and positive environmental attitude among residents of Ibadan metropolis rely on traditional command and control approach (that is, environmental legislation/policy statements and environmental management initiatives), yet this has not met criteria for success [1-3]. The puzzle is why are these strategies not successful in influencing environmental attitude of residents in Ibadan? Intuitively, the answer could be that those strategies were designed without due considerations for psychosocial characteristics of individual that motivate environmental attitude. Pleasant as this intuition sounds to the hearing, an empirical investigation of it is rare in psychological literature, especially in Nigeria.

Therefore, gaining understanding of psychosocial factors that could influence attitude is essential when

attempting to improve environmental attitude of individual. This is because individual is crucial in facilitating enduring adoption of pro-environmental attitude; and until stakeholders know psychological and social qualities that could influence environmental attitude, it may be difficult to develop effective environmental attitude change strategies [4]. This study therefore attempts a psychosocial analysis of environmental attitude of residents in high density areas of Ibadan metropolis. Outcomes of this study will help in development of environmental change strategies that are personally relevant to the needs of individuals. It would also assist policy formulators in formulating environmental policies tailored to specific audiences and circumstances.

According to [5-9], attitude is individual's personal evaluation, judgment and disposition to react with a certain degree of favourableness-unfavourableness, good-bad, likable-dislikable towards a denotable psychological object, issue, person, place and behaviour. Specifically, [8] have defined attitudes as a psychological

tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour. This definition is regarded as the contemporary definition of attitudes [10]. Environmental attitude therefore refers to a psychological tendency that is expressed by evaluating perceptions of (or beliefs regarding) the natural environment, including factors affecting its quality, with some degree of favour or disfavour [11].

Personality is crucial in understanding human environmental attitude [4, 12, 13]. [14] reported that individual with environmental concern differ from those with low concern on a variety of personality traits. Personality traits examined in this study include altruism, environmental self-efficacy; locus of control, self-concept and self-monitoring. Studies have also implicated gender, age and level of educational qualification on environmental attitude, for instance, [15] confirmed positive relationship between education and environmental attitude (the higher, the less favourable), [16] found gender differences in environmental attitude, while [17] reported that younger respondents generally reported more favourable environmental attitude. Social characteristics examined are gender, age and level of educational qualification.

Self-monitoring has been implicated on environmental attitude, with high self-monitor willing and able to project images designed to impress others, respond to social cues and tailor their attitudes and behaviour to fit prevailing social expectations, hence more favourable environmental attitude compared to low self-monitors who are relatively less concerned with managing how well their behaviour fits a situation, manifest consistency between their private attitudes and public actions across a range of social domains [12].

Self-concept is proposed to influence environmental attitude based on self-perception theory [18]. This theory suggests that people become aware of themselves simply by watching what they do. Self-concept, a set of attitudes and value that individual holds about self or places personal attributes, qualities, abilities and actions [19, 20], can influence environmental attitude. [21, 22] suggested that self concept influences how individual feels, thinks, learns, behaves, his/her value and relationship with others, including the environment.

Social cognitive theory provides the theoretical base to investigate the relationship between environmental self-efficacy and environmental attitude. Social cognitive theory [23] emphasizes personal control of behaviour and attitude. The "can do" cognition of high self-efficacious individual mirrors a sense of control over individual's environment by taking adaptive action. Often, self-

efficacy belief does not parallel actual abilities which individual possesses but perception [24]. Individual may possess required capabilities but report low self-efficacy belief which in turn determines what the person does with his/her abilities and skills. For example, an individual may possess skills to take environmental action but lacks confidence in these skills, this discrepancy could affect involvement in environmental related issues. [25] posited that self efficacy beliefs influenced the success of the futuristic self-producing resiliency through reinforcement of past successes.

Locus of control originally developed by Rotter in 1950's, which refers to an individual's perception about the underlying causes of events in life can influence environmental attitude [13]. People who feel they are the source or cause of their own attitudes and behaviors (internal locus of control), believe they are capable of determining and control events in their life, that is; individual is the controller while an external locus of control, in turn, attribute their own behaviour or attitudes to external factors (external locus of control). Evidence that altruism may be related to environmental attitude was demonstrated by [26], who reported that individuals with pro-environmental attitude are altruistic.

Consequently, the combination of psychological and social factors may be viewed as important antecedents of environmental attitude and are anticipated to jointly and independently influence environmental attitude. As a result, it is hypothesized that- *Psychosocial factors (altruism, environmental self-efficacy, locus of control, self-concept, self-monitoring, age, gender and education qualification) will independently and jointly contribute to environmental attitude.*

MATERIAL AND METHOD

Research Design: This is a survey that adopted correlational research design.

Setting: Ibadan is an urban city located in the humid Southwest of Nigeria and is the capital city of Oyo State. It is on a major transport route to the northern parts of Nigeria and is the largest of contemporary traditional Yoruba towns. Ibadan is composed of the main city and its suburbs. Administratively, Ibadan metropolis used to be under one local government; the Ibadan Municipal Government, before it was split into five distinct local government areas (LGA) in 1991. The five LGAs are Northeast, North Central, Northwest Southeast and Southwest. Urban cores (high-density) and hinterlands (low-density) characterized Ibadan metropolis. Out of the

five local government areas in Ibadan metropolis, collection of data was among residents in Ibadan Northeast and Southeast local government areas only.

Justifications for their selection include, residents of these two local government areas share similar socio-economic background with residents in the remaining three local governments, the two local government areas comprise of both urban cores (high density) and hinterlands (low density) areas, which characterized the remaining three local governments. These local governments contain the largest urban cores (high density) and few or pocket of hinterlands (low-density) areas in the metropolis. Their choice ensures that the environment is identical for all the participants.

Participants: One thousand, three hundred and sixty (n=1360) participants selected through multi-stage sampling technique from Ibadan South East and Ibadan North East participated in the study. Five hundred and seventy six (576, 42.4%) participants were selected from fifteen communities in Ibadan South East Local Government Area, while the remaining 784 (57.6%) participants were selected from sixteen communities in Ibadan North East Local Government Area. Their ages ranged from 18 to 65 years (Mean= 32.36, Sd=10.98). They comprised of males (770, 56.6%) and females (590, 43.4%). Their marital status varied from single (668, 49.1%), married (599, 44.0%), divorced (32, 2.4%), separated (31, 2.3%) and widowed (30, 2.2%). Their educational qualifications also varied; no formal education (126, 9.3%), primary leaving school certificates (225, 16.5%), secondary school education (523, 38.5%), teacher training certificates (96, 7.1%), OND/NCE certificates (268, 19.7%), HND/First Degree education (88, 6.5%), postgraduate education (34, 2.5%).

Sampling Procedure: The instruments for data collection (altruism, locus of control, self-concept, environmental self-efficacy, self-monitoring and environmental attitude scales) were administered to the residents of two local government areas involved in this study by the researcher. The consents of the respondents were obtained and the purpose of the study was explained to them before distributing the instrument. A multistage sampling technique was adopted. Firstly, urban cores (high density) and hinterlands (low-density) areas were identified according to the recommendation of [27]. Through the lists of locality in the final results of 2006 population census of Nigeria, thirty two (n=32) communities located within Ibadan North East Local Government Area and another twenty nine (n=29)

communities located within Ibadan South East Local Government Area were identified. After the identification of these communities, the researchers using simple random technique, specifically, odd and even technique selected at least fifty percent (50%) of the communities from each local government area. These communities were also selected from both urban cores (high density) and hinterland (low-density) using proportional method. Questionnaires were distributed in the selected communities using proportional sampling technique based on the results of 1991 population census of Nigeria. Through convenience sampling technique, one thousand, three hundred and sixty (1360) residents fully completed and returned questionnaires.

Measures

Demographic Variables: The demographic variables used were age, gender and educational level. *Altruism* was tapped using the 7-item Interpersonal Reactivity Index developed by [28]. It uses a 5-point Likert format ranging from “strongly agree=5” to “strongly disagree=1”. [28] reported an internal consistency (co-efficient alpha) of.79 for the scale. The researcher obtained an overall alpha co-efficient of.59 and Unequal length Spearman-Brown split half reliability of 0.56 for the scale in this study.

Environmental self-efficacy was measured using the English version of German version 5-item scale developed by [29] to assess environmental self efficacy in adult population. The scale uses a 5-point Likert format from “strongly agree =5 to strongly disagree =1”. [29] reported reliability co-efficient of.86 for the scale. In this study, an Alpha co-efficient of.84 and Spearman-Brown split half reliability of.81 were obtained.

Locus of Control was measured using the 17-items locus of control scale developed by [30]). The scale uses a 5-point Likert format from “strongly agree =5 to strongly disagree =1”, so that high score means external locus of control and low score indicate internal locus of control. The following item had reversed scores: 2,3,4,6,9,10,11,12,14 and 17. [30] reported an alpha coefficient of.79 for the scale. [31] also reported a local reliability coefficient of.75 for the scale. In this study, an alpha co-efficient of.78 and Equal length Spearman-Brown split half reliability of.78 were obtained for the scale.

Self-concept was assessed using the 13-item scale bipolar adjective pairs developed by [32]. The scale represents three dimensions of meaning (evaluation, potency and activity) according to [33]. Originally, self-concept is evaluated using the 7-point format Semantic-differential technique [33] to rate each of the

Table 1: Zero Order Correlation Showing Relationships among Variables of the Study (n=1360)

Variables	1	2	3	4	5	6	7	8	9
1. EA	—								
2. Altruism	.13**	—							
3. ESE	.10**	.27**	—						
4. Self Concept	.70**	.13**	.04	—					
5. Self Monitoring	.71**	.11**	.03	.73**	—				
6. LOC	-.62**	-.14**	-.08	-.56**	-.58**	—			
7. Age	-.03	.04	-.01	-.05	-.02	.01	—		
8. Gender	-.01	.03	.02	-.03	-.03	-.00	-.09*	—	
9. EDQ	-.06*	.13**	.15**	-.05	.02	-.03	-.08*	-.04	—
Mean	79.29	26.31	14.97	43.56	44.35	46.58	32.36		
SD	8.53	5.32	2.90	9.17	9.80	9.15	10.98		

*Correlation is significant at the 0.05 level, **Correlation is significant at the 0.01 level (2-tailed)

Key: EA= Environmental Attitude, ESE= Environmental Self Efficacy, LOC= Locus of Control, EDQ= Education Qualification

Table 2: Stepwise Multiple Regression Showing the Influence of Psychosocial Factors on Environmental Attitude

Variables	β	t	Zero-order	Partial	Part	R	ΔR	F	ΔF
Self Monitoring	.71	37.17 **	.71	.71	.71	.50	-	1381.600**	-
Self Concept	.38	14.91 **	.70	.38	.26	.57	.07	914.506**	222.283**
Locus of Control	-.26	-12.04 **	-.62	-.31	.20	.61	.04	722.617**	144.894**
ESE	.05	3.08*	.10	.08	.05	.62	.00	547.721 **	9.478*
Excluded Variables									
EDQ	.02	1.39							
ALT	.01	.29							

*Correlation is significant at the 0.01 level, **Correlation is significant at the 0.001 level (2-tailed)

Key: ALT=Altruism, ESE= Environmental Self Efficacy, EDQ= Education Qualification

self-concept item- “my self as I am now”. However, for easy understanding and comprehension by participants; and to be consistent with response pattern of other scales, the response was changed to 5-point Likert format of “strongly agree =5 to strongly disagree =1”. In this study, an alpha co-efficient of.80 and Equal length Spearman-Brown split half reliability of.81 were obtained for the scale.

Self-Monitoring was measured using the 13-item self-monitoring scale developed by [34]. It uses 5-point Likert format ranging from “strongly agree=5” to “strongly disagree=1”. [34] reported a Kuder-Richardson 20 reliability of.70 and a test-retest reliability of.83 (df = 51, P<.001 one month interval). [35] also reported a Crombach alpha coefficient of.91 and split half reliability coefficient of.87 for the scale. In this study, an alpha co-efficient of.87 and Equal length Spearman-Brown split half reliability of.86 were obtained for the scale.

Environmental attitude was assessed using the 24-item scale developed by [36] based on the three components of attitude cognition, affection and connative or behavioural. It uses a 5-point Likert format ranging from “strongly agree=5” to “strongly disagree=1”, so that high score above the mean value represents positive

environmental attitude and score below the mean value indicates negative environmental attitude. The scale demonstrated good internal consistency in this study with an alpha coefficient of.86 and Spearman-Brown split half reliability of.92.

Data Analysis: In order to explore the extent to which various variables of the study are interrelated, Pearson product-moment correlation was conducted. Also, to determine which psychosocial factors predict environmental attitude more than the other, stepwise multiple regression analysis was performed. The results are presented in Tables 1 and 2.

RESULTS

Results indicated means, standards deviations, correlations, directions and strength of relationships of respective variable with one another.

Majority of the variables were found to have significant correlations. Altruism ($r = .13, p < .01$) and environmental self-efficacy ($r = .10, p < .01$) were positively and weakly correlated with environmental attitude, suggesting that high scores on altruism and

environmental self-efficacy lead to corresponding high scores on environmental attitude. Positive, but strong correlations were found among scores for self-concept ($r = .70$; $p < .01$), self-monitoring ($r = .71$, $p < .01$) and environmental attitude, this means that as scores on self-concept and self-monitoring increases, environmental attitude becomes more favourable. Therefore, altruism, environmental self-efficacy, self-concept, self-monitoring and environmental attitude are positively related. However, negative strong correlations was found between locus of control and environmental attitude scores ($r = -.62$, $p < .01$), implying that participants with high scores on locus of control (external oriented) obtained low scores on environmental attitude. Therefore, locus of control and environmental attitude are negatively related. Results also show no significant relationship among age ($r = .13$; $p < .01$), gender ($r = -.01$; $p > .05$) and environmental attitude, meaning these variables are not significantly related environmental attitude. In contrast, educational qualification ($r = .06$; $p < .05$) was significant related to environmental attitude. This suggests that educational qualification and environmental attitude are positively related.

To find which psychosocial factors predict environmental attitude, after removing age and gender because they were not significantly related to environmental attitude in bivariate analysis results presented in Table 1, a stepwise regression was conducted using altruism, environmental self-efficacy, locus of control, self-concept, self-monitoring and educational qualification as predictors to explain variance in environmental attitude above and beyond that of the other variables. The results are as presented in Table 2.

Results indicate that out of the six variables entered into the equation, only four were statistically significant in predicting environmental attitude: self-monitoring ($\beta = .71$; $p < .001$), self-concept ($\beta = .38$; $p < .001$), locus of control ($\beta = -.26$; $p < .001$) and environmental self-efficacy ($\beta = .05$; $p < .05$). The standardized regression coefficients (β) indicated that all the variables have some influence on environmental attitude. As revealed in the beta weights, self-monitoring, self-concept, locus of control and environmental self-efficacy accounted for a considerable percentage of variance in environmental attitude (71%, 38%, 26% and 5%, respectively). Altruism and educational qualification did not enter the regression equation. The result demonstrated that self-monitoring had the most significant influence on environmental attitude. With the addition of self-concept R^2 is increased by 7%, the inclusion of locus of control added another 4% while the

addition of environmental self-efficacy does not improve the variance since R-square does not increase, though environmental self-efficacy had a statistically significant influence on environmental attitude. Altogether, self-monitoring, self-concept, locus of control and environmental self-efficacy explained 62% of the variance in environmental attitude of participants, indicating that these factors when taken together do indeed significantly influence environmental attitude. This finding points to the importance of examining multiple indicators of environmental attitude simultaneously. In order to correct for common method variance, fourth order partial correlation coefficients were computed for psychosocial factors partialling out the influence of all other variables. Results in Table 2 indicated that all the partial correlation between self-monitoring, self-concept, locus of control; environmental self-efficacy with environmental attitude was significant as revealed by their respective t-values.

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

This Study Had Two Goals: The first goal was to analyze the relations among psychosocial factors and environmental attitude. The second goal of the study was to explore the contribution of each psychosocial variable to environmental attitude. Of the relations between psychosocial factors and environmental attitude, findings of this study show that participants with high score on altruism, environmental self-efficacy, self-concept, self-monitoring report more favourable environmental attitude. Moreover, findings confirm that participants with high scores on locus of control (external oriented) report less favourable environmental attitude. Regarding the relations between educational qualification and environmental attitude, finding shows that participants with higher educational qualification (Ordinary National Diploma and above) report more favourable environmental attitude. These findings point in the same direction as studies that found positive relations between altruism, environmental self-efficacy, self-concept, self-monitoring, educational qualification and environmental attitude [26,12], as well as findings that have emphasized the influence of personality factors on environmental attitude [4,12].

Findings also indicate that environmental attitude was better predicted by self-monitoring, followed by self-concept, locus of control and environmental self-efficacy. Overall, this finding is consistent with previous findings in general that individuals with positive environmental attitude differ from those with negative

environmental attitude on a variety of personality traits [14, 13]. Since high self-monitors rely on environmental for appropriateness of their behaviours and attitudes, they are more likely to report more favourable environmental attitude compared to low self-monitors who are less attuned to the requirements of different situations but their own inner beliefs and values [12]. A plausible explanation for this finding is that high self-monitors appear to be more susceptible to external cue, such as norm or etiquette governing attitude and behaviour in specific environment, hence their more favourable environmental attitude. This implies that residents of Ibadan need constant sensitization (cues) for them to be attentive towards pro-environmental attitude and compliant with government regulations on environmental related issues.

Also, high self-concept is important for more favourable environmental attitude because it may impose subtle norm of behaviour on individual's interaction with the environment. The meaning individual has of self may directly suggest the meaning given to the environment. Thus, positive environmental attitude may serve as sources of status and self enhancement for individuals with high self-concept. This submission is in accordance with the thinking of [21,22], who posited that self concept influences how individual feels, thinks, learns, behaves, his/her value and relationship with others, including the environment.

Finding also revealed that locus of control is inversely related to environmental attitude. This finding is consistent with the finding of [13] that individual's perception about the underlying causes of events in life can influence environmental attitude. Though, external oriented individual attribute events in their life to external reinforcement, this attribution might not based on reality. The mere fact that they attribute events in their life to external circumstances can be generalized to environmental attitude and this could impede any action and involvement in the environment. In fact, they are likely to believe that environmental issue is not their concern, but a concern of government and people in authority. This may explain why residents of Ibadan are less involved in environmental issues and their failure to comply with government directive about the environment.

Environmental self-efficacy is significantly related to environmental attitude. Individuals with high environmental self-efficacy should report more favourable environmental attitude because they believe that efforts directed toward improving the environment would make impact compared to low environmental self-efficacious

who believe that others should act and that their own actions will make no difference or are unimportant compared to those of others. For high self-efficacious individuals, previous successful experience with environmental related tasks may mean more favourable environmental attitude because by successfully performing environmental related tasks, the individual was able to prevent environmental hazards such as flooding or falling sick, he could perceive himself or herself as having antidotes to handle environmental related hazards; and thereby influence environmental attitude. This line of thought supports the position of [25] that self efficacy beliefs influenced the success of the futuristic self-producing resiliency through reinforcement of past successes.

Of particular note is the lack of significant relationship between altruism and environmental attitude despite the significant positive relationship suggested by bivariate analysis. Close observation of results suggest that the significant correlation obtained might be due to the impact of other variables in the relationship unlike in stepwise multiple regression where the influences of other variables are controlled. This is an unexpected finding in this study, since [26] has implicated altruism on environmental attitude. People who score high on altruism should report more favourable environmental attitude because of their selfless interest and concern for others. A plausible explanation for this finding is the harsh economic situation in Nigerian, which may have tilted participants' concern towards physiological needs more than environmental related issues; hence, they may focus more on extrinsic values of the environment to survival and not on how their actions affect the environment.

There was no significant influence of educational qualification on environmental attitude; this suggests that environmental attitude do not improve with level of education. Though, individual with higher level of education is expected to report more favourable environmental attitude because of their liberal mind and power of knowledge-it is possible for individual with higher education level might have been exposed to environmental education courses, different ideas and beliefs during their college or university years compared to individual with low level of education, though this is debatable. A possible explanation for this inconsistency is that participants in this study share similar environment irrespective of their educational levels, they are not immune to environmental problems, therefore, it will not be out of place for them to report similar environmental attitude.

In conclusion, independently and jointly, self-monitoring, self-concept, locus of control and environmental self-efficacy contributed significantly to environmental attitude. This finding points to the importance of investigating multiple indicator of environmental attitude. The findings of this study have implications for the development of effective attitude strategies for improving environmental attitude and they provide support for the claims that knowledge of individual psychological characteristics would facilitate attitudinal change. Finally, by understanding the psychological and social barriers that currently impede favourable environmental attitude, environmental policy formulators and researchers can integrate behavioural issues in those policies. As limitation of the study, data analyzed are correlational in nature, so they contribute little to the causal relation that may exist among the variables. Quasi-experimental investigation methodology is suggested as more adequate design for investigation of this nature in future.

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