Influence of Environmental Identity on Quality Of Life among the Staff and Students of Ekiti State University, Nigeria.

Bankole Emmanuel Temitope
Department of Psychology & Behavioural Studies, Faculty of the Social Sciences
Ekiti State University, Ado Ekiti, Nigeria.
Corresponding Author: Bankole Emmanuel Temitope

Abstract: significant gaps remain in the understanding of quality of life. of interest in the current study is the influence of environmental identity and quality of life among the staff and students of ekiti state university, nigeria. to achieve this, three hypotheses were formulated and a survey research design method was employed using environmental identity scale (clayton, 2003), quality of life scale (flanagan, 1978) as a single questionnaire and they were administered on one thousand seven hundred and thirty seven (1737) participant’s, 755 (43.4%) male and 982 (56.6%) female drawn randomly among the students on the school premises. confirmatory factor analyses was employed to initially assess the fit of the data, psychometric evaluations found that measures exhibited adequate internal consistency and adequate fit of the data to the models. the technique was used in order to perform studies across multiple dimensions while taking into account the influences of all variables on the responses of interest. results of this study indicated that there is a relationship between environmental identity, quality of life. also there was a significant influence of environmental identity on the quality of life among the staff and students of ekiti state university, nigeria. while age, gender and religion had no influence on either quality of life.

Key words: Environmental Identity, Quality of Life, Staff, Students, Ekiti State, Nigeria

I. INTRODUCTION

In the second decade of the twenty-first century, humanity is still dominated by materialistic, energy- and resource-intensive, and narrowly self-concerned technological civilizations originated in the West and extended to all continents (Fraser, Heimlich and Yocco 2010).

The UNDP report on quality of life and global development index across African countries rated Nigeria low as shown in appendix 12. Until few decades ago, scientists and science-minded people considered the feeling of human and human-nature interconnection to be a mere delusion. A fresh look at our interconnections in the framework of the social sciences began to indicate that the “oneness” people sometimes experience is not delusory and that the explanation of it is not beyond the ken of the sciences.

Psychologists and philosophers have now recognised the importance of the natural environment to quality of life (Jung, 2008; Marano, 2008). In recent years, the relationship between the natural world and quality of life has been explored from various perspectives. Examples include ecopsychology, outdoor education and recreation, wilderness and adventure experiences, “green exercise” (physical activity in green spaces), psychiatry, public health and horticulture (Brymer&Oades, 2009; Brymer, Schweitzer, & Sharma-Brymer, 2010).

II. BODY OF THE WORK

Quality of Life is a construct created to measure a level of overall well-being in individuals or populations (World Health Organization [WHO], 1997). This broad, far reaching concept encompasses numerous domains such as one’s environment, community, social and family relations and leisure activities.

Quality of life (QOL) has been recognized as an important construct in a number of social and medical sciences such as psychology, sociology, political science, economics, philosophy, marketing, environmental sciences, medicine, and others(Buzzell&Chalquist, 2009).

Erikson (1993), interested in the standard of living in a society, defined quality of life in terms of control over resources. Lane (1996) understood high quality of life in terms of subjective well-being, human development, and justice. The World Health Organization, concerned with health related quality of life, defined QOL as “an individual’s perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards, and concerns” (WHOQOL-Group 1998).
Influence of Environmental Identity on Quality Of Life among the Staff and Students of Ekiti State...

Approaches to Quality of Life
Level of Living Approach

The most prominent example of early research on the welfare state emerged in Sweden in the 1960s. The level of living approach defined quality of life in terms of control over resources such as money, property, knowledge, mental and physical energy, social relations and security. The focus was on objective living conditions, life chances and their determinants. The individual is perceived as an active human being that uses his/her resources to pursue and satisfy basic interests and needs (Erikson 1993).

Capability Approach

In a more recent - but in some aspects similar - concept of welfare and quality of life, Sen (1993), Nobel laureate in economics, defined quality of life in terms of the capability of a person to achieve valuable functioning.

Having, Loving, Being

In response to the Swedish level of living, Allardt (1993) proposed a richer and more inclusive approach to quality of life based on meeting certain basic needs of individuals. According to his approach, a person can achieve quality of life by meeting three basic sets of needs: (1) “having” which refers to material conditions that are necessary for survival and for avoidance of misery (e.g. income, housing, employment, working conditions, health, education); (2) “loving”, defined as needs which relate to other people and to form social identities (e.g. contacts in a local community, family, friendships, memberships).

Concept of Life Domains

The concept of domain salience is well known among industrial/organizational psychologists and is important to understand how people seek to enhance their subjective well-being or life-satisfaction. Affective experiences of people are segmented in life spheres, facets or life domains (Sirgy 2002). A person may have distinct affective experiences in relation to education, family, health, work, friends, etc. Lance et al. (1995) identified 11 different life domains: Health, finances, family, paid employment, friendship, housing, living partner, recreation activity (leisure), religion, transportation, and education.

The environment, defined as where we “live, work, and play” (Novotny, 2000) is comprised of components that are natural, as well as components that are manmade. Because the indoor environment is manmade, most of the natural elements of the human environment are outdoors. Existing research shows that people are spending increasingly less time outdoors (Loukaitou-Sideris, 2010). Out of sight and out of mind, the natural environment continues to deteriorate (Winston & Criss, 2004). To best combat this deterioration, individual citizen’s beliefs must shift to a more environmentally-centered approach to drive policy in an environmentally friendly direction (Saylan & Blumstein, 2011). This must include positive environmental beliefs at an individual level, since environmental problems are most quickly and comprehensively solved at local levels (Saylan & Blumstein, 2011). Since studies have shown that childhood beliefs influence the attitudes toward the environment that people have as adults (Gronhøj & Thogersen, 2009), we must nurture pro-environmental beliefs in children for long term attitude shifts. Peoples beliefs are shaped by the values transferred via home and environmental socialization (Maccoby, 2007) so these are the agents by which changes can occur.

III. STATEMENT OF THE PROBLEM

Research indicates that 46.4% of people in the world will suffer from a mental health disorder in relation to their quality of life due to inability to identify with the environment at some point in their lives (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005). It is crucial to gain more knowledge about the potential connections between quality of life and other personal characteristics like one’s relationship with the natural world.

According to the United Nations 2012 report on Quality of Life, between 1991 and 2008, 3,470 million people were affected by climate induced disasters, 960,000 people died, and economic losses amounted to US$ 1,193 billion with poor countries disproportionately affected relative to their population size and GDP.

In just a few years, nine billion people will need to be sustained by the economic and by the earth’s natural systems (EarthTrends, 2009). The models of today are not up to the task. This demands a major mind shift from the business-as-usual approaches.

However, emerging research has linked experiences in the natural world with health and well-being. Experiences in nature have been associated with significant personal gains such as an increase in positive affect (Burns, 2008), (such study is relatively scanty in this environment) and lower rates of symptoms of mental
distress (Chalquist, 2009). (This also is low on literature and research especially in Ekiti state University) This study is poised to further fill the research gap by attempting to reveal the influence of identity on quality of life.

**Objectives of the Research**

This research aims at finding the influence of environmental identity and connectedness to nature on quality of life and prosocial behaviour in the social context. In order to explore this, the research objectives are:-

1. To find out if a relationship exist between quality of life and environmental identity
2. To see if there will be an influence of environmental identity on the specific aspects of quality of life
3. To know if religion, sex and age will have an influence on quality of life

**IV. METHOD**

**Research Design**

This study adopted an ex-post facto design. The design was found appropriate because the researcher was not involved in manipulation of any of the variables of interest. All that was done was administration of questionnaire to the subject. There are both the criterion and predictor variable in this study. Research Area

The research area is the Ekiti State University main campus. The campus is about 3,525.731hectares. Ekiti State University, Ado Ekiti (EKSU) was established as ObafemiAwolowo University, Ado-Ekiti on 30th March, 1982 by the administration of late Chief Michael AdekunleAjasin, the first civilian governor of the old Ondo State. The university is a member of the Association of Commonwealth Universities. It is located in the outskirt of Ado-Ekiti along IworokoEkiti road, about 15 minutes’ drive from the centre of the city of Ado-Ekiti, Ekiti State in Southwest Nigeria.

The University has around 25,000 students (51%) Female, (49%)Male, and about 600 Academic Staff with approximately 1,500 Non-academic Staff. The high population of participants present in the university main campus gave room for the researcher to get a good representative of among the Staff and Students of Ekiti State University, Nigeria, also due to natural and relatively homogeneous groupings that were evident in the population. Moreover, the second campus at IfakiEkiti, Ekiti State has just few staff due to the fact that it is mainly for external degree programme.

**Research Participants**

The study employed one thousand seven hundred and thirty seven (1,737) participants, in a composition of seven hundred and fifty five (755) 43.4% male and nine hundred and eighty two (982) 56.5% female. Three hundred and sixty five(365) 21% were staff and one thousand three hundred and seventy two (1372)78.9% were students cutting across faculties, departments and various units in the university except faculty of The Social Science where the pilot study was carried out to revalidate the instruments used for the research. The minimum age was 18years while the maximum age was 56 years. The age bracket was 18-25years = 847(48.8%), 26-35years = 563(32.4%) and 36years & above = 327(18.8%) and 1180(67.9%) were Christians while 557(32.1%) were Muslim.

**Research Sampling Technique**

The sampling technique used in this research was the multistage sampling technique, the first stage was the random selection of the faculties, the random selection was done by drawing a lot to ascertain the actual faculties the instruments will be administered. After drawing of lots, the following faculties were randomly selected: Arts, Education, Law, Sciences.

**Research Instrument**

The instrument for this research consisted of one self-developed questionnaire and three standardised psychological instruments. It was divided into five sections:

- Section A consist of the required demographic information such as age, sex, religion
- Section B is made up of the Environmental Identity Scale by Clayton (2003)
- Section C consisted of the Quality of Life Scale by Flanagan (1970)

The data supplied in response to the item was used for descriptive purpose and also as a predictor variable in this study.

**Research Instruments Validity & Reliability:**

Environmental Identity Scale (EID)

The Environmental Identity Scale (EID) was developed by Clayton (2003)

It was designed to measure the extent to which individuals identify with the natural environment and environmental causes. It consists of 28 items that are rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Respondents are asked “Please rate the extent to which you agree or disagree with the following statements.” A total scale score is created by summing the responses to the items. Scores
Reliability and Validity

Two studies were conducted in order to understand the reliability and validity of the EID. Using a sample of 73 students, the EID was significantly correlated with subscales of the Environmental Attitudes scale (Thompson & Barton, 1994): ecocentrism (\( r = .79 \)), apathy (\( r = .69 \)), and the universal values factor (\( r = .66 \)). In addition, the EID was significantly correlated with self-reported environmental behaviours (\( r = .64 \)).

In the second study and using a sample of 80 students, the EID was significantly related to individual’s decision on two environmental conflicts (conflict 1: \( r = .27 \); conflict 2: \( r = .38 \)), such that higher scores were associated with the pro-environmental choice. Reliability, using Cronbach’s alpha was found to be .90 or higher across three studies. However, this was assessed on a 24-item scale (items 13, 17, 27, and 28 were not included in this analysis)

In the revalidation process by the researcher, using a total sample of 97 students of political science, Ekiti State University, the EID was significantly correlated with Nature Related Scale \( r = .74 < .01 \) while the reliability using Cronbach’s alpha was .86

Quality of Life Scale

The Quality of Life Scale (QOLS), created originally by American psychologist John Flanagan in the 1970’s, The QOLS was originally a 15-item instrument that measured five conceptual domains of quality of life: material and physical well-being, relationships with other people, social, community and civic activities, personal development, fulfilment, and recreation. After descriptive research that queried persons with chronic illness on their perceptions of quality of life, the instrument was expanded to include one more item: Independence, the ability to do for yourself. Thus, the QOLS in its present format contains 16 items.

The original QOLS contained 15 items representing 5 conceptual domains of QOL that were empirically derived from the 6500 critical incidents that Flanagan and his team collected.

In a second step, Flanagan used the instrument to survey a total of 3,000 people, ages 30, 50, and 70, using 5-point scales of “importance” and “needs met.” The results of this national survey revealed that most people of both genders and all three ages felt that the items were important to them. The only exceptions were in the areas of participating in local and national government and public affairs (Item #8) which a majority of 30-year olds did not think was important, and creative expression (Item #12), socializing (Item #13) and passive recreation (Item #14) which less than a majority of men endorsed as important. Nevertheless, a majority of all people of both genders and all age groups were satisfied that their needs were being met in all areas

Item scaling

The original work by Flanagan used two five-point scales of “importance” and “needs met.” No reliability of this scaling was reported at the time. Earlier work by Andrews and Crandall had suggested that a 7-point scale anchored with the words “delighted” and “terrible” was more sensitive and less negatively skewed than a 5-point satisfaction scale for quality of life assessment, probably because it allowed for a broader range of affective responses to QOL items. The seven responses were “delighted” (7), “pleased” (6), “mostly satisfied” (5), “mixed” (4), “mostly dissatisfied” (3), “unhappy” (2), “terrible” (1). For all work undertaken to adapt the scale for use in American chronic illness populations, the 7-point delighted-terrible scale was used to measure satisfaction with an item. The 5-point importance scale was used only for determining content validity in the initial study

Validity

Flanagan did not report internal consistency reliability (Cronbach’s alpha) estimates in his instrument development work. But, David and Wendy modified the items, Estimates from the first study of 240 American participants indicated that the 15-item QOLS satisfaction scale was internally consistent (\( \alpha = .82 \) to .92) and had high test-retest reliability over 3-weeks (\( r = .78 \) to \( r = .84 \)). Other researchers such as (Burckhardt, & Anderson, 2003; Reivicki, Osoba, Fairclough, Barofsky, Berzon, Leidy & Rothman, 2000) have reported similar reliability estimates for the 16-item scale.

Procedure for Data Collection

The study was carried out in two stages; the first stage was a pilot study carried out in the faculty of The Social Sciences, students and staff was randomly selected from the department of sociology and political science. Assessing them was done through the help of colleagues in the two departments, one hundred (100) copies were administered in each of the departments, at the end, one hundred and ninety two were found usable and were subjected to data analyses.
The second stage was the main study, already modified questionnaire based on the result of the various analyses done on them were distributed along the randomly selected department and units across the University. The respondent were met at their various departments and units, on a daily bases. Two research assistant (graduates of Ekiti State University, Department of Psychology) were employed to assist in the administration of the questionnaire, they both moved round the selected administration spots for administering of questionnaire. Each of the participants was encouraged to read and follow the instructions on the questionnaire carefully. At the end, all participants were given a thank you gift (a pen) as an appreciation for the exercise.

Method of Statistical Analysis

Multivariate Data Analyses (MDA)

Multivariate Data Analysis refers to any statistical technique used to analyse data that arise from more than one variable. It involves observation and analysis of more than one statistical outcome variable at a time. The technique was used to perform studies across multiple dimensions while taking into account the influences of all variables on the responses of interest.

Factor Analysis Extraction

Factor analysis is a term used to refer to a set of statistical procedures designed to determine the number of distinct unobservable constructs needed to account for the pattern of correlations among a set of measures.

Method. Allows you to specify the method of factor extraction. Available methods are Principal Components, Unweighted Least Squares, Generalized Least Squares, Maximum Likelihood, Principal Axis Factoring, Alpha Factoring, and Image Factoring. The method adopted by the researcher is maximum likelihood. Maximum Likelihood Method. A factor extraction method that produces parameter estimates that are most likely to have produced the observed correlation matrix if the sample is from a multivariate normal distribution. The correlations are weighted by the inverse of the uniqueness of the variables, and an iterative algorithm is employed.

V. RESULTS AND DISCUSSION

Three hypotheses were generated for testing in this study, to test all the hypotheses, a conceptual model were presented in figures to facilitate understanding on each of them.

Table 1. Summary table showing the mean score and standard deviation of EID and QOL

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental identity</td>
<td>57.33</td>
<td>7.42</td>
<td>1737</td>
</tr>
<tr>
<td>Quality of life</td>
<td>64.20</td>
<td>13.14</td>
<td>1737</td>
</tr>
</tbody>
</table>

Mean & standard deviation of the variables

Hypotheses one: There will be significant relationship between Environmental Identity and Quality of Life among the Staff and Students of Ekiti State University, Nigeria.

Table 1.1: Maximum Likelihood Coefficient of the Relationship between the independent variable (Environmental Identity) and the dependent variables (Quality of Life) of people in Ekiti State.

<table>
<thead>
<tr>
<th>Covariance</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>EID &lt;--&gt; QOL</td>
<td>-.299</td>
<td>.137</td>
<td>-2.181</td>
<td>.029</td>
<td>par_3</td>
</tr>
</tbody>
</table>

Table 1.1 above reveals that the probability of getting a critical ratio as large as 80.169 in absolute value is less than 0.001

Table 1.2: Estimated (Correlations) relationships

EID <--> QOL   Estimate = -.052

Table 1.3: Pairwise Parameter Comparison of Correlations of Estimates in table 1.3

<table>
<thead>
<tr>
<th></th>
<th>par_1</th>
<th>par_2</th>
<th>par_3</th>
<th>par_4</th>
<th>par_5</th>
<th>par_6</th>
<th>par_7</th>
<th>par_8</th>
</tr>
</thead>
<tbody>
<tr>
<td>par_1</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>par_2</td>
<td></td>
<td>-.003</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Influence of Environmental Identity on Quality Of Life among the Staff and Students of Ekiti State...

Table 1.3 above shows the estimated relationship between the variables. There are significant relationships between environmental identity and quality of life at 0.05 level of significance.

Hypothesis two: There will be a significant influence of Environmental Identity on Quality of Life among the Staff and Students of Ekiti State University, Nigeria.

Table 3.1 & 3.2: Maximum Likelihood Estimates of Influence of Environmental Identity on Quality of Life among the Staff and Students of Ekiti State University, Nigeria.

<table>
<thead>
<tr>
<th>Regression Weights</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>QOL &lt;-- EID</td>
<td>.110</td>
<td>.024</td>
<td>4.568</td>
<td>***</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.2: Matrices

<table>
<thead>
<tr>
<th>Variables</th>
<th>Direct influence</th>
<th>Indirect influence</th>
<th>Total influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>EID</td>
<td>.110</td>
<td>.000</td>
<td>.110</td>
</tr>
</tbody>
</table>

The regression weights above show that the probability of getting a critical ratio as large as 4.568 in absolute value is 0.001. In other words, the regression weight for environmental identity in influencing the quality of life is significantly different from zero at the 0.05 level, also the estimate of influence of environmental identity on prosocial behavior shows that when environmental identity goes up by 1, quality of life goes down by 0.110. The total (direct and indirect) influence of environmental identity on quality of life is 0.110.

Hypothesis three: There will be a significant influence of Age and Gender on Quality of Life among the Staff and Students of Ekiti State University, Nigeria.

Table 4.1 & 4.2: Maximum Likelihood Estimates of Influence of Age and Gender on Quality of Life among the Staff and Students of Ekiti State University, Nigeria.

<table>
<thead>
<tr>
<th>Regression Weights</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>QOL &lt;-- Gender</td>
<td>.003</td>
<td>.137</td>
<td>.024</td>
<td>.981</td>
<td>par_3</td>
</tr>
<tr>
<td>QOL &lt;-- Age</td>
<td>-.009</td>
<td>.137</td>
<td>-.067</td>
<td>.947</td>
<td>par_4</td>
</tr>
</tbody>
</table>

Table 4.2: Matrices

<table>
<thead>
<tr>
<th>Variables</th>
<th>Direct influence</th>
<th>Indirect influence</th>
<th>Total influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.009</td>
<td>.003</td>
<td>.009</td>
</tr>
<tr>
<td>Gender</td>
<td>.003</td>
<td>.000</td>
<td>.003</td>
</tr>
</tbody>
</table>

The regression table above reveals that age does not have significant influence on quality of life as it is estimated that when age and gender increase by 1, quality of life increase 0.003. Also, The total (direct and indirect) influence of gender on quality of life 0.003. This implies that age and gender did not have any significant influence on quality of life of the people in Ekiti state.

VI. DISCUSSION

The present study aimed at determining the influence of Environmental Identity on Quality of Life among the Staff and Students of Ekiti State University, Nigeria.

The qualitative and quantitative data presented in the previous chapter provided relevant insight regarding the attitude of staff and students of Ekiti State University towards environmental identity. The result of the first hypothesis found a positive relationship between environmental identity (EID) and quality of life (QOL) this was not the case in the work of Tauber (2012) who reported that a positive relationship exists between these variables. It is suggested that the revalidation of the instruments is likely to be responsible for the variation in findings.
In hypothesis two environmental identity was found to have influence on quality of life. This is in line with the confirmed past research study by Sherburn and Devlin (2004), who discovered environmental identity as a factor influencing a person's quality of life. But it is however not in line with the postulation of Akinyemi, Owoaje, Popoola and Ilesanmi, (2012) who affirm that environmental identity may not necessarily lead to quality of life, that factors associated with quality of life on bivariate analysis were age 45years and below, educational level.

In hypothesis three the influence of gender, age and religion were tested on quality of life, the hypotheses were rejected, thus in contrast with Afolabi (2013) who noted that religious undergraduates are more prosocial than the less religious students. Afolabi’s position does not however support the findings of Schwartz,Meisenhelder, Ma, & Reed, (2003) which demonstrated that individuals that were more likely to help others in need “were older and female and tended to be church elders, they also practiced more prayer activities, reported more satisfaction with prayer life, and engaged in positive religious coping.

VII. CONCLUSION AND RECOMMENDATION

The goal of this study was to gain more information regarding the influence of Environmental Identity on Quality of Life among the Staff and Students of Ekiti State University, Nigeria, and demographic variables.

In the time-line of the Earth's existence, human activity is rather of low significance. Unfortunately, the decisions people have made in recent decades and past centuries will continue to affect the quality of life for future generations unless changes are made in the way humans see themselves in relation to the rest of the natural world. How clearly we understand the world depends on the emotional tone with which we confront our world. Care, trust, and love determine that tone, as they do our relationship with another person (Rozsak, 2001.). People need to be more educated to consider with greater regard their present actions and future consequences on populations that do not yet exist. Without fundamental changes in how humans interact with nature, the health and future of the natural world will continue to be in jeopardy.

It is therefore recommended that increased awareness to benefits of nature should be encouraged because exposure to nature is beneficial for human wellness. However the evidence presented in this study points otherwise, therefore, there is a need for further research into the precise nature of this relationship.

ACKNOWLEDGEMENTS:

A special thanks goes to the participants in this work for their due diligence in the conception, preparation and conclusion of this research work. I also appreciate all the contributors and the monitors who ensure that standards are maintained.

It is worthy of note to state that the entire research work is sponsored fully by the author.

REFERENCES

The Environmental Identity Scale (EID)AFTER REVALIDATION

The Environmental Identity Scale (EID) contains 21 items that are rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The scale is designed to measure the extent to which individuals identify with the natural environment and environmental causes. Scores range from 28-140, with a high score meaning that the person is highly identified with the natural environment and environmental causes.

**Scale:**

1. I spend a lot of time in natural settings (woods, mountains, desert, lakes, ocean).
2. Engaging in environmental behaviors is important to me.
3. I think of myself as a part of nature, not separate from it.
4. If I had enough time or money, I would certainly devote some of it to working for environmental causes.
5. When I am upset or stressed, I can feel better by spending some time outdoors “communing with nature”.
6. Living near wildlife is important to me; I would not want to live in a city all the time.
7. I have a lot in common with environmentalists as a group.
8. I believe that some of today’s social problems could be cured by returning to a rural lifestyle in which people live in harmony with the land.
9. I feel that I have a lot in common with other species.
10. My own interests usually seem to coincide with the position advocated by environmentalists.
11. Being a part of the ecosystem is an important part of who I am.
12. I feel that I have roots to a particular geographical location that had a significant impact on my development.
13. Behaving responsibly toward the earth – living a sustainable lifestyle – is a part of my moral code.
14. Learning about the natural world should be an important part of every child’s upbringing.
15. I don’t pay much attention to environmental issues.
16. Sometimes I feel like parts of nature – certain trees, or storms, or mountains – have a personality of their own.
17. I would feel that an important part of my life was missing if I was not able to get out and enjoy nature from time to time.
18. I take pride in the fact that I could survive outdoors on my own for a few days.
19. I have never seen a work of art that is as beautiful as a work of nature, like a sunset or a mountain range.


**Appendices**

**Environmental Identity Scale (EID)AFTER REVALIDATION**

The Environmental Identity Scale (EID) contains 21 items that are rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The scale is designed to measure the extent to which individuals identify with the natural environment and environmental causes. Scores range from 28-140, with a high score meaning that the person is highly identified with the natural environment and environmental causes.

**Scale:**

1. I spend a lot of time in natural settings (woods, mountains, desert, lakes, ocean).
2. Engaging in environmental behaviors is important to me.
3. I think of myself as a part of nature, not separate from it.
4. If I had enough time or money, I would certainly devote some of it to working for environmental causes.
5. When I am upset or stressed, I can feel better by spending some time outdoors “communing with nature”.
6. Living near wildlife is important to me; I would not want to live in a city all the time.
7. I have a lot in common with environmentalists as a group.
8. I believe that some of today’s social problems could be cured by returning to a more rural lifestyle in which people live in harmony with the land.
9. I feel that I have a lot in common with other species.
10. My own interests usually seem to coincide with the position advocated by environmentalists.
11. Being a part of the ecosystem is an important part of who I am.
12. I feel that I have roots to a particular geographical location that had a significant impact on my development.
13. Behaving responsibly toward the earth – living a sustainable lifestyle – is a part of my moral code.
14. Learning about the natural world should be an important part of every child’s upbringing.
15. I don’t pay much attention to environmental issues.
16. Sometimes I feel like parts of nature – certain trees, or storms, or mountains – have a personality of their own.
17. I would feel that an important part of my life was missing if I was not able to get out and enjoy nature from time to time.
18. I take pride in the fact that I could survive outdoors on my own for a few days.
19. I have never seen a work of art that is as beautiful as a work of nature, like a sunset or a mountain range.

**Referenced sources:**

20. I feel that I receive spiritual sustenance from nature.
21. I keep mementos from the outdoors in my room, like shells or rocks or feathers.
22. When I am in a natural setting the needs and demands of others seem to fade away and I can think about what is important to me.

QUALITY OF LIFE SCALE (QOL) AFTER VALIDATION
Please read each item and circle the number that best describes how satisfied you are at this time. Please answer each item even if you do not currently participate in an activity or have a relationship. You can be satisfied or dissatisfied with not doing the activity or having the relationship.

<table>
<thead>
<tr>
<th>Item</th>
<th>Delighted</th>
<th>Mostly</th>
<th>Satisfied</th>
<th>Mixed</th>
<th>Dissatisfied</th>
<th>Unhappy</th>
<th>Terrible</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Material comforts home, food, conveniences, financial security</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>Health - being physically fit and vigorous</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>Relationships with parents, siblings &amp; other relatives- communicating, visiting, helping</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>Having and rearing children</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5.</td>
<td>Close relationships with spouse or significant other</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>Close friends</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>Helping and encouraging others, volunteering, giving advice</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8.</td>
<td>Participating in organizations and public affairs</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9.</td>
<td>Learning- attending school, improving understanding, getting additional knowledge</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10.</td>
<td>Understanding yourself - knowing your assets and limitations - knowing what life is about</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>11.</td>
<td>Work - job or in home</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>12.</td>
<td>Socializing - meeting other people, doing things, parties, etc</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>13.</td>
<td>Reading, listening to music, or observing entertainment</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>14.</td>
<td>Independence, doing for yourself</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>


DOI: 10.9790/0837-2403017886 www.iostejournals.org