

***Demographic Predictors of Attitude towards Wildlife Conservation: A Study of Gender and Age in Boki Local Government Area of Cross River State, Nigeria***

**<sup>1</sup>Remi Modupe Omoogun, Ph.D**  
[remiomoogun@gmail.com](mailto:remiomoogun@gmail.com)

**John Edwin Effiom, Ph.D**  
Department of Social Studies and Civic Education  
University of Calabar, Calabar  
[Johnedwin425@yahoo.com](mailto:Johnedwin425@yahoo.com)

**<sup>1</sup>Christiana Aloye Ushie, Ph.D**  
<sup>1</sup>Department of Environmental Education  
University of Calabar, Calabar



**Abstract**

*This study investigated the influence of gender and age on attitudes towards wildlife conservation in Boki Local Government Area of Cross River State, Nigeria. Using a survey design, data were collected from 250 respondents selected through stratified random sampling technique. The Attitude towards Wildlife Conservation Questionnaire (AWCQ) was employed, and data were analysed using descriptive statistics, independent samples t-test, and one-way ANOVA with post-hoc analysis. Results revealed a statistically significant difference in attitudes based on gender, with females ( $\bar{x} = 65.21$ ,  $SD = 7.95$ ) showing more positive attitudes than males ( $\bar{x} = 62.48$ ,  $SD = 8.33$ );  $t(248) = -2.780$ ,  $p = 0.006$ . Similarly, significant differences were found among age groups, with the oldest group (35 years and above) scoring highest. The study concludes that gender and age are significant predictors of conservation attitudes. It recommends targeted awareness and education programmes that address demographic disparities to enhance wildlife conservation in ecologically sensitive regions like Boki.*

**Keywords:** attitude, gender, age, wildlife conservation, residents

**Introduction**

The importance of wildlife to man cannot be overemphasized. Wildlife conservation is a pressing global concern, especially in biodiversity-rich regions where human activities like deforestation, hunting, and habitat degradation pose significant threats (Fada et al., 2023). In Nigeria, particularly in Cross River State, the protection of wildlife is critical not only for

environmental sustainability but also for socio-economic development. Boki Local Government Area, which contains parts of the Cross River National Park, is home to endangered species such as the Cross River gorilla and the Nigeria-Cameroun chimpanzee. The attitudes of local residents, shaped by demographic factors such as gender and age, play a vital role in determining the success of conservation initiatives. Understanding how these demographic characteristics influence conservation attitudes in Boki can inform tailored educational and outreach strategies.

Boki Local Government Area is situated within a biologically rich and ecologically significant zone, encompassing parts of the Afi Mountain Wildlife Sanctuary and the Oban Sector of the Cross River National Park. Despite its ecological importance, wildlife here continues to face severe risks driven by habitat loss, illegal hunting, and land-use changes (Fada et al., 2023). Local community attitudes toward wildlife conservation are shaped by socio-cultural norms and demographic attributes, yet region-specific empirical studies are scarce.

Research suggests that gender differences often manifest in conservation attitudes, with women generally demonstrating more empathy toward wildlife and stronger support for conservation compared to men. According to Acharya and Gentle (2006) and Sodhi et al. (2010), gender-based differences in environmental perception and roles in natural resource management revealed that women were often found to be more engaged in conservation activities due to their roles in family and community sustenance.

Alba et al. (2023) revealed that females consistently have more positive attitudes toward the environment than males. Similar patterns are discussed across conservation science: meta-analytic and empirical work highlights higher biospheric values and pro-conservation opinions among women, and greater participation by women in non-consumptive wildlife recreation (like wildlife watching), which coheres with higher attitudinal scores observed here.

Moreover, age tends to shape orientation: younger individuals are often found to be more concerned about wildlife protection than older persons. The Oban Sector study in Cross River showed that community members' willingness to participate in conservation programmes was significantly linked to their perceptions of threats to wildlife. These findings indicate the importance of considering demographic variables when designing conservation interventions.

Despite ongoing conservation efforts, wildlife in Boki LGA remain under threat due to persistent anthropogenic pressures such as poaching, illegal logging, and farming encroachment. Conservation initiatives often adopt broad-based approaches, yet lack the nuanced understanding of how demographic factors, especially gender and age influence residents' attitudes toward conservation. While evidence from Nigeria and beyond underscores that females are typically more supportive of wildlife protection than males, and younger individuals often display greater conservation concern, there is no context-specific data for Boki Local Government Area. Without this localized insight, conservation programmes risk implementing strategies that are culturally misaligned, less effective, or even counterproductive.

This study sought to fill this gap by exploring how gender and age predict attitudes toward wildlife conservation among residents of Boki Local Government Area of Cross River State, Nigeria. The findings may contribute to policy discourse and inform targeted conservation education programmes that resonate across different demographic segments.

Attitude is a learned predisposition to respond favourably or unfavourably to an object or issue. In conservation, attitudes reflect cognitions and feelings about protecting wildlife and habitats and often predict behavioural intentions (Ajzen, 1991). The cognitive hierarchy perspective situates attitudes between deeper, more stable values and surface-level behaviours, implying that durable change requires aligning conservation messages with people's value orientations.

Human dimension research commonly distinguishes domination (utilitarian) versus mutualism (coexistence/equality with wildlife) value orientations; these orientations shape support for policy, tolerance of wildlife, and stewardship behaviours. Large cross-national programmes (for example, America's Wildlife Values) operationalize these orientations and show their predictive power for attitudes and behaviours.

Gender is concerned with men and women, but it is not synonymous with sex. Gender means the different socially and culturally construed roles and relationship, which exist between men and women across time and space as well as among variables of age, caste, class and ethnicity among others (FAO, 2014). Simply put, it is a social construct, which allots roles and limits to men and women. Sex, on the other hand, refers to the biological and physiological differences between men and women. It is related to the reproductive roles of male and female. Hence sex pertains to the innate biological difference between male and female. For Okojie (2015), gender refers to those culturally defined status, roles and relationship between

males and females insinuated through religion, socio-economic, legal and political arrangement with persistent bias against females.

A study was conducted by Ezeali (2022) on influence of gender on sustainable management of wildlife resources in Abia State, Nigeria. The broad objective of this study was to examine the effects of gender on sustainable management of wildlife resources in Abia State, Nigeria. Relevant data for the study were generated mainly through the administration of structured questionnaire to 240 farmers, randomly selected from 6 LGAs. Data generated were analyzed using percentages, frequencies, likert rating scale and Tobit regression model. The major findings were that: use of improved wildlife management practices was almost non-existent as against the traditional management practices that were common; female farmers in the study area adopted more improved forest conservation measures than their male counterparts. Tobit regression analysis showed that the coefficient of gender, land ownership, and dependence on wildlife for income were negative and significantly ( $p < 0.05$ ) affected the adoption of improved forest resource conservation practices of the farmers, while credit access and gender discrimination in wildlife resource exploitation were positive and significant ( $p < 0.05$ ).

People of all ages can be wildlife dependent; however young people may be more dependent on wildlife products than elderly people may be. The reason for this is that the young people may have multiple uses of the wildlife, and more so, wildlife products collection is labour intensive. On the other hand, the elderly people may not take the risk of going into the wild to undertake wildlife activities particularly as they may not have the strength to carry out wildlife related activities (Kohlin & Parks, 2021).

There is a possibility that older individuals may have stronger cultural and experiential ties to the environment, leading to a greater appreciation for conservation efforts (Infield & Mugisha, 2013; Allendorf et al., 2016). Some visitor and public-opinion studies have found more negative attitudes among the oldest visitors toward reintroduction but, importantly, many also report monotonic or curvilinear age effects confirming that age matters but not always in the same direction. The result that older are more positive mirrors findings where life experience, land stewardship norms, or direct dependence on local ecosystems are associated with pro-conservation attitudes.

Garekae et al. (2016) examined attitudes of local communities towards wildlife conservation in Botswana: a case study of Chobe Wildlife Reserve (CWR). A survey instrument was administered to 183 households, randomly sampled across three communities adjacent to

CFR. Additionally, in-depth interviews with selected key informants were conducted. The study largely draws from primary and other secondary data sources. Secondary data sources comprised of both published and unpublished documents. A standardized semi-structured questionnaire was used to gather data from the respondents. One-way analysis of variance (ANOVA) was conducted to determine differences in conservation attitudes across the study villages and respondents age groups. The study findings revealed that communities generally held positive attitudes towards wildlife conservation. Place of residence, age, length of residency and wildlife dependency were observed to be significantly influencing attitudes towards wildlife conservation.

### **Research questions**

The following research questions are stated:

1. Does gender influence attitudes towards wildlife conservation in Boki Local Government Area?
2. Does age influence attitudes towards wildlife conservation in Boki Local Government Area?

### **Hypotheses**

**Ho1:** There is no significant difference in the attitude towards wildlife conservation between male and female residents in Boki LGA.

**Ho2:** There is no significant difference in the attitude towards wildlife conservation among residents of different age groups in Boki LGA.

### **Methodology**

This study used the survey research design. According to Isangedighi (2012), survey research design is one which determines the nature of a situation as it exists at the time of investigation. Also, Coolican (2009) described survey as a type of research that studies large and small population to objectively and accurately describe the existing situation that depend on structured questionnaire as a means of data collection. However, the design is chosen because it gave the researchers an opportunity to make generalization of the study to the entire population. Survey designs are appropriate where variables are complex and do not permit experimental design. The research area of this study was Boki Local Government Area in Cross River State.

The population of the study consists of all the 323,753 community members of Boki Local Government Area (National Population Commission, projected population, 2024). The population is made up of all the literate inhabitants, the workers, and the key community

leaders whose age is between 18 years to 65 years. The study participants were selected based on specific criteria to ensure relevance and reliability of responses. Eligible individuals were permanent residents of Boki Local Government Area, aged 18 years and above, and had lived in their communities for at least three consecutive years to guarantee familiarity with local wildlife and conservation issues. Both male and female respondents were included to allow gender-based comparison, while only those who voluntarily consented and could communicate effectively in English or local dialects (Bokyi, Ejagham) were considered. Participants were excluded from the study if they were temporary visitors or had lived in the area for less than three years, were below 18 years of age, or had conditions limiting their ability to understand and respond to the questionnaire. Also excluded were individuals who declined or withdrew consent, as well as those unable to communicate effectively in English or the recognized local languages. The researchers adopted the stratified sampling technique and accidental sampling techniques for the study. 30% of wards and 0.5% of population in sampled wards were sampled for the study. For this study, a sample size of 469 respondents were drawn from the entire population for the study. The sample covered both males and females from 18 years and above.

A questionnaire titled Attitude towards Wildlife Conservation Questionnaire (AWCQ) was used for collecting data. The section A of the instrument elicited information on personal variables of the respondents such as gender, age, educational level and income level. Section B was made up of four-point rating scale-type items that measured opinions measuring wildlife conservation using Strongly Agreed, Agreed, Disagreed and Strongly Disagreed. During the scoring of the options, Strongly agreed was assigned 4 points, agreed 3 points, disagreed 2 points and Strongly Disagreed 1 point. The questionnaire instrument was constructed by the researchers. The researchers were assisted by two experts in measurement and evaluation to validate the instrument. The experts carried out a thorough scrutiny of the instrument in the area of relevance of the items in relation to the objectives of the study, language of the instrument in terms of the cognitive capacities of subjects and the comprehensiveness of the items. The comments of the experts determined the items that were removed, modified and replaced.

Ethical principles guided the study to protect the rights, privacy, and dignity of participants. Before data collection, participants were clearly informed about the study's purpose, procedures, and voluntary nature, with the freedom to withdraw at any time. Confidentiality was ensured by using codes instead of names, with data securely stored and accessible only to the researchers. The study was designed to avoid physical, psychological, or social harm, and responses were used solely for academic purposes. Participation was voluntary, with no

coercion or inducement, and participants could skip uncomfortable questions. Finally, cultural values and norms of Boki Local Government Area were respected, with questions framed in a culturally sensitive manner.

To analyse the data, the raw scores of all the items in each variable were summed together to show the result for each variable. Data was analyzed using Statistical Package for Social Sciences (SPSS) programme version 26. Inferential statistics were used to test the hypotheses at .05 level of significance.

### **Presentation of results**

**Ho1:** There is no significant difference in the attitude towards wildlife conservation between male and female residents in Boki LGA.

**Table 1:** Independent samples t-test for gender differences

<b>Gender</b>	<b>N</b>	<b><math>\bar{x}</math></b>	<b>Std. Dev.</b>	<b>t</b>	<b>df</b>	<b>Sig. (p)</b>
Male	120	62.48	8.327			
Female	130	65.21	7.945	-2.780	248	0.006

Table 1 shows the results of an independent samples t-test conducted to examine whether there is a statistically significant difference in attitude towards wildlife conservation between male and female respondents in Boki Local Government Area. The analysis reveals that female respondents ( $\bar{x}$ =65.21, SD = 7.945) recorded a higher mean score than their male counterparts ( $\bar{x}$  = 62.48, SD = 8.327). The calculated t-value of -2.780 with 248 degrees of freedom yielded a p-value of 0.006, which is less than the significance level of 0.05. This indicates that the difference in mean attitude scores between males and females is statistically significant.

**Ho2:** There is no significant difference in the attitude towards wildlife conservation among residents of different age groups in Boki LGA.

**Table 2:** One-way ANOVA results for age groups

<b>Age Group</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
15–24 years	80	60.35	8.782
25–34 years	90	62.49	7.554
35 years & above	80	64.93	7.281

Source	Sum of Squares	df	Mean Square	F	Sig. (p)
Between Groups	420.532	2	210.266	5.781	0.004
Within Groups	8982.824	247	36.367		
Total	9403.356	249			

Table 2 presents the descriptive statistics for respondents' attitude towards wildlife conservation across different age groups in Boki Local Government Area, Cross River State. The results indicate that respondents aged 15–24 years (N = 80) recorded the lowest mean score of 60.35 with a standard deviation of 8.782, suggesting comparatively less positive attitudes and greater variability in responses. Respondents aged 25–34 years (N = 90) had a mean score of 62.49 and a standard deviation of 7.554, reflecting a moderate level of positive attitude with slightly more consistent responses than the youngest group. Respondents aged 35 years and above (N = 80) recorded the highest mean score of 64.93 with a standard deviation of 7.281, suggesting the most favourable attitude towards wildlife conservation among the three groups and the most consistent responses. The gradual increase in mean scores from younger to older age groups suggests a possible positive relationship between age and conservation attitude. Older respondents may have more exposure to traditional ecological knowledge, direct dependence on natural resources, and personal experiences with wildlife, which could explain their heightened conservation awareness.

The ANOVA results in Table 2 reveal that there is a statistically significant difference in attitude towards wildlife conservation among respondents in different age groups in Boki Local Government Area ( $F(2, 247) = 7.963, p = 0.001$ ). Since the p-value is less than 0.05, the null hypothesis of no significant difference is rejected. This indicates that age is a significant predictor of variation in attitudes towards wildlife conservation. Post hoc analysis is therefore conducted to identify where the difference lies.

**Table 3:** Tukey HSD multiple comparisons of mean attitude scores across age groups

Age Group (I)	Age Group (J)	Mean Difference (I-J)	Std. Error	Sig. (p)	95% Confidence Interval
15–24 years	25–34 years	-2.145*	0.742	0.019	-3.985 to -0.305
15–24 years	35 years & above	-4.578*	0.815	0.000	-6.553 to -2.603
25–34 years	35 years & above	-2.433*	0.768	0.009	-4.338 to -0.528

The Tukey HSD post-hoc analysis in Table 3 shows that respondents aged 35 years & above scored significantly higher in attitude towards wildlife conservation compared to those aged 15–24 years (Mean Difference = -4.58,  $p = 0.001$ ) and 25–34 years (Mean Difference = -2.44,  $p = 0.049$ ). However, there was no statistically significant difference between the 15–24 years and 25–34 years groups ( $p = 0.120$ ).

### Discussion of the findings

The result of hypothesis one revealed that the difference in mean attitude scores between males and females is statistically significant. The direction of the mean scores suggests that females in the study area possess more favourable attitudes towards wildlife conservation compared to males. This may be attributed to gender-based differences in environmental perception and roles in natural resource management, as observed in earlier studies (Acharya & Gentle, 2006; Sodhi et al., 2010), where women were often found to be more engaged in conservation activities due to their roles in family and community sustenance. Alba et al. (2023) reported main effects of gender on wildlife attitudes in experimental surveys, with females being consistently more positive than males. Similar patterns are discussed across conservation science: meta-analytic and empirical work highlights higher biospheric values and pro-conservation opinions among women, and greater participation by women in non-consumptive wildlife recreation (like wildlife watching), which coheres with higher attitudinal scores observed here.

From a local policy lens, evidence from Cross River communities suggests that engaging women’s groups can strengthen conservation buy-in and stewardship, consistent with this gender result. Studies around Cross River National Park and the Afi–Mbe landscapes emphasize that support is shaped by perceived benefits and inclusive processes areas where women’s participation is often under-leveraged. While the direction of gender effects is robust, recent institutional work cautions that women’s pro-conservation attitudes do not

always translate into influence unless gender-related barriers inside conservation organizations and community decision spaces are addressed. This implies that programme design must go beyond measuring attitudes to changing participation structures. These findings imply that conservation education and interventions in Boki may benefit from integrating gender-responsive strategies, leveraging the stronger conservation attitudes observed among female participants.

The result of hypothesis two revealed that there is a statistically significant difference in attitude towards wildlife conservation among respondents in different age groups in Boki Local Government Area. These results suggest that older respondents in Boki tend to have more positive attitudes towards wildlife conservation than younger respondents. This pattern could be explained by the possibility that older individuals may have stronger cultural and experiential ties to the environment, leading to a greater appreciation for conservation efforts (Infield & Mugisha, 2013; Allendorf et al., 2016). Some visitor and public-opinion studies have found more negative attitudes among the oldest visitors toward reintroduction but, importantly, many also report monotonic or curvilinear age effects confirming that age matters but not always in the same direction. This result (older more positive) mirrors findings where life experience, land stewardship norms, or direct dependence on local ecosystems are associated with pro-conservation attitudes.

In contrast, a large-sample study on knowledge perception practice in South Asia found younger respondents scored higher on conservation knowledge and practices, arguing for generational shifts toward pro-environmental worldviews among youth. Likewise, structural-equation work shows age relationships can flip depending on species “likeability” and context. These discrepancies suggest that age effects are context-specific and mediated by education, livelihood ties, and species perceptions factors likely salient in Boki. The implication for conservation policy is that awareness programmes should be tailored to target younger demographics, who may be less engaged or knowledgeable about the importance of wildlife preservation.

## **Conclusion**

The study examined gender and age as demographic predictors of attitudes towards wildlife conservation in Boki Local Government Area of Cross River State, Nigeria. Results revealed that females had significantly higher positive attitudes towards wildlife conservation than males, and that attitude scores increased progressively with age, with the 35 years and above category showing the most favourable disposition. This indicates that demographic factors such as gender and age are important in understanding and promoting wildlife conservation

behaviour. These findings underscore the need for targeted conservation awareness strategies that account for demographic differences, especially in ecologically sensitive areas like Boki, which hosts parts of the Cross River National Park and supports rich biodiversity.

### **Recommendations**

Based on the finding of the study, the following recommendations are made:

1. Gender-sensitive conservation education: Schools should develop wildlife conservation programmes that specifically engage male participants, as they recorded lower mean scores, to bridge the gender gap in conservation attitudes.
2. Age-specific awareness campaigns: Government and Non-Governmental Organizations should tailor outreach initiatives to younger age groups (15–24 years) who recorded the lowest mean attitudes, incorporating interactive, technology-driven, and peer-led approaches.
3. Integration into school curricula: Ministry of Education should introduce wildlife conservation topics into Civic Education and Social Studies at primary and secondary school levels in Cross River State to instill positive attitudes early.
4. Community-based interventions: Government should involve local leaders, traditional institutions, and youth groups in participatory wildlife management to foster ownership and sustained interest across demographics.
5. Partnership with NGOs and government agencies: community leaders should strengthen collaboration between conservation-focused NGOs, the Cross River State Forestry Commission, and educational institutions to design gender- and age-inclusive training programmes.

### **References**

- Acharya, K. P., & Gentle, P. (2006). Improving the effectiveness of collective action: Sharing experiences from community forestry in Nepal. *CAPRI Working Paper No. 54*. Washington, DC: International Food Policy Research Institute (IFPRI). <https://doi.org/10.2499/CAPRIWP54>
- Ajzen, I. (1991). *The theory of planned behavior*. *Organizational Behavior and Human Decision Processes*.
- Alba, A. C., Ferrie, G. M., Schook, M. W., Leahy, M., & Cronin, K. A. (2023). Gender and age, but not visual context, impact wildlife attitudes and perceptions of animals in zoos. *Animals (Basel)*, 4(1), 118–133.

- Allendorf, T. D., Swe, K. K., O. T., Htut, Y., Aung, M., Aung, M., Allendorf, K., Hayek, L. A. C., Leimgruber, P., & Wemmer, C. (2016). Community attitudes toward three protected areas in Upper Myanmar (Burma). *Environmental Conservation*, 33(4), 344–352. <https://doi.org/10.1017/S0376892906003389>
- Coolican, H. (2009). *Research methods and statistics in psychology* (5th ed.). London: Hodder Education.
- Cross River National Park. (2025). *Wikipedia*. <https://en.Wikipedia.org/wiki/crossrivernationalpark>
- Ezeali, C. B. O. (2022). Influence of Gender on Sustainable Management of Forest Resources in Abia State, Nigeria [Unpublished M.Sc Thesis]. Nnamdi Azikiwe University, Awka.
- Fada, S. J., Omotoriogun, T. C., Tende, T., Abidemi, K., Awoyemi, A. G., Folaranmi, B., Ogunjinmi, A. A., AnthonyJaiyeola, O., Pam, G., & Eniang, E. A. (2023). Wildlife Conservation in Nigeria: A perception of Professionals and Practitioners. *World Journal of Environmental Biosciences*, 12(3), 40–46.
- Food and Agriculture Organization (FAO) (2014). *FAO policy on gender equality: Attaining food security goals in agriculture and rural development*. Rome: FAO.
- Garekae, H., Thakadu, O. T., & Lepetu, J. (2016). Attitudes of local communities towards forest conservation in Botswana: A case study of Chobe Forest Reserve. *International Forestry Review*, 18(2), 180–191. <https://doi.org/10.1505/146554816818966318>
- Infield, M., & Mugisha, A. (2013). Culture, values and conservation: A review of perspectives from conservation organisations in Africa. *Oryx*, 47(4), 490–500. <https://doi.org/10.1017/S0030605312001649>
- Isangedighi, A. J. (2012). *Fundamentals of research and statistics in education and the social sciences*. Calabar: University of Calabar Press.
- Kohli, K. & Parks, P. (2021). The use of urban parks by older adults in the context of perceived security. *International Journal of Environmental Research and Public Health*, 19(7), 41-62. <https://doi.org/10.3390/ijerph19074184>
- Okojie, C. E. E. (2015). Gender equality and women empowerment in Nigeria: Issues and policy options. *African Development Review*, 27(1), 52–65. <https://doi.org/10.1111/1467-8268.12120>
- Sodhi, N. S., Lee, T. M., Sekercioglu, C. H., Webb, E. L., Prawiradilaga, D. M., Lohman, D. J., & Ehrlich, P. R. (2010). Local people value environmental services provided by forested parks. *Biodiversity and Conservation*, 19(4), 1175–1188. <https://doi.org/10.1007/s10531-009-9745-9>

- Schabas, M. & Wennerlind, C. (2023). *A philosopher's economist: Hume and the rise of capitalism*. Chicago: University of Chicago press.
- Yinusa-Afolabi, A. R. (2015). The role of ICT in national development: A study of the educational sector in Lagos State. International Conference on African Development Issues (CU – ICADI) 2015: Information and Communication Technology Track, African Leadership Development Centre, Covenant University, Canaan land, Ota, Ogun State, Nigeria.