



## ANALYZING THE NEXUS BETWEEN PERSONAL VALUES AND CONSUMPTION VALUES OF CONSUMERS' PREFERENCE FOR FRESH FISH

Ojuotimi E. MAFIMISEBI<sup>1</sup>, Sina Basil JOHNSON<sup>1\*</sup>, Folorunso AWOSEYILA<sup>1</sup>


<sup>1</sup>Rufus Giwa Polytechnic, Owo, Faculty of Agricultural Technology, Department of Agriculture Extension and Management, Ondo State, Nigeria


**Abstract:** This study aimed to investigate the nexus between personal values and consumption values towards consumers' preferences for fresh fish. A cross-sectional data of 300 respondents was selected using a multi-stage random sampling procedure. A well-structured questionnaire and personal interview were used to collect data from the respondents. Factor analysis and canonical correlation analysis were conducted to achieve the study's objectives. Findings showed that females (67.5%) were the majority of respondents, household size ranged between 4-6 persons, and many (76.7%) were married. The mean age was 41 years, and 83.3% were formally educated. The relationship between personal values and consumption values was positive and statistically significant at the 1% level. The study revealed that variables like benevolence, security and self-direction were strongly correlated with emotional and functional values of the first canonical covariates. The study concludes that high benevolence, security and self-direction evoke high emotional and functional values when consumers buy fresh fish. Based on these findings, the study recommends that fresh fish marketers should pay more attention to the price-quality relationship, the performance and content of the product and the quality of packaging, as most respondents place more value on what they consume.


**Keywords:** Consumption values, Personal values, Fresh fish, Canonical correlation analysis

\*Corresponding author: Rufus Giwa Polytechnic, Owo, Faculty of Agricultural Technology, Department of Agriculture extension and management, Ondo State, Nigeria

E mail: johnsonsina78@gmail.com (S. B. JOHNSON)

Ojuotimi E. MAFIMISEBI  <https://orcid.org/0000-0001-5950-7250>

Sina Basil JOHNSON  <https://orcid.org/0000-0002-4385-540X>

Folorunso AWOSEYILA  <https://orcid.org/0009-0009-7908-107X>

Received: September 12, 2023

Accepted: November 25, 2023

Published: January 01, 2024

**Cite as:** Mafimisebi OE, Johnson SB, Awoseyila F. 2024. Analyzing the nexus between personal values and consumption values of consumers' preference for fresh fish. *BSJ Agri*, 7(1): 29-38.

### 1. Introduction

In Nigeria, the push for a balanced diet and a reduction in carbohydrate consumption has increased protein consumption (Ojianwuna et al., 2021). Plant-based proteins are the preferred source of protein (Pojić et al., 2018). Unfortunately, the typical Nigerian diet is not very high in protein from vegetable sources. Hence, most Nigerians rely on protein from animal sources. Fish is a recommended source of animal protein for both young and older people since it is simply tasty and has minimal saturated fat compared to red meat (Colombo et al., 2021). There is a fish variety that would suit consumers' needs, regardless of their socio-economic status, race, culture, religious beliefs, or gender (Oleschuk et al., 2019).

Nigeria's demand for fish has increased due to the rising price of alternative animal protein and the burden of an expanding population (Tuninetti et al., 2022). Fish is mostly consumed in fresh and frozen forms due to the rising demand for fish products and is distributed to consumers through the marketing system. Marketing aims to ensure that customers receive the goods they desire in the ideal shape (form utility), supplied in the ideal location (place utility), at the ideal price (possession

utility), and at the ideal time (time utility), to delight the customer fully.

The specific preferences of various consumers are represented by their pleasure with the products they have purchased (Justin and Jyoti, 2012). There have been many theories and models to explain why people choose the things they do, but as of now, there is yet one approach that can explain why people make the purchases they do. Some factors, such as globalization, the rise in the variety and number of products and brands available on the market, and the rapid improvement in information and communication abilities, have clearly influenced consumer expectations and wants, which continue to be not only physical, but also psychological in nature as well. Due to Nigeria's rising demand for fish, it is crucial for marketing experts to be sensitive to consumers' psychological demands in order to advertise fish successfully. Personal values are a noteworthy element that may be used to examine consumers' psychological demands. The factors affecting what is essential in people's life are personal values (Ertosun and Adiguzel, 2018). Consumption values are a modern theory that explains why consumers select a certain brand or product (Cabrera and Williams, 2012).



According to the consumption values model, consumers pay attention to functional, social, emotional, conditional, and epistemic values in product attributes (Khan and Mohsin, 2017).

Previous studies on fish demand and marketing has mostly focused on consumer attitudes and how they affect decisions on kinds, form, and value (De Medeiros et al., 2016). On the other hand, customer behavior and attitude towards choices significantly impact market expansion. Consumers typically express their sentiments based on known facts and customs. These perspectives are challenging because they affect the choice of a certain product as well as its quantity and quality. Some researchers have investigated the relationship between personal values and consumption values before now. For example, we reviewed that Candan and Yildirim (2013), Gleim and Lawson (2014), Gonçalves et al. (2016), and Sreen et al. (2018), applied it to green products consumption; Latter et al. (2010) and Candan and Yildirim (2013) deployed the approach to study brand loyalty and consumer satisfaction. Zaidi et al. (2019) and Pankaj and Anand (2022) used the approach to investigate green purchase intention while Shende (2014), Altaf et al. (2017), and Zubair (2017) used the approach to study automobile purchases.

To the best of our knowledge, we found no study at present in the study area that applied same approach adopted in this study to consumers' preferences for fresh fish. The current study further differs from previous ones by location, population and nature of data collected. We, therefore, feel it would be crucial to bridge the knowledge gap by adding to the existing literature, the relationship between personal and consumption values of fresh fish using canonical correlation analysis.

The main purpose of the study is to examine the relationship between the consumption values of fresh fish and the personal values of consumers who purchase it. We were aware that the scope of this study may be limited by the area of coverage and availability of fund, meaning that this does not represent the entire country. However, the outcome of our study will still provide the necessary information for producers, distributors, marketers, consumers, and researchers on fish business.

## **2. Theoretical Consideration**

### **2.1. Consumption Values**

The ease and speed with which consumers can now obtain a wide range of products is a result of globalization. This theory also covers a wide range of product categories, including industrial commodities, services, and goods for physical and non-physical consumption. Consumption values can be used to explain the reasoning and motive behind buying the majority of goods and services (Han and Hwan, 2015). Sheth (1991a) used the consumption values theory of Newman and Gross (1991) in various studies to explain consumer behavior (Han and Hwan, 2015). The three pillars of "price, quality, and value" dominate customers' rational

purchasing decisions and product choices.

#### **2.1.1. Social value**

Social value is defined as the benefit that is perceived and obtained in relation to one social group or several social groups (Sheth et al., 1991). According to demographic, socioeconomic, and cultural (ethnic) groupings, the social benefit acquired may be favorably or adversely correlated (Garc'aGo'meza et al., 2012). Social class, symbolic value, conspicuous consumption, reference groups, and opinion leadership are all words used to study social values. Work, education, and income status are typically used to categorize people into different social classes. In addition, according to Zehir et al. (2011), social classes can be classified according to prestige, status, adopted values, etc.

#### **2.1.2. Emotional value**

The benefit derived from an emotional or sensual situation is known as emotional value. The responses customers have toward a product are related to its value (Woisetschläger et al., 2011). Emotional values that influence consumer preferences can be positive or negative. For example, "loyalty, nostalgia, excitement" might be positive, while "fear, anger, and guilt" can be negative.

#### **2.1.3. Epistemic value**

Sheth (1991a) defined epistemic value as the advantage that satisfies the want and need for innovation as well as the curiosity that is recognized or acquired from the product. When the purchasing tendencies of customers are examined, it is found that these consumers are exploratory and seek out diversity (Chiu et al., 2013). The primary driving force behind the actions of customers who seek diversity is "innovativeness."

#### **2.1.4. Conditional value**

The benefit that results from a certain condition that the individual making a preference comes across and is experienced at that particular time is what is meant by conditional value. In an unanticipated circumstance, this additional benefit materializes as a factor that raises functional or social value.

#### **2.1.5. Functional value**

According to Sheth (1991a), the term "functional" can be used to describe the benefit felt or attained from a situation's functional, pragmatic, and physical performance. Functional value is determined by taking into account a product's performance, reliability, soundness, and pricing (Garc'a Go'meza et al., 2012).

### **2.2. Personal Values**

Based on Schwartz's (1992) theory of human value, values can be categorized as: the content of values and the structure of values. The content of a value is its source of motivation, and the structure of a value is the relationship between the values. Schwartz's theory is based upon 57 single values, which can be abstracted into 10 value types encompassing similar motivations and similar content. The 10 value types included in the theory are: Universalism, Benevolence, Success, Tradition, Security, Power, Achievement, Hedonism,

Stimulation, and self-direction. Schwartz found 45 of the 57 values in his theory to be universal in nature; that is, they have similar meanings across all cultures. They may, however, be more or less prized in different cultures (Schwartz, 1992). The list of 57 values was also found to be a comprehensive list of all values across cultures.

### **2.2.1. Power**

The power values are social status, prestige, dominating over other people, and controlling other people and sources (social power, authority, welfare, and image). Neuman (1986) found that there is no association between accumulation of personal wealth and social recognition and the energy conservation construct. Shaw et al. (2005) found the power values to be of little relevance to ethical consumers.

### **2.2.2. Achievement**

The individual achievement a person attains in the frame of social standards can be assessed through the following variables: success, ability, bossy and passion.

### **2.2.3. Hedonism**

This personal value dimension describes people's pleasure, joys (such as pleasure, satisfaction, and enjoyable life).

### **2.2.4. Stimulation**

The stimulation values are related to people's excitement, innovations and challenges in life (a brave and rich life, an exciting life).

### **2.2.5. Self-direction**

The self-direction values include Freedom, Creativity, Independence, Choosing own goals, Curious, and Self-respect. Empirically, Shaw et al. (2005) found the values of curiosity, freedom, independent, and self-respect to be related. This value is expected to have positive relationship with the consumption of fresh fish.

### **2.2.6. Universalism**

Universalism value are values that are related to being tolerant and respectful, welfare for all human beings (open-mindedness, wisdom, social justice, equality, world peace, protecting the environment, welfare for the whole world)

### **2.2.7. Traditionalism**

The traditional value has to do with people having respect for others' ideas, commitments, and acceptance of the customs and ideas that traditional culture and religion provide, living in accordance with a culture or religion. This value is expected to have a positive relationship with the consumption of fresh fish.

### **2.2.8. Benevolence**

The benevolence value are maintaining and developing people's welfare, maintaining interpersonal relations useful, honest, forgiveness, loyal and responsible. Available literature shows that there is an association between the value mature love and energy conservation (Neuman, 1986). Similarly, Shaw et al. (2005) found positive relationship between the Helpful and Honest values and ethical consumption. This value is expected to have positive relationship with the consumption of fresh fish.

### **2.2.9. Conformity**

Restraint from behaviours that are harmful to others, limiting expectations (i.e kindness, obedient, self-discipline, respect for parents and old, honoring elders)

### **2.2.10. Security**

The security values include the following: family security, national security, social order, clean, reciprocation of favors, sense of belonging, and healthy. The motivations of safety, harmony, and stability underpin these values. Security's goal is to prevail over the uncertainty that arises with the self, relationships, and/or society (Schwarz, 1992, 1994).

## **3. Methods**

### **3.1. Data Collection**

The study was conducted in Akure Metropolis, the capital of Ondo State. A multi-stage random sampling procedure was used to select respondents for the study. In the first stage, purposive sampling was used to choose Akure town in Ondo State because of its urban nature, the extent of development and the presence of ultra-modern markets and the availability of fresh fish sales. In the second stage, six markets were randomly selected. The third stage involves the random selection of fifty respondents from each market, making a total of three hundred respondents analyzed in this study.

Primary data were collected using a structured questionnaire administered through an interview method. The questionnaire covered data on the socio-economic characteristics of the consumers buying fresh and other related information. Schwartz's Values List (SVS) was adopted to assess respondents' personal values. The SVS presents two lists of value items. The first contains 20 items that describe potentially desirable end-states in noun form; the second includes 22 items that describe potentially desirable ways of acting in adjective form. Each item expresses an aspect of the motivational goal of one value. Respondents were asked to rate the importance of each value item "as a guiding principle in MY life" on a 7-point scale labeled 7 (of supreme importance), 6 (very important), 5, 4 (unlabeled), 3 (important), 2, 1 (unlabeled), 0 (not important), -1 (opposed to my values), 6. To determine respondents' consumption values, the consumption values (functional, social, conditional, epistemic, and emotional) scale developed by Sheth et al. (1991) was adapted and modified to study consumer preference for fresh fish.

First, a focus group study was conducted to form consumption values related to fresh fish. Twenty (20) people participated in the focus group discussion. In the consumption value scale, respondents expressed for each value dimension, their degree of agreement with statements given to them by using 5 point liker scale: I don't agree at all (1), I don't agree (2), I am not sure (3), I agree (4), and I strongly agree (5).

### **3.2. Data Estimation and Model Specification**

The study was analyzed by using both the descriptive and inferential statistics. Descriptive statistics was

employed to summarize the socio-economic characteristics of the consumers. Factor analysis was used to eliminate the insignificant and uninformative variables in the personal and consumption value scales. In contrast, the relationship between personal and consumption values was assessed through a canonical correlation analysis using a Stata version 14 (Startcorp, 2015).

**3.2.1. Factor analysis**

The factor analysis model expressed as (Equation 1):

$$X = \mu + L F + e \tag{1}$$

where X is the p x 1 vector of measurements, μ is the p x 1 vector of means, L is a p x m matrix of loadings, F is a m x 1 vector of common factors, and e is a p x 1 vector of residuals. Here, p represents the number of measurements on a subject or item and m represents the number of common factors. F and e are assumed to be independent and the individual F's are independent of each other. The mean of F and e are 0, Cov(F) = I, the identity matrix, and Cov(e) = Ψ, a diagonal matrix. The assumptions about independence of the F's make this an orthogonal factor model.

**3.2.2. Canonical correlation analysis (CCA)**

The study used canonical correlation analysis to estimate the relationship between personal values and consumption values and determine the level of their associations. Canonical correlation analysis is used when

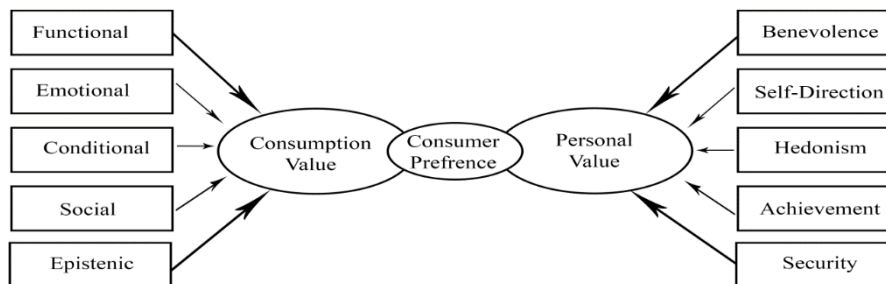
the objective is to measure the relationships between two sets of variables. Canonical correlation is appropriate in the same situations where multiple regression would be but where there are multiple intercorrelated outcome variables. Canonical is the statistical term for analyzing latent variables that are not directly observed that represent multiple variables that are directly observed. CCA is found to be commonly used in social and behavioral sciences and has been used by many researchers (Prera, et al. 2014; Andleeb, 2016; Suchanek and Kralova, 2018). Several advantages are associated with CCA over others statistical tools.

**3.3. Research Model**

The left hand side of Figure 1 represents the subscale of the criterion variables, while the right hand side of the model represents the subscale of the predictor variables. The variables are factors affecting individual scale in the model. We formulate that there is positive correlation between consumption value and personal values that derive consumer preference behavior for fresh fish purchases. In other words, a high personal value is predicted to invoke high consumption value for consumer preference for fresh fish.

**3.4. Research Hypothesis**

H<sub>0</sub>: The consumption value of fresh fish has no association with the personal values of consumer preference behavior.



**Figure 1.** Research model for the relationship between personal and consumption value.

**4. Results and Discussion**

**4.1. Socio-Economic Characteristics of the Respondents**

The socio-economic characteristics of the respondents included sex, age, and marital status, level of education, monthly income, and household size.

The result in Table 1 showed that 67.5% of the participants were female, while 32.5% were male, indicating that women are more involved in the purchase of fresh fish for their homes than men, most (76.7%) of them were married, 19.2% was single, and 2.5% were widows and widowers while the remaining 1.7% were separated, implying that married people buy/patronize markets to buy fresh fish in the study area. The mean age of sample members was 41 years, indicating that they are still fairly young.

Individual may make informed decisions about what kind of foods they eat and how to take care of their health with

the help of education. Therefore, it is impossible to overstate the importance of education in helping consumers choose one product over another (Sagynbekova et al., 2021). The distribution of respondents by educational level is displayed in Table 1. According to the table, the majority of the survey participants (83.3%) had received formal education; this suggests that they are literate, which is predicted to impact their consumption preferences and the importance they place on consuming fresh fish. The study's findings also showed that 42.5% of interviewees' had finished higher education as their highest degree of schooling. This implies that respondents had a high educational background which should influence their personal values and also consumption values of fresh fish.

The household size of sampled member as presented in table 1 showed that majority (78.3%) had a household

size ranging from 4 to 6. The distribution of the respondents by primary occupation, showed that less than half (31.7%) of them were traders, 30.0% were civil servants and 22.5% were into farming as their primary occupation. The monthly income of the respondents is also captured on Table 1. This table showed that the highest (56.7%) income level is less or equal to ₦50,000 and the lowest (0.8%) income level among the respondents is greater or equal to ₦762,500. The mean level of income of the respondents was ₦73,165.35. This implies that most of the respondents' income level revolved around ₦73,165.35. It can also be deduced from this result that most of the respondents in the study area are low income earners, which is attested to by the fact that most of them are traders and this is expected to influence their consumption preference, personal values and consumption values of fresh fish. The percentage of an individual's monthly income they spend on food is to some extent important in determining the personal value of that individual (Sanjuan-Lopez and Resano- Ezcaray, 2020).

The respondents spent about ₦20,000 monthly on food which accounted for 42.5%, while a monthly income of about 56.7% was generated. Looking at the mean income level (₦73,165.35) of the respondents in the study area in relation to their mean monthly expenditure (₦28,500.00) on food, it can be deduced that they spend about one-third of their monthly income on the consumption of food and this is expected to have a positive influence on their personal values in the consumption of fresh fish in the study area.

The position/rank a person occupies in their occupation or community can determine to a reasonable extent the choice of preference of his/her consumption (Carmen, 2016). This could be the reason why a person will prefer a commodity over and above another commodity with similar attributes. The rank/position of the respondent in the study area is also presented in Table 2. This finding showed that 34.2% of the respondents own of their

businesses. This is understandable as most of the respondents are traders as can be seen on Table 1. This result also implies that decisions to buy or not to buy a commodity will not be difficult and can be greatly influenced by the psychological needs which the personal values of that individual can measure.

**4.2. Factor Analysis Related to Personal Values of Respondents**

Personal values are the constituents defining what is important in a person's life (Steiner and Tuljapurkar, 2012). Each individual has a lot of values different from each other. Personal values define the personal affinities and upset all kinds of peoples' choices and preferences (Paetz, 2021). Personal values are shaped by variables, such as security, reputation and upholding the position in the society. Individuals use these values to reach certain goals (Schwartz, 2016).

To measure the role of personal values on consumers' preference for fresh fish, the study employed seven dimensional scales that consist of 42 variables to achieve the goal. Before the application of factor analysis, a KMO was conducted and a score of 0.692 was obtained. The Barlett Sphericity Test obtained was statistically significant at 1% (0.861, P<0.01) (Table 2). This values indicate that, factor analysis is suitable for the study data. Similarly, the reliability of the scale was also checked by conducting a Cronbach Alpha Parameter test. The value obtained was 0.693 (Table 2). This value was approximated to 70%, which implied that the personal values scale used for this study is reliable (Candan and Yildirim, 2013). All the outcomes of the tests conducted justified the use of factor analysis on the data.

After these tests, factor analysis was run to eliminate the insignificant and much less informative variables that are in the personal values scale. As seen in Table 2, five (5) fundamental factors were extracted in the personal values scale for this study, based on the criteria that they feature on the first factor loading (Factor 1) of the factor analysis.

**Table 1.** Summary of socio-economic characteristics (n =300)

Characteristics	Categories	Percentage (%)
Gender	Male	32.5
	Female	67.5
Marital status	Married	76.7
Age	≤ 30	75.8
Level of education	Formal	83.3
	No Formal	16.7
	Completed Tertiary Education	42.5
Household Size	4-6	78.3
Primary Occupation	Trading	31.7
	Civil Servants	30.0
Monthly income from primary occupation	≤ 50,000	56.7
Monthly expenditure	≤ 20,000	42.5
Rank/Position in Primary occupation	Proprietorship	34.2
	Senior Officer	28.3

These are: self-direction (creativity, being curious, living an independent life, freedom), hedonism (being self-indulgent), achievement (capable, influential, intelligent, best, respectful), benevolence (responding to favour, being helpful, having true friendship, being honest, always forgiving, having responsibility, maturity in loving, being loyal, having meaning in life, being moderate, society problems), and security (family security, social order, being clean, living healthy, reciprocation of favour, having a sense of belonging and national security) in sequence. Two factors (stimulation and tradition) were eliminated because factor loads related to the variables could not be gathered under the first factor loading (Table 2).

**4.3. Factor Analysis on Consumption Value for Fresh Fish**

Factor analysis was conducted on the consumption value scale to trim down its multidimensional variables. The

KMO score (0.7360) was above the threshold of 0.70 as displayed in Table 3. This value showed that the consumption value scale has an acceptable validity. The Cronbach Alpha parameter test was found to be 0.9469, signifying that the consumption value scale is reliable and factor analysis can be performed on consumption value scale. The result provides evidence proving that our data and instrument were sufficient to predict the relationship between personal and consumption values for fresh fish

Table 3 reveals that the results of the factor analysis on consumption value were measured by five dimensions, which consist of 27 variables. Six of the variables were eliminated due to insignificant information in them. From the table, about 58.6% variance in the functional value scales was explained. All Cronbach Alpha scores obtained for each subscale were reasonably high.

**Table 2.** Factors related to personal values

Variable	Factor Loading	Variance (%)	Eigenvalue	Cronbach's Alpha
SELF-DIRECTION		0.4302	3.4	0.889
Creativity	0.7092			
Being Curious	0.6379			
Living an independent life	0.648			
Freedom	0.6255			
HEDONISM		0.7617	4.7	0.7855
Being pleasurable	0.8474			
Live delighted	0.9579			
Being enjoyable	0.8059			
ACHIEVEMENT		0.9247	5.201	0.9381
Capable	0.941			
Influential	0.9487			
Intelligent	0.99			
Best	0.968			
Respectful	0.9595			
BENEVOLENCE		0.8522	9.373	0.9831
Respond to favour	0.9072			
Being helpful	0.9526			
Having true friendship	0.7932			
Being honest	0.9529			
Always forgiving	0.9691			
Having responsibility	0.9472			
Maturity in loving	0.9464			
Being loyal	0.9304			
Having meaning in life	0.938			
Being moderate	0.9664			
Society problems	0.8336			
SECURITY		0.8461	4.949	0.9585
Family security	0.9411			
Security order	0.9155			
Being clean	0.9205			
Having a sense of belonging	0.9248			
National security	0.8968			
Total variance (%)			0.7422	
KMO			0.692	
Cronbach Alpha			0.6939	

**Table 3.** Factors analysis of consumption values

Variable	Factor loading	Variance%	Eigenvalue	Cronbach's Alpha			
<b>FUNCTIONAL VALUE</b>							
I buy fish due to low cholesterol	0.8005	0.7282	4.105	0.8902			
I buy fish because the price is reasonable	0.9034						
Numerous minerals in Fresh fish attract me to buy it.	0.8299						
I buy fresh fish because of it is body builder	0.9308						
I buy fish because it contains omega-3	0.7933	0.4857	3.6092	0.6047			
<b>EMOTIONAL VALUE</b>							
The joy of taking fish has no bound	0.8179						
I feel highly esteemed when I choose to buy fresh fish	0.6312						
Buying fresh fish makes me to feel like morally right	0.6306	0.5247	2.6658	0.7764			
Buying fresh fish makes me to feel like eating the best food	0.6753						
I don't entertain any fear when I consume fresh fish	0.7125						
<b>CONDITIONAL VALUE</b>							
I choose to buy fresh fish when meat price is too high	0.8121	0.5401	1.3612	0.6808			
I buy fresh fish because I hate red meat	0.6563						
I buy fresh fish because of its availability in the market	0.7593						
People consume fresh fish because of its health appeal	0.6574						
<b>SOCIAL VALUE</b>							
Consumption of fresh fish will improve my status	0.649	0.72243	3.3675	0.8935			
Consumption of fresh fish will be perceived as contribution to society	0.8174						
Consumption of fresh fish will help me to be environmentally conscious	0.7286						
<b>EPISTEMIC VALUE</b>							
Fresh fish is relatively abundant in my area	0.7904	0.60	0.7360	0.9469			
Free from pollutants	0.8584						
Method of fish culturing in my area makes me perceives it is environmentally safe for consumption	0.965						
Ease to prepare by me	0.7726						
Total variance (%)							
KMO							
Cronbach Alpha							

**Table 4.** Results of canonical correlation analysis

Function	Correlation coefficient (R <sub>c</sub> )	Canonical Root (R <sup>2</sup> )	Wilks' Lambda	F	P-value
1	0.536	0.287296	0.515	3.178	0.000
2	0.445	0.198025	0.723	2.36	0.002
3	0.296	0.087616	0.901	1.313	0.230
4	0.105	0.011025	0.988	0.346	0.847
5	0.035	0.001225	0.999	0.137	0.712

**4.5. Canonical Correlation Analysis**

The overall model fit for the relationship between personal values and consumption values of fresh fish is presented in Table 4. The table shows the canonical function, correlation coefficient, R-squared, eigenvalue and wilks' statistic. The results showed that the overall model was significant at the 1% level, with a Wilks's  $\lambda=0.52$  ( $F=3.18$ ,  $P<0.01$ ). Therefore, the effect size ( $r^2$ ) of the full model was 0.48 which indicates that the full model explained a moderate proportion of the dependent variables. In the table, only canonical functions 1 and 2 were found to be statistically significant at the 1% level. This result means the null hypothesis that the canonical correlation for a function equals zero is rejected. Consequently, we can also say that these two functions could explain the relationship between the personal values and consumption values for consumer preference. However, the first canonical root explained the larger part of the relationship set and was found statistically significant at the 1% level. Then, it is only the first part that will be interpreted. The correlation between the first pair, personal values and consumption values, was 0.536 while the second canonical function was 0.445.

**4.5.1. The relationship between personal values and consumption values**

Table 5 shows the orthogonal rotated output of standardized canonical covariates and canonical loadings. Our interpretation of the results is based on the level of significance of the model fitted, magnitude of canonical loadings and percentage of redundancy index. Although there is no general rule as regard the selection of the size of coefficient that are interpretable compared to factor analysis, but based on previous studies, the present study also reported only canonical variates whose absolute value is greater than 0.20 as cut-off point (Prera et al. 2014). The results in Tables 5 and 6 are presented according to Dattalo (2014) for easy

interpretation.

The personal values stand as the predictors while the consumption values are criteria here. The first two columns represent the coefficients and canonical loadings for personal values. The results showed that the redundancy index was about 0.08, suggesting that about 8% of the variance in the consumption values was explained by the variables in the personal values. From the second column of the first canonical variates, it shows that security ( $r=0.9806$ ) was more associated with personal values than benevolence ( $r = 0.6935$ ) and self-direction ( $r=0.4441$ ). The canonical variates for achievement ( $r=0.1398$ ) and hedonism ( $r=0.1881$ ) seem to have less influence on the consumer preference for fresh fish. In the same manner, the functional and emotional values are major determinants in the consumption of fresh fish. Hence, this result indicates that higher security of the consumers, benevolence and self-direction were associated with higher functional values (0.9690) and emotional values (0.6700). The finding in this study corroborates the findings of Candan and Yildirim (2013) on the analysis of the relationship between personal value and consumption value on green product buyers. This result indicates that people pay more attention to the physical appearance of the fish, to find out whether it is good for consumption, taste and benefits it will give to their bodies. The results show that fish consumers are proud of eating fish and wishing others to enjoy the same treatment. People who attach more importance to benevolence, security and self-direction, pay more attention to the emotional values in the demand for fresh fish. The canonical loadings of the first canonical function are more important in explaining the consumer behavior for fresh fish consumption since more than half (54%) of the total variance was explained by the first canonical function compared to the second function.

**Table 5.** Unrotated standardized coefficient and canonical loadings for set 1 and set 2

Variables	First Canonical Variate		Second Canonical Variate	
	Coefficient	Loading	Coefficient	Loading
Set 1-Personal values				
Benevolence	0.8292	0.8577	-0.2344	0.2446
Security	0.4571	0.7781	0.3676	0.3299
Self-Direction	-0.433	0.1936	-0.101	0.2382
Achievement	-0.2529	-0.0698	0.9706	0.9697
Hedonism	-0.0117	0.0553	0.0419	0.4533
Percent variance	9.62		6.7	
Redundancy	0.08		0.05	
Set 2- Consumption values				
Emotional value	0.9305	0.7303	-0.9494	-0.3185
Functional value	0.2895	0.6841	1.0048	0.4067
Conditional value	-0.5284	-0.1486	-0.4808	-0.3402
Epistemic value	-0.4013	-0.1362	0.3185	0.1135
Social value	0.1593	-0.0672	0.3234	0.2785
Percent variance	23.09		9.42	
Redundancy	0.060		0.02	
Canonical correlation ( $R_c$ )			0.536	



**Table 6.** Rotated standardized coefficient and canonical loading for set 1 and set 2

Variable	First Canonical Variate		Second Canonical Variate	
	Coefficient	Loading	Coefficient	Loading
IV = Personal Values				
Benevolence	-0.0135	0.6935	0.0451	0.2451
Security	1.0443	0.9806	-0.5906	0.0738
Self-Direction	0.0579	0.4441	1.3376	0.866
Achievement	0.0616	0.1398	0.006	0.1275
Hedonism	-0.2606	0.1881	-0.2504	0.5057
DV= Consumption Values				
Emotional value	0.1659	0.6700	-0.0641	0.3598
Functional value	0.9307	0.9690	0.0091	0.2108
Conditional value	0.0113	0.1914	0.0217	0.4414
Epstemic value	-0.2868	0.0619	1.192	0.9296
Social value	0.0266	0.0976	-0.4487	0.2150

DV= dependent variables, IV= independent variables.

### 5. Conclusion

The study concluded that the respondents in the study area have free opinions and place much value on actions that would bring about creativity, excitement, and innovations to achieve pleasure and individual joys, thereby maintaining and developing their families' welfare, interpersonal relations, security, harmony, and stability in the society. The results showed that there is a positive significant correlation between personal value and consumption value.

Hence, the hypothesis that the correlation between personal value and consumption value is equal to zero was rejected. The results concluded that respondents are loyal and consistent with what they believe will give them joy and contribute to their welfare. Respondents also are desirous of social security for all in the society. It is also worth to know that respondents in the study area are proud of their achievement such that the higher the respondent's position, the more s/he prefers fresh fish. Based on the findings of this study, the following recommendations are hereby put forward for improving as well as sustaining the marketing of fresh fish in the study area to ensure that consumers get the product they desire in the right form (form utility), in the right place (place utility), at the right price (possession utility), and at the right time (time utility) to fully satisfy the consumer.

Fresh fish marketers in the study area can increase their profits by targeting the packaging of fish in such a way as to excite consumers and increase their demand for their produce. Fresh fish marketers should pay more attention to the price-quality relationship, product's performance and content, and packaging quality, as most respondents place more value on maintaining and developing their families' welfare.

### Author Contributions

The percentage of the author(s) contributions is presented below. All authors reviewed and approved the final version of the manuscript.

	O.E.M.	S.B.J.	F.A.
C	100		
D	70	20	10
S	60	35	5
DCP	30	60	10
DAI	35	50	15
L	20	30	50
W	45	35	20
CR	30	50	20
SR	20	70	10

C=Concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision.

### Conflict of Interest

The authors declared that there is no conflict of interest.

### Ethical Consideration

Permissions were obtained from the Rufus Giwa Owo Ethics Committee (protocol code: 2021/27 and date: February 12, 2021).

### Acknowledgments

We appreciate all our respondents for their patience, cooperation, and time during data collection.

### References

- Altaf SN, Selvan P, Zolkifli H. 2017. Consumption values and consumer attitude towards automobile purchase. *Paradigms*, 11(1): 1-5.
- Andleeb N. 2016. Brand loyalty and consumption values: Empirical analysis of personal care products. *Arabian J Busin Manag Rev*, 6(5): 55-68.
- Cabrera SA, Williams CL. 2012. Consuming for the social good: Marketing, consumer citizenship, and the possibilities of ethical consumption. *SAGE J*, 40(3): 349-367.
- Candan B, Yıldırım S. 2013. Investigating the relationship between consumption values and personal values of green product buyers. *Int J Econ Manag Sci*, 2(12): 29-40.

- Carmen G. 2016. Peruvian Spanish speakers' cultural preferences in expressing gratitude. *Pragmatics*, 26(1): 21-49. <https://doi.org/10.1075/prag.26.1.02gar>.
- Chiu CM, Cheng HL, Huang HY, Chen CF. 2013. Exploring individuals' subjective well-being and loyalty towards social network sites from the perspective of network externalities: The Facebook case. *Int J Info Manag*, 33: 539-552.
- Colombo PE, Elimder LS, Lindroos AK, Parlesak A. 2021. Designing nutritionally adequate and climate-friendly diets for omnivorous, pescataria vegetarian and vegan adolescents in Sweden using linear optimization. *Nutrients*, 13(8): 2507.
- Dattalo P. 2014. A demonstration of canonical correlation analysis with orthogonal rotation to facilitate interpretation. Unpublished manuscript, School of Social Work, Virginia Commonwealth University, Richmond, Virginia, US.
- De Medeiros JF, José Luis DR, Marcelo NC. 2016. Influence of perceived value on purchasing decisions of green products in Brazil. *J Cleaner Prod*, 110: 158-69.
- Ertosun OG, Adiguzel Z. 2018. Leadership, personal values and organizational culture. *Strat Design Innov Think Busin Oper*, 2018: 51-74.
- GarcíaGo'meza B, Arranz AMGR, Cillan JG. 2012. Drivers of customer likelihood to join grocery retail loyalty programs. An analysis of reward programs and loyalty cards. *J Retail Consum Serv*, 19: 492-500.
- Gleim M, Lawson S. 2014. Spanning the gap: an examination of the factors leading to the green gap. *J Consum Market*, 31(6/7): 503-514.
- Gonçalves HM, Lourenço TF, Silva GM. 2016. Green buying behavior and the theory of consumption values: A fuzzy-set approach. *J Busin Res*, 69(4): 1484-1491.
- Han H, Hwan J. 2015. Norm-based loyalty model (NLM): Investigating delegates' loyalty formation for environmentally responsible conventions. *Int J Hospitality Manag*, 46: 1-14.
- Justin P, Jyoti R. 2012. Consumer behavior and purchase intention for organic food. *J Consum Market*, 29(6): 412-422.
- Khan SN, Mohsin M. 2017. The power of emotional value: exploring the effects of values on green products consumer choice behavior. *J Cleaner Prod*, 150(5): 65-74.
- Latter C, Phau I, Marchegiani C. 2010. The roles of consumers' need for uniqueness and status consumption in haute couture luxury brands. Australian and New Zealand Marketing Academy Conference, November 29, 2010. Christchurch, New Zealand, 33: 539-552.
- Neuman K. 1986. Personal values and commitment to energy conservation. *Environ Behav*, 18: 53-74.
- Ojianwuna CC, Enwemiwe VN, Odibo EO. 2021. Nutritional composition of some insects consumed in Delta State, Nigeria. *FUW Trends Sci Technol J*, 6(1): 141-145.
- Oleschuk M, Johnston J, Baumann S. 2019. Maintaining meat: Cultural repertoires and the meat paradox in a diverse sociocultural context. *Soc Forum*, 34(2): 337-360.
- Paetz F. 2021. Personality traits as drivers of social preferences: A mixed logit model application. *J Busin Econ*. 9(1): 303-332.
- Pankaj J, Anand K. 2022. An analytical study on consumption values and customers' green purchase intention: A case of university students in Haryana. *J Positive School Psychol*, 6(6): 9015-9022.
- Pojic M, Misan A, Tiwari B. 2018. Eco-innovative technologies for extraction of proteins for human consumption from renewable protein sources of plant origin. *Trends Food Sci Technol*, 75(5): 93-104.
- Popkin BM. 2002. The shift in the nutrition transition in the developing world differs from past experience. *Health Nutri*, 5: 205-214.
- Prera AJ, Grimsrud KM, Thacher JA, McCollum DW, Berrens RP. 2014. Using canonical correlation analysis to identify environmental attitude groups: Considerations for national forest planning in the southwestern US. *Environ Manag*, 54: 756-767.
- Sagynbekova S, Ince E, Ogunmokin OA, Olaoke RO, Ukeje UE. 2021. Sociammedia communication and higher education brand equity: The mediating role of eWOM. *J Pub Affairs*, 21(1): e2112.
- Sanjuan-Lopez AI, Helena Resano E. 2020. Labels for a local food speciality product: The case of saffron. *J Agri Econ*, 71(3): 778-797. <https://doi.org/10.1111/1477.9552.12376>.
- Schwartz SH. 1992. Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Adv Exp Soc Psychol*, 25(C): 1-65. [https://doi.org/10.1016/S0065-2601\(08\)60281-6](https://doi.org/10.1016/S0065-2601(08)60281-6).
- Schwartz SH. 1994. Are there universal aspects in the structure and contents of human values? *J Soc Issues*, 50(4): 19-45. <https://doi.org/10.1111/j.1540-4560.1994.tb01196.x>.
- Schwartz SH. 2016. Basic individual values: Sources and consequences. *Handbook of Value: Perspectives from Economics, Neuroscience, Philosophy Chapter 4*, pp: 63.
- Shaw D, Grehan E, Shiu E, Hassan L, Thomson J. 2005. An exploration of values in ethical consumer decision making. *J Consum Behav*, 4: 185-200.
- Shende V. 2014. Analysis of research in consumer behavior of automobile passenger car customer. *Int J Sci Res Public*, 4(2): 1-8.
- Sheth JN, Newman BI, Gross BL. 1991a. Consumption values and marketing choices. South-Western Pub.
- Sheth JN, Newman BI, Gross BL. 1991b. Why we buy what we buy: A theory of consumption values. *J Busin Res*, 22: 159-170.
- Sreen N, Purbey S, Sadarangani P. 2018. Impact of culture, behavior, and gender on green purchase intention. *J Retail Consum Serv*, 41: 177-189.
- Steiner UK, Tuljapurkar S. 2012. Neutral theory for life histories and individual variability in fitness components. *PNAS*, 109(12): 4684-4689.
- Suchánek P, Králová M. 2018. Customer satisfaction and different evaluation of it by companies. *Econ Res*, 31(1): 1330-1350.
- Tuninetti M, Ridolfi L, Laio F. 2022. Compliance with EAT-lancet dietary guidelines would reduce global water footprint but increase it for 40% of the world population. *Nature Food*, 3: 143-151.
- Woisetschläger DM, Lentz P, Evanschitzky H. 2011. How habits, social ties, and economic switching barriers affect customer loyalty in contractual service settings. *J Busin Res*, 64(8): 800-808.
- Zaidi SMM, Yifei L, Bhutto MY, Ali R, lam F. 2019. The influence of consumption values on green purchase intention: A moderated mediation of greenwash perceptions and green trust. *Pakistan J Commer Soc Sci*, 13(4): 826-848.
- Zehir C, Uahin A, Kitapçı Özşahin M. 2011. The effects of brand communication and service quality in building brand loyalty through brand trust; the empirical research on global brands. *Procedia Soc Behav Sci*, 24: 1218-1231.
- Zubair H. 2017. Impact of social, epistemic and conditional values on customer satisfaction and loyalty in automobile industry: A structural equation modelling. *J Market Consum Behav Emerg Market*, 1(5): 29-44.