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Article

Determinants of consumer satisfaction derived from the consumption of special tea (*Monsonia burkeana*)

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Abstract: This study investigated the level of satisfaction among consumers of special tea (*Monsonia burkeana*) in the Capricorn District Municipality, Limpopo Province, South Africa. It sought to identify the factors that influenced this satisfaction. A total of 225 respondents were selected using snowball sampling, and primary data were collected through structured questionnaires. Descriptive statistics were used to analyse consumer profiles and satisfaction levels, while multinomial logistic regression determined the factors influencing satisfaction across four categories: "Not satisfied at all", "Satisfied", "Not sure", and "Highly satisfied". The results revealed an average respondent age of 29.95 years and an average annual tea consumption of 4.684 uses, with over 50% of both male and female respondents expressing satisfaction. Regression analysis indicated that market access, cultural influences, income level, and the person introducing the tea significantly influenced dissatisfaction relative to high satisfaction. The income level was the only significant factor distinguishing "Satisfied" from "Highly satisfied". Gender, age, marital status, and employment type were significant predictors for "Not sure" compared to "Highly satisfied". These findings highlight the importance of developing the medicinal plant market, promoting cultural education, and implementing sustainable cultivation and conservation practices for *Monsonia burkeana*. Efforts to improve market access and address income disparities are also necessary to enhance consumer satisfaction and ensure the tea's continued availability and cultural relevance.

Keywords: special tea; satisfaction; medicinal plants; consumers and consumption

1. Introduction

Special tea is a perennial herb that grows annual stems from a woody base. The plant grows up to 60 cm and is characterised by long narrow leaves folded in along the midribs (Nzeru et al., 2016). The use of special tea as traditional medicine in the Limpopo Province and other places around the world comes a long way. With prevailing chronic diseases that people live with, the demand for special tea and its economic potential will continue to grow. Okaiyeto and Oguntibeju (2021) proffer that the African continent is richly endowed with diverse plant species that offer both nutritional and medicinal benefits. Approximately 80% of people in developing countries rely on traditional medicine for treating various diseases, largely due to indigenous knowledge, accessibility, and affordability. Special tea has the potential to break into the market due to its herbal benefits that serve as a source of income and a way of improving livelihoods among rural people. It is among the most appreciated and used medicinal teas in South Africa to treat numerous diseases (Woldensemayat et al., 2016). Moreover, Mamphiswana et al. (2011) indicate that people in some areas

of the Limpopo Province believe that special tea can cure certain diseases such as sexually transmitted diseases, clean blood, improve erector dysfunctional and enhance libido. Mudau (2022) also indicates that historically, bush tea has been used to purify blood and to treat headaches, boils, severe acne, sore throats, and hoarseness.

Compounds such as volatile oils, vitamins, minerals, purine, alkaloids and polyphenols were also found within the leaves of special tea by Hutching et al. (1996), Mamphiswana et al. (2010), Mamphiswana et al. (2011), Nzeru et al. (2016), and Tang et al. (2019). The aforementioned findings concurred with those of Ayyanar and Ignacimuthu (2005) who also reported the presence of medicinal properties within the plants' parts. As a result, Mamphiswana et al. (2010) and Chaachouay and Zidane (2024) state that, based on the medicinal properties found, special tea can be used for developing new drugs. Moreover, some studies have also revealed that people may benefit from the anti-diabetic and anti-cancer properties that special tea has (Mathivha et al., 2019; Ngoepe et al., 2018; Nnzeru et al., 2019). This is supported by the research conducted by Tshivhandekano et al. (2014) who investigated the chemical compositions and evaluated the antimicrobial activity between bush tea (Athrixia phylicoides DC.), and special tea. Their study indicated the presence of total polyphenols, and total antioxidants in both teas, with special tea having a significantly higher total of polyphenols and total antioxidants than bush tea.

Monsonia burkeana, commonly referred to as "special tea", stands out among herbal teas such as rooibos and chamomile in terms of its unique profile and consumer appeal. While rooibos is celebrated for its rich antioxidants and mild, naturally sweet flavour, and chamomile renowned for its calming properties and floral aroma, *Monsonia burkeana* offers a distinct combination of health benefits and sensory qualities (Malongane et al., 2020). Known for its potential anti-inflammatory and antimicrobial properties, as well as its subtle, earthy taste, *Monsonia burkeana* appeals to health-conscious consumers seeking functional beverages. Furthermore, its indigenous heritage and cultural significance in African traditional medicine contribute to its uniqueness, positioning it as a tea with both functional and experiential value. These attributes highlight *Monsonia burkeana*'s potential to carve a niche in the herbal tea market, making its exploration in the context of consumer satisfaction an important and timely contribution to the literature.

A reflection on the research that has been conducted by different scholars about the special tea, indicates without a doubt that the tea has been in use for decades and that it has a number of medicinal properties from which people can benefit. However, studies by Ndzeru et al. (2016) and Ledwaba et al. (2024) reveal that consumers of special tea prepare the tea differently and a number of additives are used. From a business perspective, this raises a question of whether consumers are able to derive the same level of satisfaction from the different aspects of the product's profile that they are able to establish. A number of studies looked at this area using medicinal teas other than special tea, but less has been done in as far as this area is concerned (Mary and Nuangjamnong, 2022; Surudhi, 2024). As a result, there is a need to understand the level of satisfaction derived by the consumers of this special tea and the factors that determine it. This work anticipates to generate knowledge in the field of consumer satisfaction theory, which according to Tripjono (2008) is a central concept in business and management discourse. Additionally, having an understanding of consumer

satisfaction could help markers in the niche area to improve their offering, leading to long-term and short-term sales growth, and market share. Hence, Paul et al. (2016) opine that either customer satisfaction or dissatisfaction is the gap between expectations before the purchase and the feelings after the purchase. This knowledge is necessary for the development of markets for medicinal teas in most emerging markets.

Currently, there is no doubt that people in the Limpopo Province and several other marginalised communities of South Africa use special tea for medicinal reasons. However, the level of satisfaction derived and the factors influencing satisfaction are not yet documented, to the researchers' knowledge. Generating information about consumer satisfaction from the consumption of medicinal tea is viewed as one of the key steps to determining the economic potential of medicinal teas. Therefore, apart from the health-related beliefs that the black African society has towards special tea, the researchers realised the need to gather information about both the level of consumer satisfaction and the factors determining the satisfaction. Studies cited by Halstead et al. (2007) indicate that customer satisfaction is central to marketing and remains one of the key objectives for companies (Morgan et al., 2005). Hence, it is important to gather information about the satisfaction consumers derive from using various products. The aim of this paper was realised through the following specific objectives:

1) To identify and describe the socio-economic characteristics of consumers and the level of satisfaction from the use of special tea in Capricorn District Municipality (CDM).
2) To analyse the socio-economic factors that affect consumers' level of satisfaction in CDM.

2. Materials and methods

2.1. Research data and location

The study was carried out in the Capricorn District from April 2019 to March 2020. The study area was selected because it is recognised as an area where special tea grows and numerous people from the area sell and consume it. From the district's total population, 96% were black African and most of them lived in informal rural settlements with an uneven distribution of wealth.

A survey questionnaire was used to collect data from the respondents and questions were asked about their socioeconomic characteristics, and the different attributes that the respondents used when preparing special tea. Likert scale type of questions were also developed for generating information about the level of satisfaction that the respondents generated from consuming special tea. Prior to data collection, the prepared questionnaire was used to apply for ethical clearance, where the instrument was validated for its reliability. Additionally, the questionnaire was reviewed at the departmental level. This was followed by pretesting the questionnaires for further validation and amendments. The data collection started by identifying a few respondents who met the criteria for the study, which entailed the following requirements: they should be consuming the product, be part of the target group and have knowledge about the use of special tea. The identified potential respondents were

interviewed and, in the process, they were asked if they knew other potential participants who met the criteria for the study. Thereafter, the researcher asked the respondents to refer them to other people who met the criteria. Thus, a series of referrals was formed through snowballing. The process was followed because there is no recorded population size for the consumers of *Monsonia burkeana*. Ultimately, 225 respondents from an unknown population size of consumers of special tea were identified for participation in the study. The sampling method was deemed suitable to the study because it is best suited for studies with hard-to-find respondents (Atkinson and Flint, 2001). However, this method may lead to a selection bias and because it is a non-probability model, the outcome may not generalise the entire population, although it is the best option for a research of this nature. As already stated, this technique can be biased towards a group of people who are connected to one another and exclude the participants who are isolated or have fewer social connections. This occurs when a group primarily consists of individuals with similar backgrounds and circumstances, rather than a randomly representative cross-section of the population. This process of sample size development assumed that a bond existed between the first sample and others in the same target population, which permitted a series of referrals to be made (Berg, 1988).

A cross-sectional study is a research design that involves gathering data from a diverse group of individuals at a single point in time (Thomas, 2023). This approach focuses on observing variables without manipulating them. Hence, the study used a cross sectional research design.

2.2. Analytical procedures

Descriptive statistics was used to profile the socioeconomic characteristics of consumers and their level of satisfaction through frequencies, percentages, mean, minimum, maximum and standard deviation. After considering the distinct nature of the dependent variable with ranked or ordered outcomes, the Multinomial logistic model was used to analyse the determinants of consumers' satisfaction.

Likert scale was used to gather information about satisfaction, where statements were given to the participants to select the level to which they were satisfied. The data was then analysed using the Statistical Package for Social Science (SPSS).

The dependent variable in the study was defined by five outcomes, measuring consumer satisfaction: (1) Not satisfied at all; (2) Not satisfied; (3) Not sure; (4) Satisfied and (5) highly satisfied. The expected different levels of satisfaction from consumers justified the use of a multinomial model in the study. Additionally, the model assumes that the probability of each category is modelled independently from others, which can be easier to interpret and fit; hence, it was selected. The analysis of this model requires the selection of a reference category from the five outcomes and the highly satisfied category was used as the reference for the analysis. The highly satisfied category was used as a base category because it was in the interest of the study that consumers move from all other levels to the highly satisfied category. In the analysis, the sign interprets the coefficient of the model, thus implying that a positive coefficient of the independent variable is more likely to make consumers choose the other category relative to the reference category. This is supported by Cheteni and

Mokhele (2019) who state that a positive value indicates an increase in the likelihood of an alternative category being selected.

The reduced form of the Multinomial logistic model as outlined by Greene (2003) is presented as;

$$\text{Prob}(y_i = j|x_i) = P_{ij} = \frac{\exp\,(_{\beta'_j} x_i)}{1 + \sum_{k=1}^{j} \exp\,(_{\beta'_k} x_i)}, \text{where } j = 0,1,2 \quad (1)$$

where: y_i is a parameter that represents the different levels of satisfaction derived from using special, x_i is a vector of all the explanatory variables of the i-th observation, β_j is a vector of all coefficients in the *j*-th regression, *j* is the identified outcome and *j* is the reference outcome.

Empirical model for the study:

$$\ln(\text{satisfaction}) = \frac{P}{1-P} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} \quad (2)$$

where:

β_1 = intercept

β_1 to β_{10} = regression coefficient

X_1 to X_{10} = variables included in the equation and they are described and measured as;

X_1 = Gender (1 if male, 0 female);

X_2 = Age (years);

X_3 = Marital status (1 married, 0 otherwise);

X_4 = Medical aid (1 have medical aid, 0 otherwise);

X_5 = Access to medicinal plant market (1 have access to market of medicinal plants, 0 otherwise);

X_6 = Who introduced you to special tea (1 church, 2 family member, 3 herbalists, 4 friend);

X_7 = Religion (1 Christian, 0 otherwise);

X_8 = Employment status (1 Unemployed, 2 Self-employed, 2 Employed part-time, 3 Employed full-time, 4, Pensioner);

X_9 = Income level per month in Rands (1 no income, 2 less than R400, 3 R400–R3500, 4 R3500–R5000, 5 R5000–R10,000, 6 R10,000–R20,000, 7 more than R20,000);

X_{10} = Level of educational (1 no schooling, 2 primary, 3 secondary, 4 tertiary, 5 other).

2.3. Description of variables used in multinomial regression analysis

Table 1 below presents a list of variables which were selected for analysis. The selection of each variable was influenced by a review of studies that looked at factors influencing demand, perception, willingness and the satisfaction derived from the use of medicinal tea. The table provides variables' description and how the variables were measured in the study.

Table 1. Description of variables used in Multinomial regression analysis.

Variable description for multinomial logistic model		
Dependent variable	**Abbreviation**	**Type of measure**
Level of Satisfaction	LVST	Categorical: 1 = not satisfied at all, 2 not satisfied, 3 not sure, 4 satisfied, 5 highly satisfied
Independent variables		
Description	**Abbreviation**	**Type and sign**
Age of the respondents	AGE	The actual age of respondents in years
Gender of the consumer	GEND	Dummy: 1 male, 0 female
Marital status of the respondent	MRT	Dummyl: 1 married, 0 otherwise
Medical aid	ACMID	Dummy: 1 yes, 0 no
Access to medicinal plants market	MRKAC	Dummy: 1 yes, 0 no
Who introduced you to special tea	WHITSP	Categorical: 1 church, 2 family member, 3 herbalists, 4 friends
Religion	REL	Categorical: 1 Christian, 0 otherwise
Employment status	EMPL	Categorical: 1 unemployed, 2 self-employed, 2 employed part-time, 3 employed full-time, 4 pensioner
Income level per month (in Rands)	INCL	Categorical: 1 no income, 2 less than R400, 3 R400–R3500, 4 R3500–R5000, 5 R5000–R10,000, 6 R10,000–R20,000, 7 more than R20,000
Level of Educational	LEVI	Categorical: 1 no school, 2 the primary level, 3 the secondary level, 4 the tertiary level, 5 other

3. Results

3.1. Socioeconomic characteristics of the consumers

It is clear from **Table 2** that most of the consumers of special tea's ages ranged between 17 and 43 years when considering the deviation around the mean while the youngest consumer was 16 years and the eldest was 78 years old. The results imply that consumers of special tea in the study area are still in their active age. The results further indicate that the number of times that consumers use special tea in a year ranges between 1 and 9. The mean value of 4.684 uses per annum had a standard deviation of 13, suggesting that most consumers use special tea 2 to 7 times a year in the study area.

Table 2. Socioeconomic characteristics of the consumers.

Variables	**Min.**	**Max.**	**Mean**	**Std. Dev.**
Age of the consumers	16	78	29.95	13.004
Number of uses per year	1	9	3.88	1882

Source: Researcher's compilation (2022).

Table 3 shows that a high number of consumers of special tea was single (64%) while 31% was married. This outcome is justified by an age range, which indicated that the sample was dominated by an age range of 16 to 42, when comparing the mean to standard deviation. This implies that a majority of the consumers was not married, although they may have needed the tea for various reasons (Period pain, high blood pressure, headache, erector dysfunctionality). Christian consumers accounted for 74%, cultural consumers accounted for 9%, followed by 17% who were categorised as

'others'. Christianity plays an important role in the use of special tea since a majority of the consumers (50%) were introduced to special tea through their churches, 33% knew about special tea through friends, herbalists whereas others introduced an equal number of consumers (8%) to special tea.

Table 3. Frequencies and percentages of binary and categorical socio-economic variables.

		Frequency	Percentage (%)
Marital status	Single	144	64%
	Married	70	31%
	Divorced	9	4%
	Widow	2	1%
Religion	Christian	167	74%
	Cultural	20	9%
	Other	38	17%
Who introduced you to special tea	Church	113	50%
	Friend	74	33%
	Herbalists	18	8%
	Other	18	8%
	Family	2	1%
Access to medicinal plants market	Yes	119	53%
	No	106	47%
Sources of supply for special tea	Own harvesting	155	69%
	Street market	47	21%
	Muthi-shops	16	7%
	Other	8	3%
Level of income	400 to 3500	86	38%
	3500 to 5000	41	18%
	5000 to 10,000	27	12%
	10,000 to 20,000	27	12%
	More than 20,000	16	7%
	Less than 400	21	10
	No income	8	3%
Occupation	Unemployed	57	25%
	Self employed	62	28%
	Employed part time	28	12%
	Employed full time	61	27%
	Pensioner	17	8%

Source: Researchers' compilation.

The results further indicate that more than half (57%) of the consumers had access to the market for medicinal plants, denoting that almost half (47%) of the consumers did not have access to the market for medicinal plants. This shows that people may be able to generate an income through the sale of special tea. Interestingly, most of the

consumers were able to harvest (69%) special tea on their own, while 21% and 7% of consumers bought the tea from the street and muthi-shops, respectively. It is worth noting that 28% of the consumers earned between R400 and 3500, respectively, whereas 24% earned between R5000 and R20,000, with only 7% earning above R20,000 per month. 25% of the consumers of special tea in the study were unemployed, while self-employed and full-time employed consumers accounted for 28% and 27% of the sample size, respectively. Implying that the majority of consumers have a source of income and will be able to pay for a special tea.

3.1.1. The educational level of the consumers relative to gender

Figure 1 shows the educational level of consumers of special tea relative to gender. It is evident from the figure that primary education had the highest number of both male (47%) and female (72%) consumers of special tea. The results further revealed males (42%) as consumers with the highest level of education compared to female (16%) consumers. Generally, the results mean that most of the consumers representing both genders had formal education. As such, they could tell whether they were satisfied with the use of special tea or not. They could also ensure that safety precautions were followed to a level of satisfaction.

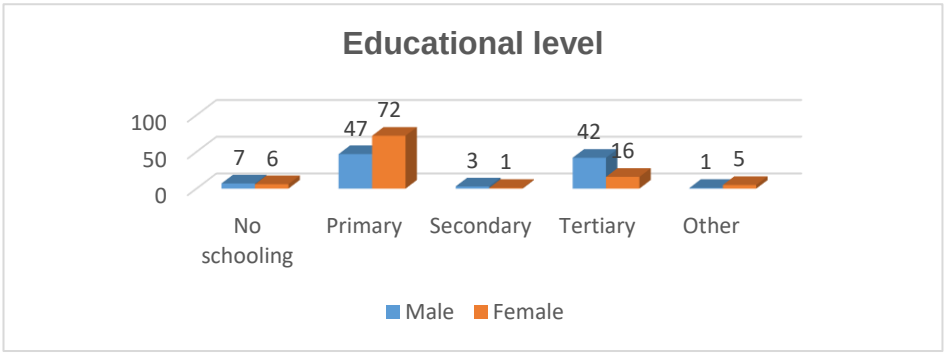

Figure 1. Educational level of the consumers relative to gender.

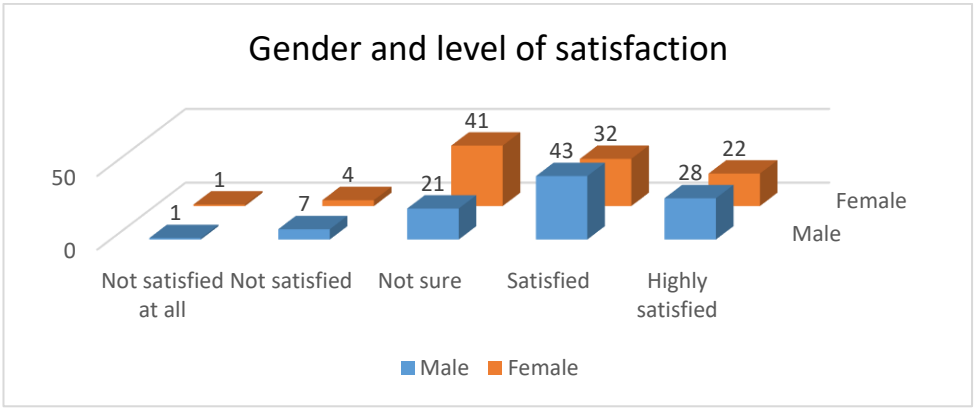

Figure 2. Gender and level of satisfaction from the use of special tea.

Descriptive results in **Figure 2** indicate that 1% of male and female consumers of special tea were not satisfied with drinking raw special tea. Cumulatively, 71% of male consumers were satisfied with consuming raw special tea as compared to 54% of male consumers who also indicated to be satisfied with the consumption of raw special tea, even if it is perceived to be bitter. 41% of female consumers reported being

unsure of their level of satisfaction compared to their male counterparts (21%). These results indicate that a less number of consumers were not satisfied with consuming raw special tea.

3.1.2. Level of satisfaction derived from the consumption of different special tea product profiles

Levels of consumer satisfaction were assessed based on four product profiles as presented in **Table 4**. The results were drawn from a Likert scale instrument using a five-point scale and are discussed as such. The first product profile involves the traditional method of preparing tea, which is referred to as alone in this case. The results show that 38.7% of the consumers who did not mix special tea with other products other than water were satisfied with the tea while 25.3% were very satisfied with the tea alone. On aggregate, approximately 7% were not satisfied. The consumers who were unsure of their level of satisfaction with special tea that is not mixed accounted for 28.9%. From the consumers who used milk as a complement to special tea, 53.3% of them were not sure of their level of satisfaction with consuming the prepared product profile.

Table 4. Level of satisfaction derived from the consumption of different special tea product profiles.

	Not satisfied at all	Not satisfied	Not sure	Satisfied	Very satisfied
Alone	0.9%	6.2%	28.9%	38.7%	25.3%
With milk	0.4%	0.9%	53.3%	28.0%	17.3%
With milk and FG Tea	1.8%	0.9%	70.2%	14.7%	12.4%
Joko and milk	0.9%	0.4	66.7	19.1	12.9

Source: Researchers' compilation.

The results further indicate that 45.3% of consumers who mixed special tea with milk were satisfied and 1.3% reported that they were not satisfied with the profile. Another product profile that was mentioned was a mixture of special tea with water, FG tea and milk. 70% of the consumers in the category were not sure of their level of satisfaction derived from consuming it, 2.7% indicated that they were not satisfied with the mixture and 27.1% of the consumers were able to derive some level of satisfaction from consuming the product profile. The results for the combination of Joko and milk showed that 32% of the consumers were satisfied with the combination, 66.7% were not sure of the level of satisfaction and 1.3% reported that they were not satisfied with the combination.

3.2. Multinomial regression model results

Determinants of consumer satisfaction from consuming special tea in the Capricorn District were analysed using a multinomial logistic regression model. The explanatory variables used included gender, age, marital status, access to medical aid, access to the medicinal plants market and who introduced you to special tea among others. Likert scale questions were used to generate information about the level of satisfaction derived and satisfaction was analysed based on more than one product profile as illustrated in **Table 5**. However, the multinomial regression was run only on

Table 5. Multinomial logistic regression.

	Not satisfied at all					**Satisfied**					**Not sure**				
	B	**S.E.**	**Wald**	**Sig.**	**Odd ratio**	**B**	**S.E.**	**Wald**	**Sig.**	**Odd ratio**	**B**	**S.E.**	**Wald**	**Sig.**	**Odd ratio**
Intercept	1.743	6.213	0.079			0.161	3.366	0.002	0.962		2.525	2.326	1.178	0.278	
Gender	−0.296	1.114	0.070	0.779		−0.150	0.514	0.085	0.771	0.861	0.963	0.433	4.939	0.026***	2.618
Age of consumers	−0.049	0.053	0.844	0.791	0.744	−0.044	0.029	2.321	0.128	0.957	−0.052	0.023	4.901	0.027***	0.950
Marital status	0.807	0.854	0.892	0.358	0.952	0.102	0.501	0.041	0.839	1.107	0.709	0.421	2.835	0.092*	2.032
Access to medical Aid	−3.935	1.490	6.973	0.345	2.241	−0.421	0.740	0.323	0.570	0.657	−0.458	0.614	0.556	0.456	0.632
Medicinal plants market access	−1.988	0.933	4.535	0.008***	0.020	0.718	0.476	2.277	0.131	2.051	−0.020	0.412	0.002	0.962	0.980
Who introduced you to special?	0.015	0.294	0.003	0.033***	7.300	−0.019	0.159	0.014	0.906	0.981	−0.164	0.135	1.475	0.224	0.849
Christian	−2.227	1.096	4.126	0.960	1.015	0.146	0.675	0.047	0.828	1.158	0.293	0.573	0.261	0.610	1.340
Cultural	−3.674	2.059	3.184	0.042**	0.108	0.303	0.871	0.121	0.728	1.354	−1.305	0.891	2.145	0.143	0.271
Unemployed	−1.016	2.854	0.127			−2.031	1.300	2.441	0.118	0.131	−0.952	1.005	0.897	0.344	0.386
Self-employed	1.636	2.514	0.423	0.722	0.362	−1.420	1.145	1.538	0.215	0.242	−2.281	0.945	5.823	0.016***	0.102
Employed part Time	0.078	2.875	0.001	0.515	5.132	−1.057	1.290	0.671	0.413	0.348	−1.845	1.072	2.963	0.085*	0.158
Employed full Time	−0.516	2.743	0.035	0.978	1.081	−1.041	1.180	0.778	0.378	0.353	−1.580	0.958	2.720	0.099*	0.206
No income per month	1.341	2.134	0.395		0.293	1.260	1.284	0.964	0.326	3.525	0.163	1.055	0.024	0.877	1.178
Less than 400 per month	4.666	1.891	6.092	0.530	3.822	1.164	1.110	1.100	0.294	3.204	1.174	0.901	1.699	0.192	3.235
R400 to R3500 per month	2.803	2.037	1.893	0.014***	106.278	0.307	1.129	0.074	0.786	1.359	0.912	0.883	1.066	0.302	2.489
R5000 to 10,000 per month	2.429	1.954	1.546	0.169	16.498	1.883	1.102	2.920	0.087*	6.573	1.518	0.937	2.622	0.105	4.562
10,000 to 20,000 per month	1.957	2.030	0.930	0.214	11.345	0.810	1.050	0.595	0.440	2.248	0.702	0.863	0.661	0.416	2.017
Primary	0.111	3.974	0.001	0.462	0.035	1.302	2.310	0.318	0.573	3.677	−0.380	1.268	0.090	0.764	0.684
Secondary	−0.105	5.616	0.000	0.978	1.117	3.024	2.721	1.235	0.266	20.574	−0.239	2.127	0.013	0.910	0.787
Tertiary	−0.582	4.038	0.021	0.985	0.901	1.378	2.341	0.346	0.556	3.967	−0.225	1.305	0.030	0.863	0.798
The goodness of fit results															
	Chi-Square			**df**	**Sig.**										
Pearson	9368031585485.598			420	0.000										
Deviance	436.865			420	0.275										

Significance levels: 1%***, 5%**, 10%.

one product profile, which is a special tea that is prepared through boiling with water only. The distribution of the dependent variable, as shown in **Table 5** was based on outcomes; not satisfied at all, not satisfied, not sure, satisfied and highly satisfied. The multinomial regression results are presented in **Table 5**. The relationship between the dependent variables and independent variables is explained by the measures of goodness of fit. From the analysed results, the model fitted well with the data and the Pearson output was reported to be significant at 0.000 level of significant. The deviance was insignificant at 0.275 and indicated that the multinomial model fit well with the data. The variables were also subjected to a multicollinearity test and the variance inflation factors for the variables were less than 10 indicating the absence of

Interco relations among variables.

3.2.1. Not satisfied at all highly satisfied reference category

Access to the medicinal plants market

As presented in **Table 5**, the variable access to the market for medicinal plants for outcomes was designated as 'not satisfied' relative to 'highly satisfied', and was found to be statistically significant at 0.008 with a coefficient of −1.988. This implied that, if market access was improved by one unit, the multinomial log-odds of not being satisfied relative to being highly satisfied would decline by 0.02 units. This further implies that there is a positive relationship between improved market access for medicinal plants and the level of satisfaction derived from using special tea, meaning suppliers of special tea can boost their profit by improve to their markets. Similar results were reported by Ariyo and Ariyo (2018) who found nearness to the forest positive and significant towards the use of medicinal plants. It is worth noting that distance is one of the determinants of market access.

Who introduced you to special tea?

The coefficient for the variable 'who introduced you to special tea' under the category of not satisfied was estimated to be positive at 0.015 with a significant *p*-value of 0.033. The multinomial logit results indicate that consumers of special tea are 7.3 times more likely to remain dissatisfied relative to being satisfied when they are introduced to special tea through church. These results imply that the use of special tea is not dependent on who introduced one to the tea and it should therefore be promoted based on its uses or benefits consumers stand to gain from using it. Additionally, the outcome indicates the importance of communicating the benefits that the product has through advertising, product branding and documenting. Findings by Xiong et al. (2017) and Ariyo and Ariyo (2018) indicate the family to influence consumers' willingness to pay and use of medicinal plants, respectively, which agrees with the findings from the study about influence on the level of satisfaction.

Religion

The variable religion was found to be significant at 5% and it had a negative relationship with the alternative category 'not satisfied' relative to being 'highly satisfied' after consuming the special tea. When all other factors are held constant, the likelihood of consumers not being satisfied are expected to decrease by 0.108 odds relative to being highly satisfied. These results highlight religion as one of the factors that positively influence level of satisfaction derived from using special tea. By leveraging on religious teaching from different ethnic groups, people can foster growth and development in this sector, by investing in the production, distribution and marketing of special tea. Accordingly, the findings agree with Ariyo and Ariyo (2018) and Usifoh and Udezi (2013),where religion was reported to have an influence on the use of medicinal plants.

R400 to R3500 per month

From the analysis, the variable income (R400 and R3500) was observed to be positively significant at 5% level. The possible implication of this variable is that if the number of respondents who earn between R400 and R3500 increases by one unit, the odd of not being satisfied at all versus being highly satisfied is likely to be higher

by 106.278. This result suggests that there is a negative relationship between being highly satisfied and consumers who earn between R400 and R3500. However, it is possible that consumer preference between modern alternative medicine and special tea could be the contributor to the outcome, suggesting the need to improve the provision, preparation, packaging and processing of traditional medicine such as special tea. A comparable outcome was reported by Usifoh and Udezi (2013) and Uzundumlu et al. (2019) who indicated that having social security increased the use of medicinal plants among people.

Satisfied and highly satisfied reference category

From the 10 variables used to run regression under the satisfied alternative category, only one variable (R5000 to 10,000 per month) was found to be positively significant at 10% level. This implied that, when the value of consumers who earn between R5000 to 10,000 increases by one unit, the probability of being satisfied as opposed to be highly satisfied would more likely increase by 6.573. These results mean that consumers who earn between R5000 and R10,000 are satisfied with the use of special tea for their health. From a business perspective, this implies that sellers of the tea should consider segmenting their customers according to income group. Segmentation will also provide the traders with a better view of who are their primary users of the product and marketing can then be developed to cater for the current and potential users of special in line with different income groups. The results are line with Uzundumlu et al. (2019) and Mohamad et al. (2019) who proffer that having an income contributes positively to the use of herbal medicine. The results indicate that traditional medicine can be beneficial to people of all class.

3.2.2. Not sure at all highly satisfied reference category

Gender

The variable gender of the consumers was found to be significant at 5% level (*p*-value at 0.026) with a positive coefficient of 0.963. The sign of the coefficient for this variable implies that, the multinomial log-odds for not being sure of level of satisfaction as compared to being highly satisfied is more likely to increase by 2.618 units when the male respondents are increased by one unit ceteris-paribus. These findings imply that male consumers may be more cautious in expressing their satisfaction after using the tea. To the sellers of the tea, it might be important to tailor product offering to address factors that can increase certainty. This finding agrees with Omonona et al. (2012) and Alqethami et al. (2020) who found the variable gender to have a significant influence on the people preference towards medicinal plants.

Age

Age was found to be significant at 0.027 level of significant (5%) and reported the odd ratio of 0.950 units. The outcome for the variable age indicates that the likelihood of consumers not satisfied relative to being highly satisfied is more likely to decline by 0.950 odds. This outcome implies that there is a positive relationship between being highly satisfied and the age of the consumers, as opposed to being dissatisfied. The result is backed by the idea that consumers with years of experience using medicinal plants are likely to acquire a greater knowledge of how to prepare the special tea, which in turn can enhance their satisfaction by incorporating attributes that

improve its taste and appeal. The aforementioned statement is confirmed by Mahomoodally and Mooroteea (2021), who reported that most of their respondents (58.4 %) used additives in the preparation of herbal remedies. In this study, 49% of the consumers preferred to add some products when preparing special tea. This outcome is in line with Ariyo and Ariyo (2018) who found age to be positive and statistically significant towards the use of medicinal plants.

Marital status

The marital status of the respondents was found to be significant at 10% level with a positive coefficient of 0.706. The sign of the coefficient with respect to the likelihood of being not sure of the level of satisfaction relative to highly satisfied implies that as the score of married respondents increases by one unit, the probability of not being satisfied at all relative to highly satisfied increases by 2.032 units after consuming special tea. These results indicate that married people are uncertain about their level of satisfaction on the use of special tea, suggesting that marketers of special tea may want to explore if there are underlying factors influencing married people's perception of the tea. However, the findings are aligned with Mohamad et al. (2019), who revealed that marital status has a significant influence on the use of herbal medicine.

Self-employed

The variable was found to have a negative coefficient of −2.281 and significant at 5% level. This multinomial logistic outcome means that as consumers who are self-employed increase by one-unit, the likelihood of not being sure of the level of satisfaction relative to being highly satisfied decreases by 0.102 units. The results are aligned with the research findings by Picking et al. (2011). To the sellers of special tea, the outcome may imply that self-employed consumers have a different pattern of satisfaction, which could be influenced by specific factors that must be explored to improve marketing activities.

Employed part-time

The variable was observed to be significant for consumers who were not sure of their level of satisfaction relative to being highly satisfied. The variable was significant at 10% with a beta coefficient of −1.580 and odds ratio of 0.158. The findings predict that for every one-unit increase in the number of consumers employed part-time, the chances of consumers not being sure of their level of satisfaction as opposed to being highly satisfied is more likely to decrease by 0.158 units. It can be deduced from this outcome that part-time employed people can be a reliable market segment for sellers of special tea and they should be prioritised when advertising the tea. The results are similar to those of Rahayu et al. (2020).

Employed full-time

The variable was found to be significant at 10% level and had a negative coefficient of −1.580. This suggests that as the number of consumers who are employed full-time increases by one unit, the multinomial log odds of not being satisfied relative to being highly satisfied is more likely to decrease by 0.206 units. According to this outcome, full-time employed consumers of special tea are more likely to move from being satisfied with the use of special tea to being highly satisfied,

identifying the full-time employed people as a potential market to be explored by sellers of special tea. The same outcome was reported by Rahayu, et al., (2020), where occupation was found reported to have a relationship with the use of medicinal plants as well as Picking et al. (2011).

4. Conclusion and recommendations

The study has revealed that people in the study area were satisfied with the use of special tea and that they used a number of additives when preparing the tea. Most respondents were single and mainly had both primary and tertiary education. A majority of the respondents were employed and able to harvest their own special tea. From the regression results, the establishment of the medicinal plants market is recommended because almost 50% indicated not having access. Furthermore, an increase in age was found to have an influence on the use of special tea. It is imperative for people to preserve their culture because religion was reported to have an influence on the use of special tea. As a result of snowball sampling, there could be an element of homogeneity in the study because the selected sample was based on referrals. This could lead to a situation where a group of people with similar traits might have been selected. It is also possible that consumers who were not part of the network of the sampled population were isolated.

4.1. Recommendation from the study

Enhance Market Access: Suppliers should improve infrastructure, expand distribution channels, and ensure consistent supply chains to increase access to markets for medicinal plants, which will drive consumer satisfaction.

Segment by Income: Special tea sellers should tailor their offerings based on income groups. Premium versions could be targeted at high-income consumers, while affordable options can cater to those with lower incomes (R5000 to R10,000).

Cater to Occupation-Based Preferences: Sellers should customise products for different occupations. For example, part-time employees may prefer ready-to-drink or easy-to-prepare options, while self-employed individuals may prioritise the therapeutic benefits of the tea. Promotions and discounts should also be tailored to these segments.

4.2. Areas for further research

Longitudinal studies could help understand long-term consumer satisfaction with special tea by tracking how factors such as income, occupation, market access, and product quality influence satisfaction over time.

Future research could also explore how occupation (self-employed, part-time, full-time) affects attitudes toward herbal products, which could inform targeted marketing strategies for people with different work-life patterns.

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