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THE EFFECTS OF SELF-ESTEEM AND VULNERABILITY TO ILLNESS ON PERCEIVED QUALITY OF "PURE" WATER.

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Abstract
This research was carried out to find out the effects of self-esteem and illness vulnerability on perception of quality of water packaged in cellophane bags, popularly known in Nigeria as "pure water". The interest in "pure water" stemmed from the increase in the packaging, marketing, and consumption of the commodity in Nigeria and the health implications for millions of the nation's citizens and residents who consume pure water.

Participants in the research, whose design was ex post facto, were drawn from the general student population of the University of Ibadan, Nigeria. They were two hundred in number consisted of one hundred males and one hundred females aged between 17 to 32 years. All participants were resident on the campus of the University of Ibadan.

In all, four hypotheses were tested using t-test and two-way analysis of variance (ANOVA) statistics. Findings in respect of hypothesis one revealed a significant difference between the mean scores of people with high self –esteem and the mean score of those with low self esteem in their perception of the quality of pure water. Thus, the hypothesis was supported (t =3.50, df = 198, P<.05).

In hypothesis two, findings indicated that there was no significant difference between the mean scores of people with high self-esteem and the mean scores of people with low self esteem in their perception of the quality of bottled water (t-=0.66, df = 198, p> .05). Thus the hypothesis was not supported.

With regards to hypothesis three, results showed that there was no significant difference between the mean scores of people with high illness vulnerability and the mean scores of people with low illness vulnerability as regards their perception of the quality of pure water. Similarly, the hypothesis was not supported.

Lastly in hypothesis four, results showed that although there was a significant independent effect of self-esteem on the perception of the quality of pure water, the interaction of self-esteem and illness vulnerability did not produce significant effect on people's perception of the quality of pure water. Thus, hypothesis four was only partially supported.

It was suggested that since self-esteem and illness vulnerability individually affected people's perception of the quality of pure water, it will be advisable for producers of pure water to improve on the quality and packaging of their products towards wider market coverage, maximum profitability, and consumer health.

Introduction

The mass entry of Nigerians into water (pure water) packaging and marketing business in recent times has been received with mixed feelings. On the one hand, the activities of pure water producers and dealers have led to the availability of water to thousands, indeed, millions of Nigerians wherever and whenever water is needed. On the other hand, the health of the generality of Nigerians has been in serious jeopardy owing to the unsafe water that many of such water producers and dealers package and distribute for consumption by and among Nigerians. It has been observed that the upsurge in pure water business in Nigeria is largely due to the prevailing harsh weather condition as well as the inadequacies of the successive government in providing clean and portable water supply. Indeed, pure water business in Nigeria has grown to the extent that it seems to have reduced the market share of bottled and generally more expensive water considerably.

Over the years, successive governments at different levels through the various water corporations have failed to come up with an effective network for the supply and distribution of portable water in Nigeria. Their problems are blamed on the scarcity of necessary chemicals for the treatment of water, scarcity of skilled manpower, negligence and corruption, alongside other factors. Also contributing to the scarcity of portable water is the rate of population increase in our rapidly developing cities and urban centres.

Another major contributing factors to the upsurge in the pure water business is the prevailing economic condition in the country which is characterized by high level of poverty and unemployment. Pure water business sort of creates self-employment opportunities for people who can afford to package water for sale whether treated or not. And the sale is readily embraced as long as it is affordable with little or no consideration for the quality of the product.

Packaged water falls under two broad categories, mineral water and table water. Mineral water refers to the water that springs out from rocks which is believed to be the cleanest source of water. This is due to the fact that it's filtration is done naturally by the permeable rocks, so also does it come rich in minerals which are essential in the human body. Table water on the other hand refers to water gotten from any other sources especially bore holes which is processed and given the required treatment to make it fit for human consumption. This is regardless of the mode of packaging be it plastic bottles or cellophane bags.

Really, there is nothing wrong with the packaging of water for sale if the standard quality could be guaranteed. Before the quality of water can be certified, it must have undergone at least the following processing in a very hygienic environment. The first thing that is done at the treatment plant is the passing of the water through the composite filter and the activated carbon in order to get rid of any taste, odour and colour which might be present in it. Next, it is pumped into the micro filters, this removes all that might still be present in the water that is not visible to the naked eyes. At this stage the water will appear very clean, tasteless and odorless. Bringing us to the final stage where the water is passed through an ultra-violet lamp which destroys any micro-organism that might have found it's way into the water. All the aforementioned guarantee the quality of the water as well as the safety of the consumer.

It has been widely observed that alongside the pure water producers who maintain safety and health standards, many other producers of pure water in Nigeria just label cellophane bags, fill it up with any kind of water with little or no effort made to treat it, seal it up and introduce it to the market as pu6re water (NAFDAC, News, 1998).

At a national workshop on quality appraisal in processed and consumable water in April 1996, the then Director General of the National Agency for Food and Drug Administration and Control (NAFDAC) Professor Gabriel Osuide explained that the risks involved in the consumption of unwholesome water are too grave for contemplation. The risks, he said included contacting water borne diseases such as diarrhoea, typhoid, cholera and guinea worm among others. He

also said that there are also additional cases of unsavouring social and economic effects for the consumers (NAFDAC, News 1996).

Despite the fact that people are aware that the quality of most of the packaged water cannot be guaranteed, the business is at the peak of its boom. Also, the prevailing socio-economic situation in the country is such that has left a wide gap between the rich and the poor. This, no doubt has a significant psychological impact on the masses, including the difficulty to bridge the gap between the actual-self and the ideal – self. The discrepancies in self-concept could have a devastating effect on individuals' self–esteem. This is aside the fact that the degree of illness vulnerability of an average Nigerian has been declining due to the continued decrease in citizens' quality of life.

Statement of Problem

The flooding of our markets with all sorts of packaged water irrespective of its perceived and real advantages, no doubt, has a significant contribution to the incidence of water borne diseases. It not uncommon to hear people complain of the substandard quality of some of these pure water brands in terms of odour, taste, and packaging in spite of the apparent cleanliness. It is also worth noting that to a reasonable extent, a person's readiness to consume pure water depends on whether he or she is vulnerable to certain illnesses.

The issue of self-esteem and it's effect on peoples' perception of product quality considering the prevailing socio-economic situation is also something that is worthy of being given serious attention. The consumption pattern of individual persons largely depends on their self-esteem. So discussing water consumption trend in Nigeria entails discussing self-esteem as well.

Purpose of Study

It is necessary to know the contributions of some psychosocial factors to people's perception of the quality of pure water, so as to be able to make some necessary recommendations that will help in promoting the health of consumers as well as improve the lots of our people.

The purpose of this research, therefore, is to identify and assess the effect of self-esteem and people's vulnerability to illness on their perception of the quality of packaged water.

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Relevance of Study

Apart from investigating the extent to which people positively perceive pure water and their perception of their body system's vulnerability to illness, this research will also reveal how the self-esteem and vulnerability to illness propel people to or repel them from consuming pure water.

The result of the study will help uncover which aspects of the pure water packaging and distribution processes consumers will appreciate improvements in and how much of such improvements will be required.

The study will also help the relevant regulatory body, NAFDAC to carry out its duty of regulating water packaging, distribution and consumption more effectively.

Hypotheses

The following hypotheses were tested.

1. People with high self-esteem will have significantly more negative perception of quality of pure water than people with low self-esteem.
2. People with high self-esteem will have significantly more positive perception of quality of bottled water than people with low self-esteem.
3. People with high illness vulnerability will have significantly more negative perception of pure water than people with low illness vulnerability.
4. People with high self-esteem and high illness vulnerability will have significantly more positive perception of pure water than people with low self-esteem and low illness vulnerability.

Operational Definition of Terms

Pure Water: - Used in Nigeria to mean any form of processed water packaged in cellophane bags for drinking purposes.

Bottled Water: - Refers to processed water packaged for drinking purposes enclosed in plastic or glass bottles

Self Esteem: - An individual's evaluation of his or her self worth

Illness Vulnerability: - This refers to the likelihood or probability that an individual will fall sick based on his or her health practice and habits.

NAFDAC: - National Agency for Food and Drug Administration and Control-a statutory food and drug regulatory body of the Federal Republic of Nigeria.

Design

The research design was ex-post facto, meaning that the researchers did not have control over the variables of interest. In this regard, the self-esteem and illness vulnerability of participants as well as participants' perception were already in existence before the researcher observed them.

Each of the variables in the study had two levels or dimensions. Self-esteem and illness vulnerability (both independent variables) each occurred at high/low levels while the dependent variable, perception, was investigated in respect of pure water quality and bottled water quality.

Participants

These were drawn from the general student population of the university of Ibadan. They were 200 undergraduate students (100 males and 100 females) who cut across the university's various faculties and halls of residence. Their ages, ranging from 17 to 32 years, had a mean of 23.22 and a standard deviation of 3.19. No ethnic or religious consideration was given during the selection of participants.

Instrument

A Likert type questionnaire was used for this study. The questionnaire consisted of five sections, all of which the participants were expected to respond to.

Section A of the questionnaire tapped participants' demographic information.

Section B, developed by Adanijo and Oyefeso in 1986 and revalidated several times, had 15 items. It assessed participants' self esteem. Its initial reliability coefficient was .77.

Section D assessed participants' perception of the quality of bottled water. It had 12 items equally appearing in the Likert format. The coefficient Alpha for the scale was .79 while its split half coefficient was .69.

Lastly, section E assessed participants' illness vulnerability. The scale, with 14 items, equally had the Likert format with its scoring ranging from 5 (strongly Agree) to 1 (Strongly Disagree). It had a coefficient alpha of .82 and a split half reliability coefficient of .80.

Pilot Study

For all the instruments, a pilot study involving 30 participants with the same demographic attributes as participants in the main study was conducted to establish psychometric properties. Following the pilot study, some items on the

questionnaire that had scores of less than .30 on the item total correlation analysis were discarded. This led to the generation of more items especially for the product quality perception scales.

When the new items were introduced, the item analysis was done again in a second pilot study that involved twenty other respondents with similar attributes as those in the first pilot study and the main study.

Procedure

The questionnaire was randomly administered to one hundred male and one hundred female participants across the university's various faculties and halls of residence. The questionnaire carried clear instructions on them. Respondents were informed that the exercise was for research purpose and that individual responses would be treated confidentially.

The respondents were generally informed that the study intended to study their (respondents) perception of pure water, which now has uncountable number of brands.

Statistical Analyses

The t-test for independent samples and two-way analysis of variance (ANOVA) were used to in test the main and interaction effects of the independent variables on the dependent variables.

Results

The aim of this study was to examine the effects of self-esteem and illness vulnerability on perceived quality of packaged water. Four hypotheses were tested using t- test for independent samples and two- way ANOVA statistics.
In hypothesis one, it was hypothesized that people with high self-esteem will have significantly more negative perception of the quality of pure water than people with low self-esteem.

Table 1: Summary table of t-test for independent samples showing the effects of high and low self-esteem on perceived quality of pure water.

			N	Mean	SD	DF	T	P
Perceived quality of pure water	Low self esteem		92	24.00	5.04	198 (s)	3.50	<.05
	High self esteem		108	21.74	4.08			

The result in Table 1 shows that there is significant difference between the mean scores of people with high self –esteem and people with lows self-esteem in their perception of the quality of pure water. Thus, hypothesis 1 is supported by this result (1 =3.50, df = 198, P<.05)

Hypothesis 2 stated that people with high self-esteem will have a significantly more positive perception of bottled water than people with low self-esteem

Table 2: Summary table of t-test for independent samples showing the effects of high and low self-esteem on perception of quality of bottled water.

			N	Mean	SD	DF	T	P
Perceived quality of bottled water	Low self esteem		92	35.93	7.16	198 (N.S)	0.66	<.05
	High self esteem		108	35.28	6.95			

The result as shown in table 2 indicated that there is no significant difference between the mean scores of people with high self-esteem and people with low self esteem in their perception of the quality of bottled water (t-=0.66, df = 198, p> .05). Thus, hypothesis 2 was not supported by the result.

In hypothesis 3 it was stated that people with high vulnerability to illness will have a significantly more negative perception of the quality of pure water than people with low vulnerability to illness.

Table 3: Summary table of t-test for independent samples showing the effects of high and low illness vulnerability on the perceived quality of pure water.

		N	Mean	SD	DF	T	P
Perceived quality of pure water	Low illness vulnerability	100	22.82	4.65	198 <.05 (N.S)		0.12
	High illness vulnerability	100	22.74	4.72			

As could be seen in Table 3, hypothesis 3 was also not supported by the result of this study, as there was no significant difference between the mean scores of people with high illness vulnerability and those with low illness vulnerability as regards their perception of the quality of pure water.

Table 4: Summary table of two-way ANOVA showing the effects of self-esteem and illness vulnerability on the perceived quality of pure water.

Source	SS	df	Ms	F	P
Total	4348.32	199	21.85		
Self esteem	261.27	1	261.27	12.53	<.05 (s)
Illness vulnerability	8.01	1	8.01	0.38	>.05 (NS)
Esteem vulnerability	5.65	1	5.65	0.000	>.05 (N.S)
Error	4086.73	196	20.85		

Result in Table 4 indicated that although the result shows that self esteem has a significant main effect on people's perception of the quality of pure water, the interaction of self esteem and illness vulnerability has no significant effect on people's perception of the quality of pure water. Thus, hypothesis 4 was only partially supported by the result of this study.

Lastly in hypothesis 6, it was stated that people with high self esteem and high illness vulnerability will have significantly more positive perception of pure water than people either low self esteem and low illness vulnerability.

Discussion and Conclusion

The findings of this study show that people with high self-esteem will have a significantly more negative perception of the quality of pure water.

This was in line with the work of Baumeister, Tice and Litton (1989) who proposed that persons who are high on there level of self – esteem are motivated by different concerns compared with individuals who rate low in self esteem. They stated that people with high self esteem are motivated by a concern for self-enhancement, which includes prestige and public image.

It will not be wrong, then to say that people with high self-esteem see pure water as not befitting their public image. This is presumably the cause of the negative perception. Cohen (1959) in his work, also indicated that people with low self esteem tend to devalue themselves, which we could also say is in support of the first hypothesis.

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The first hypothesis was also supported by the work of Ehigie and Babalola (1995) that people's personality can be judged from their attitude to products; just as their attitude to products can be used to judge their personality.

This study revealed that people with high level of self-esteem do not differ significantly from people with low self-esteem in their perception of the quality of bottled water. This is an indication that both people with high self-esteem and people with low self-esteem perceive the quality of bottled water in the same way. This could imply a gross positive evaluation of bottled water from both high and low self-esteemed people.

The study revealed also, that people with high illness vulnerability do not differ significantly from people with low illness vulnerability in their perception of the quality of pure water. This is likely to be because they perceive pure water as having been treated and more fit for drinking than other sources of water supply like the well, bore hole and even the public water supplies. The fact that the water has been packaged in cellophane bags creates a kind of illusory effect of treatment n the consumers.

Another major finding of this study was that there was no interaction effect of self-esteem and illness vulnerability on the perception of the quality of packaged water. In other words, self-esteem and illness vulnerability do not jointly determine peoples perception of this quality of packaged water.

Implication of Findings

Since findings of this research have shown that there is significant difference between people with high self-esteem and people with low self-esteem in their perception of the quality of pure water, it, therefore, implies that people with high self-esteem are more likely to avoid the purchase of pure water. They are likely to see it as not boosting their public image or simply, not good enough for them. For producers of packaged water to capture more people with high self-esteem, therefore, they will have to include plastic or glass bottles in the packaging of their products to suit their high self-esteemed customers. Another way pure water producers can attract the high esteemed people to their products (pure water brands) is to significantly improve on their quality of pure water treatment as well as cellophane paper packaging.

The study also shows that people with high and low illness vulnerability do not differ in their perception of the quality of pure water. This is a clear indication that the huge market for packaged water is here for good, as people are likely to

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consumer pure water or bottled water irrespective of the fact that they are highly vulnerable to illness (especially water related illness as suspected by the illness).

In other words the fact that some people are vulnerable to illness does not deter them from the consumption of packaged water, presumably because of a positive perception or more indifference. This implies that many people do not always consider their illness vulnerability when purchasing package, therefore, the government, through its various agencies such as NAFDAC, Standard Organisation of Nigeria have to create public awareness on the need to be mindful of the quality of pure water.

Limitations of Study and Recommendations for Further Researches.

Among the limitations of this study is the class of participants utilized. Participants were all students of the University of Ibadan. Since most students do not earn incomes themselves, it might not be wholly correct to generalize based on this research finding because other category of people such as workers, traders illiterates, etc. were not considered.

Another problem area in the course of this study was the limited number of related studies, which made vast exploration into the research area impossible. This is due largely to the fact that this area of consumer psychology had not been well researched in Nigeria or even in Africa.

It is, therefore, suggested that for future studies that are similar to this present one, the intending researchers should use various categories of subjects as well as other methods of statistical analyses as this study may be a kind of pilot study in the area of consumer psychology in Nigeria. Also other variables like the socio -economic factors could be considered.

By way of suggestion, the researchers are of the opinion that government, for the sake of ensuring quality and safety of citizens, should regulate the activities of producers of pure water more vigorously.

This will afford the government effective monitoring and maintenance of the products quality because it is obvious that come of the products are not well processed (NAFDAC, News 1998).

Finally, the researcher would like to suggest that the producers of packaged water include the use of plastic or glass bottles in their packaging as this is likely to enhance an increase in the consumption of their products especially for the sake of their high self-esteemed customers.

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