



Tourists perception of mystical unsatisfaction of disaster causation under information asymmetry

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Abstract

The study investigated the mysterious diss/unsatisfaction of tourists with the causal relationship between disasters. The study was guided by four research questions and two null hypotheses, using descriptive surveys in the study design. A sample of 370 SS2 biology tourists was drawn from 4,828 SS2 biology tourists using a proportional stratified random sampling technique. The data collection tool was a questionnaire in the form of a Likert scale questionnaire. It was face verified and the reliability factor determined using Cronbach Alpha was 0.84. Mean and standard deviations were used to answer research questions, while t-test analysis was used to test null hypotheses at 0.05 significance levels. The results showed that the tourists realized that the mysterious un/dissatisfaction of viruses, bacteria, pathogenic fungi, protozoa and some worms caused diseases to humans. In addition, the location of the tourist had no significant effect on their average perceived scores of un/dissatisfaction with the mystery of the causal relationship to illness.

Keywords: sampling technique, significance levels, t-test analysis, significant effect, information asymmetry.

Introduction

The World Tourism Organization (WTO), states that international tourist arrivals for 2014 exceeded 1138 million travelers. Nevertheless travel is a powerful force in the development of disease since the passage of humans has been the way in which infectious diseases are spread his fact continues to shape the emergence, frequency, and spread of infections in all geographic areas and amongst all populations. Given that travel and tourism can create various risks to one's health, it is prudent to try to better understand the causative effects of disease especially as misinformation. For example, "... there have been many recorded instances where ordinary African people, thinking themselves bewitched, have turned to self-help to protect themselves against bewitchment; mob justice and witchcraft violence have escalated like never before" (Hund, 2004) .

Biology is a life science that is interested in the study of the structures and functions of living organisms. Explained basically for the edification of younger readers, it is the branch of science that studies living things (Ramalingam, 2005). The living things studied by biologists are plants and animals. Okereke and Nzewi (2018) defined biology as the study of living things and their relationships both at macroscopic and microscopic levels. Living things can either be macroscopic such that they are seen without magnification, and/or microscopic if they are seen with aided eye. Among the branches of biology is microbiology. This branch of biology focuses on the study of microscopic organisms and how they interact with other living organisms. Microorganisms have beneficial effects in nature, medicine and industry. On the other hand, microorganisms have harmful effects and as such, cause different diseases. Disease-causing microorganisms are said



to be pathogenic and specifically are called pathogens. The need for tourists to be aware of microorganisms around us and their actions made it possible for biology tourists to be exposed to the harmful effects of microorganisms in their senior secondary one (SS1) biology class (National Educational Research and Development Council [NERDC], 2008). Tourists in learning more about the topic, and the harmful effects of microorganisms, are introduced to some diseases caused by pathogenic microorganisms. Disease is a deviation from a normal state of health in which signs and symptoms are shown. It is a condition that is diagnosed by a physician or other medical expert (Wikman, Marklund & Alexanderson, 2005). It is also an abnormal condition that affects living organisms.

For the purpose of this article, disease is defined as a disordered state in one's health caused by varied factors and/or agents, which results in some type of abnormal feeling. These factors and/or agents causing diseases can be said to be biological among which are pathogens, auto-immune disorder and genetics. Some types of infections, show that travel restrictions, particularly isolation of large cities, may well be an essential component in epidemic control strategies, (Hufnagel et al., 2004), assuming that one is displaying epidemic disease effects.

It could also be environmental factors which are responsible, among which are culture and poor nutrition. Diseases when they occur, and proper medication is not given, can be debilitating and may result in death. As a result, people when they are ill, resort to either traditional-medical treatment or western medical treatment, perhaps both so that they can be healthy again. Since the early period in Igbo communities, some cultural agents or beliefs are considered to be capable of causing diseases, but this may lack scientific proof, and yet they are commonly referred to as mystical agents of disaster causation under information asymmetry. This article explores tourists perceptions of mystical un/dissatisfaction of disaster causation under information asymmetry.

Mystical Agents of disaster causation under information asymmetry

Mystical agents of diseases causation are those agents that are culturally believed to cause diseases to human beings, but these may lack scientific proof. For instance, it is believed in Igbo communities that there are some mystic forces in the universe which can be tapped into and utilized to bring about some effects that can be good or bad (Omoregbe, 1999). Some people have obtained access to these forces (supernatural powers) and make use of them as Omoregbe further explained. For examples include people like the priest-physicians who utilize their powers for good purposes such as in healing people and helping to solve difficult problems. Some people however, use these supernatural voodoo-like powers for evil purposes such as causing and imparting mysterious diseases to others who they consider to be their they enemies.

The people that use the mystic forces wrongly may be witches and sorcerers and they cause a lot of havoc in communities. Some of the mystical diseases are madness (árá), stroke (mba mmụọ), cracking headache with swollen face (ọkiri mgbawa isi) distended stomach (nju afọ) and swollen-rotten leg (ụkwụ ure/asa ere) amongst others. Some of the mystical diseases when they occur in an individual, such a victim may be medically diagnosed as being fine but may be dying internally. In this regard, African traditional belief on the causes of some diseases are attributed to some mystical agents such as gods, ọgbanje/repeater spirit, sorcerers, ancestral causes, fear, witches and wizards, swearing a false oath, blood-covenant breaking, breaking ancestral taboos, spiritual forces and suchlike. Subsequently, some of the above-named mystical agents are explained below.

Witches and Sorcerers as Mystical Agents of disaster causation under Information asymmetry

Witchcraft and sorcery have been defined by different scholars. Idowu (1973) defined witchcraft and sorcery as attempts on the part of a person to trap and control the supernatural resources of the universe for his or her own benefit. Ekwunife (2011) buttressed this definition that witchcraft



and sorcery are human efforts to manipulate and control natural and supernatural realities through incantations, spells, gestures and other learned techniques in order to produce surprising results for his selfish benefits. From the later definition, one becomes aware of the various techniques through which witches and sorcerers may tend to operate.

Mbiti (1969:200) confirmed that sorcery involves the use of poisonous ingredients that are put into the food or drink of someone in order to affect them in some way. These poisonous substances often result in diseases in the victim. Further, Olupona (2004) controversially observed that scientific treatments are also brought about by witchcraft and unforeseen forces.

Fear as Mystical Agent of disaster causation under Information asymmetry

Fear can sometimes be debilitating. It is said to be debilitating when it torments our emotional wellbeing (Okereke & Nzewi, 2018). However, Madu (1999) observed that fear is a spirit-force. It can kill as 'fast as a bullet'. It sets in motion, a series of problems in the lives of people hence, it is often debilitating or violent. When fear is violent, it is aimed at diminishing the person's life-force. Madu opined that fear-inflicted victims experience symptoms among which are heavy pounding of heart without cause, breathing heavily and rapidly, tightness at pressure points, hypertension, traits of inferiority and insecurity, and withdrawing attitude from the crowd. A person who experiences the aforementioned symptoms is disorderly physically and cannot be said to be healthy.

Ogbanje/Repeater spirit as a mystical agent of disaster causation

Ogbanje (repeater) is understood to be a wicked spirit being that causes premature death in victims afflicted by it. Metuh (1970) observed that in Igbo society, in most cases, they come as first born children to their parents and they keep dying and coming back to the same parents. Thus, destroying parents chances of having more than one child. This they do with deliberation in order to torment their parents, and inflict on them with consistent miscarriages, and disease attached to it. In other words, some persistent miscarriages and infertilities are caused by the 'repeater' (ogbanje).

Breaking of taboos and false oath-taking as mystical agents of disaster causation

Taboos are things that have cultural prohibitions which attract grievous and mysterious punishments such as diseases when broken by any person. False oath-taking on the other hand is an act of swearing a false oath on a crime committed by an individual using named substances in the presence of people or a deity. Taboos being culturally forbidden things are considered to be beneficial. This is because taboos and oath-taking help to checkmate the excesses of human beings in various communities in Igbo land.

In using oath-taking as an instrument of securing life and property in African traditional belief, Ugwu (2007) recognized the involvement of two characters; one taking the oath and the deity who acts as both witness and executor of the terms of the oath; as well as being the one who justifies the truth or punishes the one telling lies. Ugwu further opined that the gods are believed to be in a position to punish or testify because they are regarded as impartial judges that punish the person that takes a false oath. They inflict the individual concerned with some mysterious sicknesses and diseases such as madness (árá), stroke (mba mmụọ), a cracking headache with a swollen face (ọkiri mgbawa isi) a distended stomach (nju afo) and perhaps a swollen-rotten leg (ụkwụ ure/asa ere) amongst others.

Ancestral causation as a mystical agent of disaster causation

Good health traditionally could be understood in terms of the relationship one has with his/her

ancestors. Iroegbu (2005) maintained that good health is believed to be as a result of appropriate behaviour exhibited by an individual. That is, living in accordance with the values and norms of the community where one belongs. In view of the above, there are several ways traditional Africans explain or understand the causes of disease. For instance, based on the foregoing, some Igbo parents believe that some diseases are mystical and as such explain the same to their children. The existence of the mystical agents of disaster causation under such information asymmetry however enables some parents especially the ardent traditionalists, to believe that diseases can also be caused by other agents such as pathogens that are believed to have scientific proofs and can be medically diagnosed. In African traditional religion is based on sustaining the equilibrium between the visible and invisible forces in the world. The preservation of this equilibrium and harmony is humankind's greatest ethical responsibility and regulates the quality of life (Magesa 1997).

Mystical dissatisfaction of disaster causation under Information asymmetry

Pathogens are disease-causing microorganisms. Among the pathogenic microorganisms are viruses, bacteria, fungi, and protozoa. Some worms such as hookworms, tapeworms, and other parasites are known to also cause diseases to man (Nordqvist, 2018). Over the years, there have been widely known viral, bacterial, fungal and protozoal diseases that can be medically diagnosed and scientifically proven. For instance, common viral diseases are catarrh (common cold disease), measles, small pox, chickenpox, poliomyelitis, infectious hepatitis, human immune deficiency syndrome (AIDS) among others (Nweze, 2004). Bacterial diseases as exemplified by Junge (2011) include tetanus (*Clostridium tetani*), tuberculosis (*Mycobacterium tuberculosis*), typhoid (*Salmonella typhi*), cholera (*Vibrio cholera*), dysentery (*Spirillum volutrans*), syphilis (*Treponema pallidum*), gonorrhoea (*Neisseria gonorrhoeae*) and bacterial meningitis (*Neisseria meningitidis*). Also, while gastroenteritis (*Entamoeba histolytica*, *giardia lamblia*), malaria (*plasmodium malariae*), and vaginitis (*Trichomonas vaginalis*) among others, are protozoal diseases as Junge further stated, ring worm, oral thrush, vulvo-vaginalis, candidiasis among others are fungal diseases (Nweze, 2004). Schistosomiasis, blastocystosis, amoebiasis among others are caused by worms (Nordqvist, 2018). One needs to be knowledgeable concerning such ailments and maladies.

Diseases which result in the disorderliness in the body systems of their victims can be brought about and/or worsened by various different factors. For instance, genetics is among these factors. There are some diseases that are attributed to genetics and such diseases which can be inherited by the successive offspring of the victims. Genetic diseases may not be curable but can be managed. For instance, when there are gene mutations, chromosomal abnormalities, rhesus incompatibilities, blood genotype incompatibilities among others, some diseases develop which may not be cured. Some of the diseases are sickle cell anaemia, Downe's syndrome, miscarriages, high blood pressure, heart diseases, diabetes and cancer (Stöppl, n.d). Injuries such as cuts in the skin by unsterilized sharpened objects, and open wounds can be factors that can cause diseases.

Furthermore, poor nutrition, a dirty environment (poor sanitation), taking unhygienic substances during cultural practices, abuse of substances and problems experienced during pregnancy and/or birth (congenital problems) are some of the other factors that can result in diseases in humans. As a result, diseases could be said to be multifactorial. Tourists perception of disaster causation under information asymmetry may be influenced by the their locations – either in rural area or urban area. The location may also influence tourists learning and the way they perceive or become aware of things in biology, such as illness. This influence of location on tourists learning may be initiated by the urban or rural characteristics of such an area . For instance, those sited in urban areas are characterized by having electricity, adequately skilled teachers to educate them, potable water, more learning facilities and generally great modern infrastructures (Olutola, 2017). Conversely, facilities and infrastructures may not be adequate in the rural areas and these appear to influence



performance as well as the perception of students. Onah (2011) noted that tourists in urban areas achieved more than tourists in the rural areas when it came to knowledge gained from science subjects. In addition, Olutola (2017) found out that tourists from urban areas tended to perform better than tourists from rural areas when it came to the West African Senior Certificate Examination (WASSCE) multiple choice biology test. This study therefore explores tourists perception of mystical unsatisfaction of disaster causation under information asymmetry.

Statement of Problem

Diseases are said to be multifactorial. This means that they can be caused by a number of factors which may be biological, personal and/or environmental. The pathogens and other parasites are among the factors that are biological and as a result have scientific proof and can be medically diagnosed. Witches, sorcerers, repeater spirit, ancestral cause, oath-breaking among others that are believed to cause diseases to man are often among the environmental factors that are culturally based. Some culturally based environmental factors believed to cause diseases in humans lack scientific proof, and may not be medically diagnosed. Such culturally based environmental factors are believed to cause diseases but may also lack scientific proof, and may not be medically diagnosed and are referred to as mystical agents of disaster causation under information asymmetry. The risk perceptions related with international travel may vary contingent on the geographic region (Sönmez & Graefe, 1996), so those coming to Africa need to have information asymmetry warnings. Are tourists aware of the mystical unsatisfaction of disaster causation under information asymmetry? Are they also aware of the mystical agents of disaster causation under information asymmetry? Is tourists awareness of mystical unsatisfaction of disaster causation under information asymmetry influenced by their location? This study thus focuses on tourists perception of mystical unsatisfaction of disaster causation under information asymmetry.

Research Questions

What are the mean perception scores of biology tourists on the mystical agents of disaster causation under information asymmetry?

What are the mean perception scores of biology tourists on the mystical unsatisfaction of disaster causation under information asymmetry?

What is the influence of tourists location on their mean perception scores of the mystical agents of disaster causation under information asymmetry?

What is the influence of tourists location on their mean perception scores of the mystical unsatisfaction of disaster causation under information asymmetry?

Hypotheses

The study was guided by the following hypotheses tested at 0.05 level of significance.

HO1 There is no significant influence of tourists location on their mean perception scores of the mystical agents of disaster causation under information asymmetry

HO2 There is no significant influence of tourists location on their mean perception scores of the mystical unsatisfaction of disaster causation under information asymmetry.

Theoretical Explanations

Theoretically, the study hinges on three theories. Firstly, on the demonic theory of disaster



causation under information asymmetry described by Feezer (1921). According to this theory, it insists that it is logical to cure such a person by expelling the devil's spells and witchcraft systems. In this case, religious pastors or people are usually drug addicts or doctors who need to mediate to eliminate evil diseases.

Secondly, on the germ theory of diseases causation which Waller (2004) wrote that its statement has special reference to the works. In other words, diseases are caused by germs which are disease-causing microorganisms (pathogens) and/or other parasites. Nutton (1983) added that even where a cause of disease is the leading cause of disease, the environmental and genetic factors often affect the severity of the disease and whether or not the potential host is infected when exposed to the cause of disease.

The germ theory facilitated the strategy for diagnosing and administering proper treatment of diseases. This theory is not just a lay man's discovery that lacks scientific backing; rather it has valid and authentic scientific accreditation.

Finally, on self-perception theory. Self-perception theory was developed by Daryl Bem in the late early 1970s. The theory states that "we are what we do." According to this theory, we interpret behavior as the way we interpret the behavior of others, and our behavior is often influenced by society and not by our own free will. We may be influenced by society because of the actions we have pointed out in this theory, not our own free will, as we would expect, it goes a long way to explain that tourists perception of the mystical agents of diseases causation may be socially influenced from the culture of the community where they found themselves.

Methodology

The design of the study was descriptive survey research design. The design was considered appropriate because it aims at describing in a systematic manner data collected on the facts about a given population (Nworgu, 2015). The study was conducted in Obollo-Afor Education zone of Enugu State of Nigeria. The zone is made up of three Local Government Areas that include Udenu, Igbo-Eze South and Igbo-Eze North Local Government Areas. It has 48 public secondary 16 of which are in Udenu, 10 in Igbo-Eze South and 22 Secondary in Igbo-Eze North Local Government Areas. This area was chosen because it is made up of Igbo communities that cherish and uphold their customs and traditions.

The population of the study was all the 4,828 SS2 biology tourists in the zone. A biology tourist is one who has a certain knowledge level in biology, generally school education or higher. The SS2 biology tourists were used because they have been taught about pathogenic microorganisms at their SS1 level and therefore have had foundational knowledge about pathogenic microorganisms (pathogens). The sample of the study was three hundred and seventy (370) SS2 biology students. This number was computed using Taro Yamene's formula (Uniproject, 2016). The sample was drawn using proportionate stratified random sampling technique from the rural and urban areas of the three local government areas in the zone. One hundred and twenty-three (123) SS2 biology tourists were from Udenu Local Government Area, seventy-seven (77) SS2 biology tourists were from Igbo-Eze South and one hundred and seventy (170) SS2 biology tourists were from Igbo-Eze North Local Government Area; making the sample size of the study to be three hundred and seventy (370). Out of the 370 SS2 biology tourists used for the study, one hundred and ninety (190) of them were from rural public secondary while the remaining one hundred and eighty (180) were from the urban public secondary. Throughout the study, ethical issues were considered and no incentives were paid to respondents.

The instrument used was a structured questionnaire on the mystical unsatisfaction of disaster causation under Information asymmetry developed by the researchers whose items were in Likert



format of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). In each of the items, the respondents were required to express their knowledge of diseases causation by ticking (√) in any of the response options. In scoring the instrument, the 'SA' was assigned the score of 4, 'A' attracted the score of 3, 'D' was assigned a score of 2 while 'SD' was given a score of 1.

The instrument was face validated by three experts from the University of Nigeria, Nsukka. One from the Department of Religion and Cultural Studies, another from the Department of Science Education and the third is a Measurement and Evaluation expert. The instrument was trial tested using 20 tourists in Igbo-Etiti Local Government Area which was an area different from the area where the study was carried out but shared common characteristics such as having the same academic calendar and curriculum. The trial tested instruments were scored and subjected to reliability measure using Cronbach Alpha for polychotomously scored items and a reliability index of 0.84 was obtained which according to Nworgu (2015) is appropriate for the study.

The instrument which contained items in two clusters of mystical dissatisfaction was distributed to the sampled tourists from the three local government areas in the zone. The responded to instruments were scored and analyzed quantitatively. The research questions were answered using mean and standard deviation while independent sample t-test was used to test the null hypotheses at 0.05 level of significance.

Results

Research Question 1: What are the mean perception scores of Biology tourists on the mystical agents of disaster causation under information asymmetry?

Table 1: Mean Perception Scores of Biology Students on the Mystical Agents of disaster causation under information asymmetry

Item Statement	N	Mean	Std. Dev.	Dec.
I am aware that diseases are caused by mystical agents.	370	2.91	.992	Accept
Witches cause diseases.	370	2.76	.968	Accept
Some diseases are caused by sorcerers.	370	2.76	.949	Accept
Oath breaking results to diseases.	370	2.55	1.03	Accept
Some diseases are associated with ogbanje/repeater spirit.	370	2.71	1.04	Accept
Some diseases have ancestral causes.	370	2.86	.921	Accept
Some diseases are associated with fear.	370	2.51	1.067	Accept
Mean of Mystical Agents	370	2.72	.583	Accept
Overall Mean	370	2.90	.377	Accept
Acceptable Benchmark Mean Score = 2.50				

Table 1 above shows tourists mean perception scores of the mystical agents of disaster causation under Information asymmetry. The table indicated that biology tourists mean perception score on their awareness of the mystical agents of diseases causation was 2.91 with a standard deviation of .992. The mean score of 2.91 is higher than the acceptable benchmark mean score of 2.50. Also, biology tourists mean perception scores on the mystical agents of disaster causation under information asymmetry such as witches, sorcerers, oath breaking, ogbanje/repeater spirit, ancestral causes and fear were greater than the acceptable benchmark mean score of 2.50 as indicated in table 1 above.

Research Question 2: What are the mean perception scores of Biology tourists on the mystical dissatisfaction of disaster causation under information asymmetry?



Table 2: Mean Perception Scores of Students on the mystical unsatisfaction of disaster causation under information asymmetry

Item Statement	N	Mean	Std. Dev.	Dec.
I am aware that diseases are caused by pathogens.	370	3.48	.707	Accept
Viruses cause diseases.	370	3.52	.714	Accept
Some diseases are caused by bacteria.	370	3.48	.663	Accept
Pathogenic fungi cause diseases.	370	3.40	.680	Accept
Some diseases are caused by protozoa.	370	3.27	.814	Accept
Some worms cause diseases to man.	370	3.31	.809	Accept
Mean of mystical unsatisfaction	370	3.41	.489	Accept
Overall Mean	370	2.90	.377	Accept

Acceptable Benchmark Mean Score = 2.50

Table 2 above shows tourists mean perception scores of the mystical unsatisfaction of disaster causation under information asymmetry. The table revealed that Biology tourists mean perception score on their awareness of the mystical unsatisfaction of diseases causation was 3.48 with a standard deviation of .707. The mean score of 3.48 is greater than the acceptable benchmark mean score of 2.50. Also, Biology tourists mean perception scores on the mystical unsatisfaction of disaster causation under Information asymmetry such as viruses, bacteria, pathogenic fungi, protozoa and worms were greater than the acceptable benchmark mean score of 2.50 as shown in the table 2 above.

Research Question 3: What is the influence of tourists location on their mean perception scores of the mystical agents of disaster causation under information asymmetry?

Table 3: Influence of tourists School Location on their Mean perception scores of the Mystical Agents of disaster causation under Information asymmetry

Item Statement	Location	N	Mean	Std.Dev.	Dec.
I am aware that diseases are caused by mystical agents.	Urban	180	2.96	1.02	Accept
	Rural	190	2.86	.966	Accept
Witches cause diseases.	Urban	180	2.72	.946	Accept
	Rural	190	2.79	.989	Accept
Some diseases are caused by sorcerers.	Urban	180	2.76	.924	Accept
	Rural	190	2.77	.975	Accept
Oath breaking results to diseases.	Urban	180	2.57	.981	Accept
	Rural	190	2.54	1.08	Accept
Some diseases are associated with ogbanje/ repeater spirit.	Urban	180	2.67	1.07	Accept
	Rural	190	2.74	1.02	Accept
Some diseases have ancestral causes.	Urban	180	2.86	.934	Accept
	Rural	190	2.87	.911	Accept
Some diseases are associated with fear.	Urban	180	2.51	1.04	Accept
	Rural	190	2.51	1.09	Accept
Mean of Mystical Agents	Urban	180	2.72	.578	Accept
	Rural	190	2.73	.589	Accept

Acceptable Benchmark Mean Score = 2.50

Table 3 above shows the influence of tourists location on their mean perception scores of the mystical agents of disaster causation under information asymmetry. The table revealed that biology tourists in the urban area had a mean mystical perception score of 2.72 and a standard deviation of .578 while those in the rural area had a mean mystical perception score of 2.73 and a standard deviation of .589; with a mean score difference of 0.01 in favour of tourists in the rural area.

H01: There is no significant influence of tourists location on their mean perception scores of the mystical agents of disaster causation under information asymmetry



Table 4: t-test Analysis on the Mystical Agents of disaster causation under Information asymmetry according to tourists Location
 Mystical agents

Location	N	Mean	Std. Dev.	t	df	Sig. (2-tailed)
Urban	180	2.72	.578	-.119	368	.905
Rural	190	2.73	.589			

Table 4 above shows that the influence of tourists location on their mean perception scores of the mystical agents of disaster causation under information asymmetry; which had a t-score of -.119 at 368 degree of freedom is not significant. The null hypothesis that there is no significant influence of tourists location on their mean perception scores of the mystical agents of disaster causation under Information asymmetry is therefore not rejected.

Research Question 4: What is the influence of tourists location on their mean perception of the mystical dissatisfaction of disaster causation under information asymmetry?

Table 5: Influence of tourists School Location on their Mean perception scores of the mystical dissatisfaction of disaster causation under Information asymmetry

Item Statement	Location	N	Mean	Std.Dev.	Dec.
I am aware that diseases are caused by pathogens.	Urban	180	3.51	.673	Accept
	Rural	190	3.45	.738	Accept
Viruses cause diseases.	Urban	180	3.59	.632	Accept
	Rural	190	3.46	.781	Accept
Some diseases are caused by bacteria.	Urban	180	3.47	.647	Accept
	Rural	190	3.48	.680	Accept
Pathogenic fungi cause diseases.	Urban	180	3.36	.682	Accept
	Rural	190	3.44	.677	Accept
Some diseases are caused by protozoa.	Urban	180	3.18	.835	Accept
	Rural	190	3.35	.787	Accept
Some worms cause diseases to man.	Urban	180	3.31	.828	Accept
	Rural	190	3.32	.794	Accept
Mean of mystical dissatisfaction	Urban	180	3.40	.479	Accept
	Rural	190	3.42	.499	Acce

Acceptable Benchmark Mean = 2.50

Table 5 above shows the influence of tourists location on their mean perception scores of the mystical dissatisfaction of disaster causation under Information asymmetry. The table showed that Biology tourists in the urban area had a mean pathogenic perception score of 3.40 and a standard deviation of .479 while those in the rural area had a mean pathogenic perception score of 3.42 and a standard deviation of .499; with a mean score difference of 0.02 in favour of tourists in the rural area.

H02: There is no significant influence of tourists location on their mean perception scores of the mystical dissatisfaction of disaster causation under Information asymmetry.

Table 6: t-test Analysis on the mystical dissatisfaction of disaster causation under Information asymmetry according to tourists Location

Location	N	Mean	Std. Dev.	t	df	Sig. (2-tailed)
Pathogenic Agents	Urban	180	3.40	3.40		.479
	Rural	190	3.42	3.42		.499



Table 6 above shows that the influence of tourists location on their mean perception scores of the mystical unsatisfaction of disaster causation under information asymmetry which had a t-score of -.237 at 368 degree of freedom is not significant. Therefore, the null hypothesis that there is no significant influence of tourists location on their mean perception scores of the mystical unsatisfaction of disaster causation under Information asymmetry is not rejected.

Discussion

It was revealed in table 1 that the tourists mean perception scores of the mystical agents were greater than the acceptable benchmark mean score of 2.50. This shows that tourists believe that some disease of man are attributed to some mystical agents such as witches, sorcerers, oath breaking, ogbanje/repeater spirit, ancestral causes and fear. This is in line with Olupona (2004) who observed that spell-casting and witchcraft are ways one could become ill. It also substantiates Gyekye (1995) who asserted that many traditional healers and practitioners believed that disobeying taboos is one of the ways people could become ill. Further, it is in line with Madu (1999) who opined that fear-inflicted victims experience symptoms among which are heavy pounding of heart without cause, breathing heavily and rapidly, tightness at pressure points, hypertension, traits of inferiority and insecurity, and withdrawing attitude from the crowd. Tourists believe that mystical agents can cause diseases in spite of the fact that this is not scientifically proven, and might thus stem from their homes. For instance, some parents and elderly family members bring from their homes, knowledge to their children about the mystical agents of disaster causation under information asymmetry and they grow up accepting such knowledge and beliefs. The knowledge of the mystical agents that can cause diseases might also be acquired by tourists through enculturation and peer influence. Tourists grow with such knowledge and bring same to biology classrooms during learning episodes.

It is shown in table 2 that Biology tourists were aware of the mystical unsatisfaction of disaster causation under information asymmetry. Also, the tourists mean perception scores on the mystical unsatisfaction of disaster causation under information asymmetry such as viruses, bacteria, pathogenic fungi, protozoa and worms, as also revealed in table 2 were greater than the acceptable benchmark mean score of 2.50. The results indicated that tourists believed that diseases of man are caused by mystical unsatisfaction. This is in line with Nordqvist (2018) that microorganisms such as viruses, bacteria, some fungi, protozoa and some worms such as hookworms, tapeworms, and other parasites are pathogenic because they are known to cause diseases to man. Tourists are taught in their biology class that widely known human diseases such as catarrh, measles, tuberculosis, syphilis, ring worm, malaria, and schistosomiasis among others are caused by pathogens and other parasites.

In table 3, it was revealed that Biology tourists in the urban area had a mean mystical perception score of 2.72 while those in the rural area had a mean mystical perception score of 2.73; with a mean score difference of 0.01 in favour of those in the rural area. Also, table 5 showed that Biology tourists in the urban area had a mean pathogenic perception score of 3.40 while those in the rural area had a mean pathogenic perception score of 3.42; with a mean score difference of 0.02 in favour of tourists in the rural area. However, further analyses in tables 4 and 6 showed no significant influence of tourists location on their mean perception scores of the mystical unsatisfaction of disaster causation under Information asymmetry. It therefore implies that tourists' location, whether rural or urban, did not actually influence the way they perceived mystical unsatisfaction of disaster causation under information asymmetry. The slight mean score difference noticed, may be attributed to the differences in the number of tourists (respondents) in both rural and urban areas.

However, tourists awareness of the mystical agents of disaster causation under information asymmetry which they perhaps obtained from their homes and through enculturation, and what they bring from biology classrooms during the teaching/learning of the topic "Harmful effects of



microorganisms”, calls for introducing to them to these aspects very early so that they can learn about the multifactorial nature of diseases. Through this knowledge, tourists would be better informed that although diseases are mostly caused by pathogens and parasites, there are many factors and practices whether cultural or not, that can make individuals susceptible to diseases. Some of such factors and practices include genetic factors, open wounds/cuts in the skin by unsterilized sharpened objects, poor nutrition, dirty environment (poor sanitation), taking unhygienic substances during some cultural practices (like oath-taking), abuse of substances, taking foods that are preserved with carcinogenic substances, and problems experienced during pregnancy and/or birth (congenital problems). Tourists’ knowledge of the multifactorial nature of diseases will foster authentic and very robust knowledge that can bring about effective awareness of diseases, their causes and prevention, which is capable of promoting good health conditions of individuals and building of a more sustainable future for all.

Recommendations

Based on the findings and discussions, the following recommendations are made:

Biology teachers while teaching “the harmful effects of microorganisms” should expose their tourists to the multifactorial nature of diseases. Tourists should be informed about how some cultural practices termed mystical agents such as taking unhygienic substances during oath-taking, unsanitary skin incisions (e.g. tattoos) with unsterilized equipment among others, could make an individual susceptible to diseases. Parents as first “teachers” of their children should right from the time they are at home, teach them about the mystical dissatisfaction of disaster causation under information asymmetry and how some cultural agents otherwise known as mystical agents can make individuals susceptible to diseases. Curriculum planners should integrate “the multifactorial nature of diseases” into the Biology curriculum for tourists to have broad knowledge about diseases, their causative agents and preventions.

Conclusion

The multifactorial nature of diseases explains that diseases in addition to being caused by mystical dissatisfaction and parasites, can also be triggered by other factors among which are cultural factors commonly called mystical agents. Tourists perception of disaster causation under information asymmetry enables them to come abreast of the mystical dissatisfaction and/or parasites that cause diseases to man, and allows them to have awareness of some cultural agents otherwise known as mystical agents that can make individuals susceptible to diseases. Biology teachers in conclusion, while teaching “Harmful Effects of Microorganisms” should also discuss the multifactorial nature of diseases to enable tourists to have broader knowledge about diseases, and factors that can trigger them, as well as prevention of diseases which will enhance the building of a sustainable future. Generally speaking, travelers should be well-thought-out as being an integral part of the international observation system for emerging infections.

Research and the knowledge gained by tourists such as what was explained in this article, can be used to alert the international community to the presence of information asymmetry in many diseases or to the real susceptibility patterns of pathogens in different regions. They then need to apprise strategies that should be used to control infections in developing countries such as those in Africa and guide travelers to those areas and attend to the care of returning truly ill travelers.

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