

## **CORRELATES OF HEALTH BEHAVIOR PRACTICES AMONG LITERATE ADULTS OF SOUTH WEST, NIGERIA**

by

**Adekunle Anthony ADEGOKE**  
**Obafemi Awolowo University**  
**Ile – Ife, Nigeria**

### **Abstract**

*This article examined the interactions among people's locus of control, health beliefs and health behavior practices. It also described the influence of age, sex and marital status on health behavior practices. Three instruments comprising multidimensional health locus of control, health beliefs scale and health behavior scale were used to generate data from three hundred and forty adults within ages 21-60 years drawn purposively from a population of literate groups in Southwestern, Nigeria. Analyses of the data showed that health beliefs, level of education, sex and marital status correlated with health behavior practices of respondents. Interaction effects were significant for sex and age, and also for age and marital status on health behavior practices.*

### **Introduction**

It is the general desire of all human beings, the world over, to live up to old age with a life free of disease and illness. This desire do not come true for a significant percentage of human population probably because their lives presumably were cut short by premature death or incapacitated by one disease or another. Up till the beginning of the 20th century, the major causes of illness and death were infectious diseases - especially tuberculosis, pneumonia and so on. These infectious diseases were often the result of viral or bacteria attack. However, with advancement in medicine, and breakthrough in vaccines, development of anti bacterial, antifungal and other scientific innovations, are now available.

At present there is a high probability that majority of people will survive diseases and illnesses that strike during childhood and early adulthood developmental period. However, human beings are still confronted with other lifestyle diseases that may make growing into old age difficult. These lifestyle diseases are the direct results of human behaviour. The recognition of the impact of human behaviour on diseases and illnesses has led to the adoption of the bio psychosocial model of health and illness. This model assumes that any health or illness outcome is a consequence of the interplay of biological, psychological and social factors. (Engel, 1977, Schwarts 1982; Taylor, 1995). This model is now being considered by physicians and health workers in the diagnosis, management and prevention of diseases and illnesses, particularly modern chronic illnesses - such as heart disease, cancer, diabetes and AIDS. These are typically diseases that cannot be cured, but rather only managed by patient and practitioner working together.

While the full etiology of any of these diseases is yet to be fully understood, behavioural factors, such as tobacco use, exercise, diet, alcohol consumption are strongly implicated as risk factors (Amler and Dull, 1987; Steptoe and Wardle, 1992). Consequently, the efforts of the public health movement have shifted from controlling

exposure to infectious diseases, which was the preoccupation of the first half of the twentieth century, to modification of life style. This has entailed a shift by public health physicians from collaboration with the purveyors of water suppliers and sewage managers, to new alliances with experts in human behaviour. Thus, the concept of health behaviour has been attracting the attention of practitioners in the area of health promotion and maintenance. This is on the assumption that if an individual adopts and maintains good health behaviours, most of these diseases will be prevented, thus enhancing health and promoting well-being.

### **The Concept of Health Behaviour**

Health Behaviour as a concept has received a considerable attention from researchers particularly those in the fields of health promotion and health maintenance. Various definitions have been suggested. In what is frequently cited as a classic definition, Kasl and Cobb (1966) present a very broad and inclusive definition of health behaviour as "any activity undertaken by a person believing himself to be healthy, for the purpose of preventing disease or detecting it in an asymptomatic stage."

Langlie (1970) stressed that health behaviour must be voluntarily performed apart from sanctions when the individual is symptom free or experiencing perceived health threat. He argued further that Health behaviour is behavioural and not an assessment of knowledge, attitude, beliefs or value. Langlie (1977) defined preventive health behaviour as "any medically recommended action voluntarily undertaken by a person who believes himself to be healthy, that tends to prevent disease or disability and for disease detection in an asymptomatic stage". Harris and Guten (1979) broadened this definition to include health protective behaviour and defined it as "any behaviour performed by a person regardless of his or her perceived or actual health status, in order to protect, promote or maintain his or her health, whether or not such behaviour is objectively effective toward that end".

In the broadest sense, therefore, health behaviour refers to the actions of individuals, groups, and organizations and to those actions, determinants, correlates, and consequences, including social change, policy development and implementation, aimed at improving coping skills and enhanced quality of life. (Glanz, Lewis and Rimer, 1997). This is similar to the working definition of health behaviour that Gochman (1982) proposed. It includes not only observable, overt actions but also the mental events and feeling states that can be reported and measured. He defined health behaviours as "those personal attributes such as beliefs, expectations, motives, values, perceptions, and other cognitive elements, personality characteristics, including affective and emotional states and traits, and overt behavioural patterns, actions, and habits that relate to health maintenance, to health restoration, and to health improvement". This definition is consistent with and embraces the definitions of specific categories of overt health behaviour proposed by Kasl and Cobb (1966), which include preventive health behaviour, illness behaviour and sick-role behaviour. Others varieties or categories of reception over health behaviours include weight control, physical exercise, smoking avoidance, reduction of alcohol intake, practice of safe sex, use of seat belt, observing maximum speed limit, and self breast and testicular examination. According to Mechanic (1978) health behaviour include activities engaged in and modalities used by the individual, voluntarily and in specific instances under threat of sanction by society, to (a) prevent; (b) detect disease, defect, injury and disability; (c) promote and enhance health; and (d) protect the individual and the group from risk of actual disease, defect, injury and disability.

In pursuance of this goal, enormous research energy has been devoted to finding out the correlates of health behaviour. Factors so far identified include early socialization, values, social influence; emotional reaction; self-esteem; individual differences; access to health care system; perceived disability and cognitive factors such as the belief that a particular health practice is beneficial, the belief that it can help stave off a particular illness, and a feeling of self efficacy (Bandura, 1977; Taylor, 1995).

From an epidemiological perspective, the goal of health behaviour is to intervene in and prevent the contact between the host and the disease agent, detect if a disease or injury is present and asymptomatic, and improve the resistance of the host to the disease. This is done through immunization, diet, or improvement in the physical, psychological and social well-being. From whatever angle one looks at it, the basic goal of health behaviour is that of primary prevention of disease, defect, injury and disability. The following categories of health behaviour have been recognised over the years; balanced diet that is low in cholesterol, fat, regular exercise, the practice of preventive health behaviour such as breast and testicular examination as well as regular check ups, the use of seat belts, observing maximum speed limit, and avoidance of casual sex. They also include the avoidance of health compromising behaviours such as excessive alcohol consumption, smoking and drug use. The practice of health behaviour have been associated with a number of factors which include socio economic status and social influence of family, peers friends and work place companions (Broman; 1993, Lau, Quadred Hartman, 1990), emotional factors, (Lau and klepper, 1988); sense of psychological well being (Mechanic and Cleary (1998) access to health care system (Kirscht, 1983); educational level, (Danduk, 1981 and Sobal, 1986), and personality variables, (Spender, Blade & Gracey, 1997.)

Most of the variables itemised above have been explored for their influence on developing good health behaviour. A current focus in the field of health promotion and maintenance is on the possible influence of individual and personality factors on health behaviour. This study joined that trend by examining the influence of socio demographic variables (sex, age, education), health locus of control and health beliefs on health behaviour.

### **Measurement and Sampling Procedure**

The study population consisted of literate adults, within the age range of 21 and 60 years who were resident in Ile-Ife. Literate adults were considered for the study because of the peculiarity of the measuring instruments. The instruments were constructed in English language and to avoid complications that may arise from translation, and for convenience, only literate adults were involved in the study. The subjects consisted of three hundred and forty adults (made up of 190 males and 150 females) from major institutions (Hospitals, Banks, Schools, University, Local government secretariat) in three major towns and the University community. In selecting the sample, adequate consideration was given to sex, age, marital status, education and socioeconomic status in order to have a balanced sampling. The sample was selected using purposive sampling technique.

### **Instruments**

Three major self-administered paper-and-pencil instruments were used in this study. The questionnaire is divided into four parts. Part one consists of socio-demographic variables such as sex, age marital status, religion, occupation, income, and educational level. The second part comprising multidimensional health locus of control

scales, (MHLC) while the third and fourth parts contain health beliefs and health behaviour scales respectively. All items in the questionnaires were in close-ended structured response categories.

Health Behaviour Scale (HBHS) was developed by the United States Disease Prevention and Health Promotion Unit of the Public Health Services (USDHHS 1981). The purpose of the health behaviour scale is to tell what one is doing to stay healthy. In its original form, the Health Behaviour Scale has six sections; smoking, alcohol and drugs; nutrition, exercise and fitness, stress control and safety. The phrasing and scoring of the items were modified and instead of having six sections, all the items were put in one scale.

The modified scale consists of 18 items covering all the six sections reflected in the original health behaviour scale. The diet section has four items, the smoking has one; the alcohol and drug has two, physical exercise has two, stress control has four while safety has five items. Subjects were asked to indicate their responses on a 5-point Likert format response alternative that ranges from very often, often, sometimes, rarely, and never. The first five items were scored from 1-5 while other items were scored on range of 5-1 depending on the choice of the respondents.

The total score for each subject on the scale ranges from 18-90. A low score on this scale indicates that the respondent is taking health risks, while a high score means that the person's health practices are good. A reliability coefficient 0.65 was reported on the instrument by Feldman (1983). The description, development and validation of Health Belief Scale and Multidimensional Health Locus of Control Scale has been presented elsewhere (Adegoke, 2001).

### **Reliability and Validity of the Instruments**

All the instruments employed in the study possess both face and content validity. This was established principally through consultations and discussions with senior colleagues and others considered experts in the subject-matter areas of the respective questionnaires.

In addition, a construct validity of Health Locus of Control Scale has been established by Tolor (1978). He reported a validity coefficient of 0.33 when validated against Rotter's Internal-external Locus of Control Scale. In the same vein, a criterion related validity of 0.79 was found for Health Behaviour Scale in a pretest conducted when paired with Health Practices Index, another health behaviour instrument. The validity of Health Belief Scale could not be established beyond face and content level, as there is no known previous test designed for measuring health belief. Most of the previous works on health belief used interview method. The present Health Belief Scale were designed based on the domains considered to be of relevance to the study. Using test-retest method, a reliability score of 0.81 for internal Health Locus of Control; 0.84 for significant others Health locus of Control 0.61 for chance Health Locus of Control scale was obtained for Multidimensional Health Locus of Control. Using the same method, a reliability score of 0.87 was obtained for Health Behaviour Scale, and 0.75 for Health Belief Scale, an indication that the instruments are reliable.

## Data Collection Procedure

The research questionnaires were administered through the assistance of thirty-two undergraduate psychology students who enrolled in one of the social psychology courses. The students were initially paired in two's and were grouped into sixteen. The 16 groups were given 24 copies of the questionnaires each to different institutions both within and outside the University. Data were collected from the staff of six different establishments both within and outside Obafemi Awolowo University. Each group of students was sent to each of the institutions.

Before the commencement of the data collection, a contact person has been located in each of these institutions by the researcher so as to verify the objectivity of the data collected by the students. These contact persons helped in introducing the students to the staff members of these institutions. A total of 384 questionnaires were administered out of which 367 were returned. Of these questionnaires, 340 were found to be duly completed and suitable for analysis. The remaining 27 were not well completed and were rejected. On the whole, a response rate of 88.5% was achieved.

## Results

### Descriptive Analyses

The first five items on Health Behaviour Scale dealt with health practices that were considered harmful to individuals. On smoking, which is the first item, three hundred and eight (91.7%) of the total respondents indicated that they never smoked while only eighteen (5.4%) indicated that they sometimes smoke cigarettes. Two hundred and seventy-seven (84.7%) of the total respondents indicated that they, never or rarely consume alcoholic beverages. Only sixteen (4.9%) respondents reported frequent/often consumption of alcohol.

Taking of drugs as a way of handling stressful situations or personal problem is not popular among the sampled population. Two hundred and seven (62%) of the total respondents reported that they never take drugs in handling stressful situation while only seventeen (5.1%) indicated they often use drugs as a way of handling stressful situations. Contrary to the first three items that touched on smoking, alcohol consumption and drug intake, the result on items that has to do with adding table salt to cooked food and eating too much sugar, fat and eggs indicated that a significant number of individuals engage in these harmful practices. Only thirty-three (10.2%) of the total respondents indicated that they never added salt to cooked food while seventy-seven (23.7%) and ninety-four (28.9%) indicated that they add salt to cooked food often and very often, respectively.

Two hundred and fifty two (75.6%) of the total respondents reported regular consumption of balanced diet while only twenty-six (7.8%) reported rare consumption of balanced diet. On weight control, ninety-three subjects (28.9%) reported often/regular checking of their weight against their height while one hundred and fourteen (35.4%) rarely or never checked their weight. With regards to items on stress control and relaxation, two hundred and twenty three (66.9%) of the total respondents reported that they often sleep well compared with thirty-three (10.2%) respondents who indicated that they rarely or never got enough sleep.

One hundred and thirty-eight (41.5%) subjects reported having enough time for relaxation and ninety-eight (29.8%) of the total subjects reported spending free time out for leisure. One hundred and twenty eight (38.3%) of the total respondents often avoid overworking, sixty-nine respondents (20.7%) never or rarely avoid overwork while one hundred and thirty seven (41%) of the respondents sometimes avoid over working. A significant percentage of respondents engaged in the practices of preventive health behaviours. This is evident in the response categories of respondents. One hundred and twenty (67.9%) indicated that they often destroy old and unused medicines against fifty-five (16.9%) who indicated that they never or rarely done so.

Two hundred and nineteen (66.6%) reported that they do avoid areas with a lot of air pollution and one hundred and ninety-nine also indicated regular/often avoidance of city areas with high crime. Another salient feature is the adoption of religious principle in their daily living. Two hundred and seventy (80.5%) respondent reported regular/often adoption of religious principles against only twenty-six respondents (7.8%) who reported rarely or never.

Table 1: Descriptive Statistics for Independent Variables Scores on Health Behaviour Scale

VARIABLE	LEVEL	N	MIN	MAX	SUM	MEAN	STD.DEV
<b>Sex</b>	Male	189	37	85	11947	63.21	8.49
	Female	149	33	85	9416	63.19	9.06
	Total	<b>338</b>	<b>33</b>	<b>85</b>	<b>21363</b>	<b>63.20</b>	<b>8.73</b>
<b>Age</b>	21-40 yrs	239	33	85	15162	63.44	8.60
	41-60 yrs	94	36	85	5888	62.64	9.16
	Total	<b>333</b>	<b>33</b>	<b>85</b>	<b>21050</b>	<b>63.21</b>	<b>8.76</b>
<b>Marital Status</b>	Single	95	36	81	5980	62.95	9.05
	Married	239	33	85	15137	63.33	8.65
	Widowed	4	53	71	246	61.50	7.77
	Total	<b>338</b>	<b>33</b>	<b>85</b>	<b>21363</b>	<b>63.20</b>	<b>8.73</b>
<b>Education</b>	Primary	6	52	71	382	63.67	8.73
	Secondary/Tech	62	33	77	3743	60.37	10.07
	Post secondary (OND,NCE,HSC)	86	36	77	5379	62.55	8.24
	University Deg (B.A, B.Sc,B.ed)	97	37	84	6343	65.39	8.64
	Postgraduate (M. Sc, Ph. D)	87	44	85	5516	63.40	7.77
	Total	<b>338</b>	<b>33</b>	<b>85</b>	<b>21363</b>	<b>63.20</b>	<b>8.73</b>
<b>Health belief</b>	Religiomagical	160	33	85	9897	61.86	9.50
	Orthodox	177	36	82	11404	64.43	7.83
	Total	<b>337</b>	<b>33</b>	<b>85</b>	<b>21301</b>	<b>63.21</b>	<b>8.74</b>
<b>Locus of Control</b>	Internal	133	33	81	8266	62.15	8.78
	Sig other	143	35	85	9167	64.10	9.10
	Chance	55	47	84	3501	63.65	7.67
	Total	<b>331</b>	<b>33</b>	<b>85</b>	<b>20934</b>	<b>63.24</b>	<b>8.77</b>
<b>Health Behaviour</b>	Health behaviour	338	63.20	21363	33	85	8.73

## Hypotheses Testing

It was hypothesised that socio demographic variables (sex, age, marital status, and education) would have significant influence on health behavior. Influence of Health beliefs and health locus of control on health behaviour were also examined. In testing for the influence of Health beliefs and health locus of control on health behaviour, subjects' scores were subjected to 2X3 analysis of variance. The results are presented in Table 2.

Table 2: Analysis of Variance on the Influence of Health Beliefs and Health Locus of Control on Health Behaviour

SOURCE	TYPE III SUM OF SQUARES	DF	MEAN SQUARE	F	SIG.
Corrected Model	826.942	5	165.388	2.183	.056
Intercept	1034585.168	1	1034585.168	13653.616	.000
HEALTHBELIEF	350.576	1	350.576	4.627	.032*
LOCUS OF CONTROL	180.256	2	90.128	1.189	.306
HEALTHBELIEF * LOCUS OF CONTROL	83.006	2	41.503	.548	.579
Error	24550.682	324	75.774		
Total	1345500.000	330			
Corrected Total	25377.624	329			

\* P < 0.05

A 2 x 2 x 3 x 5 Analysis of Variance (ANOVA) was also computed for testing the influence of sex, age, marital status, and education on health behavior. Table 3 revealed the findings on these variables.

Table 3: Analysis of Variance on the Influence of Sex, Age, Marital Status and Education on Health Behavior

SOURCE	TYPE III SUM OF SQUARES	DF	MEAN SQUARE	F	SIG.
Corrected Model	3968.120	32	124.004	1.731	.010
Intercept	138606.210	1	138606.210	1934.963	.000
SEX	408.065	1	408.065	5.697	.018*
AGELEV	153.848	1	153.848	2.148	.144
MARITAL	654.202	2	327.101	4.566	.011*
EDUCATIO	1110.116	5	222.023	3.099	.010*
SEX * AGELEV	767.065	1	767.065	10.708	.001*
SEX * MARITAL	123.604	1	123.604	1.726	.190
AGELEV * MARITAL	374.683	1	374.683	5.231	.023*
SEX * AGELEV * MARITAL	.000	0	.	.	.
SEX * EDUCATIO	322.099	3	107.366	1.499	.215
AGELEV * EDUCATIO	448.771	4	112.193	1.566	.183
SEX * AGELEV * EDUCATIO	180.038	3	60.013	.838	.474
MARITAL * EDUCATIO	354.336	4	88.584	1.237	.295
SEX * MARITAL * EDUCATIO	435.804	3	145.268	2.028	.110
AGELEV * MARITAL * EDUCATIO	241.415	1	241.415	3.370	.067
SEX * AGELEV * MARITAL * EDUCATIO	.000	0	.	.	.
Error	21489.742	300	71.632		
Total	1356096.000	333			
Corrected Total	25457.862	332			

\* P < 0.05

## Discussion

From the general picture of the descriptive analysis, there appears to be a high level of awareness on the damaging effects of health compromising behaviours. This is evident in the number of individuals who claim to abstain from cigarette smoking and avoidance of drug intake for stress coping and less consumption of alcoholic drinks. One salient explanation for the high level of awareness in these areas may be the impact of education on people's behaviour.

Another possible explanation may be the influence of religion on Health behaviour. Since most religion preaches against alcohol consumption and cigarette smoking, and majority of the respondents (80.5%) indicates that they often live by religious principles, it becomes clearer why majority abstain from smoking and alcohol consumption. This trend of development is welcome if it indeed reflects the actual practice of the people. The level of awareness people have on eating behaviours such as adding salt to cooked food, taking of too much sugar, fat and eggs is still low. A significant percentage (40%) still consumes foods that contain much sugar, fat and oils. The relatively high percentage of individuals recorded in this area may not be unconnected with inherent Yoruba cultural assumption that one way of displaying wealth or riches is by consuming foods high in fat such as meat, dairy products and lot of eggs.

The importance of weight monitoring is yet to be understood even among educated individuals. A high proportion (35.4%) have rarely or never checked their weight. This attitude can also be explained within the socio cultural context of the people. Among Yoruba speaking people, it seems ridiculous for someone to shed weight or get into actions that are capable of getting one to lose weight as weight gain or plumpness is often associated with good health and affluence. Slimness or shedding of weight is associated with ill health or seen as sign of poverty. On stress, environmental condition where people live may account for how they cope with stress. This is reflected in the relatively high percentage (67%) of respondents who reported adequate sleep and (42%) who had enough time for relaxation, while close to forty percent of the respondents avoided overworking.

The socio-regional location of the people may account for this low stress level and experience as majority of inhabitants lives in a relatively low density sub-urban, which makes their lifestyles a little different from what operates in urban centres.

With regard to hypotheses formulated, health beliefs, and demographic variables (sex, marital status, and education) were found to have main effects on health behaviour. Age and health locus of control did not have significant influence on health behaviour. Interaction effects were found for age and marital Status as well as for sex and age level. The result on health beliefs and health behaviours agree with the findings of Goldstein (1977). Comparing two groups on health behaviour, he found that the group that engaged in health behaviours differs significantly in terms of its attitudes, knowledge and beliefs.

This result on health beliefs also confirm the work of Calnan and Rutler (1986) who found that beliefs do predict behaviour, for both perceived susceptibility and perceived benefits. It also agree with Hill, et al (1985) study which demonstrated that normative beliefs and private beliefs together predicted behavioural intentions more successfully than did private beliefs alone. Wurtele, Roberts and Leeper (1982) while reporting a similar finding

note that there exist relationship between the attitudes and beliefs a person holds and the various health behaviours they exhibit. This finding tends to corroborate an earlier finding by Manfredi, Warnecke, Graham and Rosenthal (1977), which revealed that beliefs about the efficacy of Breast Self Examination, (BSE) and in the value of early detection is related to the knowledge of the procedures. Those respondents who expressed agreement with the complete set of beliefs hospitable to the effectiveness of BSE (that breast cancer can be cured) were also most likely to be knowledgeable about Breast Self Examination

From the theoretical point of view, these findings are consistent with those models of health behaviours that emphasized the cognitive and evaluative aspects of the response by the individual to protective health innovations. The fact that health beliefs influence health behaviour is an indication that human behaviour is a complex issue that needs to be seen as being ultimately connected with the broader social world, one's culture inclusive. As rightly put by Duncan et al (1993), the notion that individuals are unaffected by social, cultural, economic or legislative factors and freely choose their behaviour is to be rejected. In line with Fitzpatrick (1991), any attempt to provide an improved conceptualization of health behaviour needs to be placed within a broader perspective which emphasized structural constraints as well as choices.

The result of this study on health beliefs and health behaviours can also be explained from one of the two main approaches to the social distribution of health related behaviours given by Carr-Hill (1990). The explanation is ultimately based on the notion that health-related behaviours depend on knowledge and beliefs about health risks and the benefits of taking action. It is also postulated that individual health behaviour can only be adequately explained by taking into account the context in which it occurs. If an individual's belief system is part of the culture in which the individual lives as pointed out by Duncan et al (1996), it is not surprising to discover that a significant relationship exist between health behaviours and health beliefs. On the issue of health beliefs and health behaviour, one may conclude with Uitenbroek et al (1996) position that both characteristics of the individual and of culture are important in the processes of giving meaning and sense to behaviour.

The result on the possible influence of health locus of control on health behaviours revealed that no such influence exist between the two variables. Although literature suggests that variable such as internality play a role in an individual's undertaking a health promoting activity, locus of control proved to have little effect on health behaviour in this study. This finding corroborates the results of Dabbs and Kirscht (1971), which revealed a non-significant relationship between locus of control and the taking of influenza shots. A similar finding was also reported by Laffrey and Isenberg (1983) study on the relationship of internal locus of control on physical activity during leisure. None of the three variables correlated against internal health locus of control, was significant.

However, these findings deviate sharply from those of many previous works. Several scholars have documented some degree of relationship between health locus of control, especially the strong influence of internality on health behaviour (Lee and Mancini, 1981; Manno and Marston, 1972; Lowery and Ducette 1976; Wallston and Wallston, 1980; Kaplan and Cowles, 1978; Saltzer, 1981; Phares, 1971; Manuck and Tower, 1979). It is usually assumed that internally controlled individuals will engage in health promoting behaviour than externally controlled ones. This study fails to support this assumption, thus corroborating Macdonald (1970) position that the assumption is yet to receive total support from research findings. More research work is needed in this area to get a clearer picture on the influence

of locus of control on health behaviour. The result obtained from the third hypothesis revealed that education has significant influence on health behaviours. This finding is in line with that of Uitenbroek (1996) study which found that better educated and employed respondents behave in a more healthy way compared with less well educated and unemployed respondents. Previous works by Danchik (1979) and Sobal (1986) on health behaviour practices support this finding. In that study, it was found that people with higher education practised more preventive behaviour than people of low level of education.

The result also corroborates Rasky et al's (1997) suggestion that positive health behaviour tend to rise with years of schooling completed. The significant influence of education on health behaviour recorded in this study is also consistent with that of Roisin-Pill et al (1993) findings. They found that of all socio economic variables, education usually emerges as the most reliable correlate of health behaviour. This has been variously documented by other researchers (Coburn and Pope 1974; Gray, Kesleer and Moody 1966; Gottlieb and Green, 1984). One way of explaining this influence is to agree with Leclerc, Pietri, Boitel, Chastang, Carval and Blondet's (1992) position that higher education level is related to having a better health status and better health lifestyle behaviours. Education is related to social position, occupation and living circumstances, all predictive of health status. Education is also related to having better access to health related information. It appears that, life on the average is less demanding for better educated individuals, leading to lower levels of stress. Education may serve as eye opener to the behaviours that are considered health enhancing and health compromising. It also broadens one's horizons to the advantages and disadvantages of these behaviours. With all these put together, one may reasonably argue that education is a major determinant of health behaviour.

On the influence of sex on health behaviour, this study found a favourable disposition towards the practices of health enhancing behaviour among female more than male participants. Although there was a significant interaction effect for sex and age level of the respondents, there is an overwhelming significant main effects of sex on health enhancing behaviours. This finding is consistent with Sobal (1986) that men were less concerned about health and practiced deleterious health behaviours more than women. Uitenbroek et al (1996) also reported a similar finding. With regard to the respondents gender, females reported smoking less, eating fruit and vegetables more often, drinking alcohol less often and exercising less often compared with males. Our finding of higher health behaviour practices in women than in men is consistent with studies demonstrating that preventive health actions tend to be more common among women than among men (Kandrack et al, 1991; Rasky et al, 1997).

On the influence of Age on health behaviour., this study found no significant influence on the two variables, although there was a significant interaction effect for age and marital status. This finding contradicts Taylor's (1995) findings that age seems to influence the practice of good health behaviour but similar to what Pill and Robling (1993) obtained among mothers of lower socio-economic status. The study revealed no age correlation with health behaviours. Some previous findings were of the position that the practice of health behaviour increases tremendously with age. This assumption has been that older people practice somewhat better health behaviour than younger people (Leventhal, Prochaska, and Hirshman, 1985; Kandrack et al 1991).

The result obtained on the influence of age from the present study maybe due to non-involvement of all age groups in the study. The adolescences and late adulthood

period were not included in the study. Another possible explanation may be from the viewpoint of Uitenbroek et al (1996) that consideration of age in research is always complicated as age is a factor representing a number of phenomena. Older people are different from younger people for two reasons. Because of aging effects and cohort effects that each generation goes through different historical periods. Differences between age groups reflect physiological and biological factors, and the effect of individual and cultural histories as well.

### References

- Adegoke, A.A. (2001). *Locus of control and belief on health behaviours of adults* in Ile-Ife. Unpublished Master of Science Thesis Submitted to the Department of Psychology, Obafemi Awolowo University, Ile-Ife.
- Bandura (1977). Self efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, 84, 191-215.
- Broman, C. L. (1993). Social relationships and health-related behaviour. *Journal of Behavioural Medicine*. 16, 335-350.
- Calnan, M and Rutter, D. R. (1986). Do health beliefs predict health behaviour? An analysis of breast self-examination. *Social Science and Medicine*, 22, 6, 673-678.
- Carr-Hill R (1990). The measurements of inequalities in health: Lessons from the British experience. *Social Science and Medicine*, 31, 393 – 404.
- Coburn, C & Pope, C.R. (1974). Socioeconomic status and preventive health behaviour. *Journal of Health and Social behaviour*, 15, 67-78.
- Dabbs, J. M and Kirscht, J.F. (1971). Internal control and the taking of influenza shots. *Psychological Reports* 28, 959-
- Danchick, K. (1979). *Highlights from wave 1 of the national survey of United States personal health practices and consequences*. U.S. Department of Health and Human Sciences Publications, No (PHS) 81-1162.
- Dembroski, T.M, MacDougall, J.M & Costa, P.T (1989). Components of hostility as predictors of sudden death and myocardial infarction in the multiple risk factor intervention trial. *Psychosomatic Medicine*, 51,514-522.
- Duncan, C., Jones, K. & Moon, G. et al. (1993). Do places matter ? A multi-level analysis of regional variations in health related behaviour in Britain. *Social Science and Medicine*, 37, 725.
- Eiser, J.R & Gentle, P. (1988). Health behaviour as goal-directed action. *Journal of Behavioural Medicine*, 11, 523-536.
- Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science*, 196, 129-136.
- Feldman, R (1983). Changing stressful behaviours. In Greenberg, J.S. (ed.). (1983). *Comprehensive stress management*. New York: Brown Company.
- Gochman, D.S. (1982). Labels, systems and motives: Some perspectives on future research. *Health Education Quarterly*, 9, 167-174.
- Goldstein, M.S.; Greenwald S; Nathan, T; Massarik F; & Kaback, M. (1977). Screening for carriers of Tay-sachs disease: A prospective study. *Social Science and Medicine* 11, 515 – 520.
- Gotlieb, M.H. & Green L.W. (1984). Life events, social network, lifestyle and health: An analysis of the 1979 national survey of personal health practices and consequences. *Health Education Quarterly*, 11, 91-105.

- Gray, R.M; Keshner J. P. & Moody, P.M. (1966). The effects of social class and friends expectations on oral polio vaccination participation. *American Journal of Public Health*, 56, 2028 – 2032.
- Harris, D. M. & Guten, G. (1979). Health protective behaviour: An exploratory study. *Journal of Health & Social Behaviour*, 17-29.
- Hersch, P.D. & Scheibe, K.E. (1967). Reliability and validity of I-E control as a personality dimension. *Journal of Consulting Psychology*, 31 (6), 609 – 613.
- Hill, A.G. et al. (1985). *Population, health and nutrition in the Sahel*. PKI Publishers.
- Kandrack, M.A.; Grant, K.R; & Segall, A. (1991). Gender differences in health related behaviour: Some unanswered questions. *Social Science and Medicine*, 32, 579 – 590.
- Kaplan, G. D. & Cowles, A. (1978). Health locus of control and health value in the prediction of smoking reduction. *Health Education Monographs*, 6, 129-137.
- Karvonen, S. & Rimpela, A. (1996). Socio-regional context as a determinant of adolescents' health behaviour in Finland. *Social Science & medicine*, 43 (10), 467-1474.
- Kasl, S. V. & Cobb; S. (1966). Health behaviour, illness behaviours, and sick role behaviour. *Archives of Environmental Health*, 12, 246-266.
- Kirscht, J. P. (1983). Preventive health behaviour: A review of research and issues. *Health Psychology*, 2, 277-301.
- Laffrey, S. C. & Isenberg, A. (1983). The relationship of internal locus of control, value placed on health, perceived importance of exercise, and participation in physical activity during leisure. *International Journal of Nursing Studies*, 20, 3, 187-196.
- Langlie, J. (1977). Social networks, health beliefs, and preventive health behaviour. *Journal of Health and Social Behaviour*, 18, 244-260.
- Lau, R.R. & Klepper, S. (1988). The development of illness orientations in children aged 6 through 12. *Journal of health and social behaviour*, 29, 149-168.
- Lau, R.R. Quadrel, M.J. & Hartman, K.A. (1990). Development and change of young adults preventive health beliefs and behaviour: Influence from parents and peers. *Journal of Health and Social Behaviour*, 31, 240-259.
- Lee, T. R. & Mancini, J. A. (1981). Locus of control and premarital sexual behaviours. *Psychological Reports*, 49, 882.
- Leclerc A; Pietri F, Biotel L, Chastang. J.F., Carvoval P & Blondet, M, (1992). Level of education, lifestyle, and morbidity in two groups of white collar workers. *Journal of Epidemiology and Community Health*, 46, 403.
- Leventhal, H; Prochaska, T. R. & Hirschman, R. S. (1985). Preventive health behaviour across the life span. In J. C. Rosen & L. J. Solomon (Eds.). *Prevention in health psychology*. Vol 8, pp. 190-235. Hanover, NH University Press of New England.
- Lowery, B. J. & Du Cette, J. P. (1976). Disease-related learning and disease control in diabetics as a function of locus of control. *Nursing Research*, 25, 358-362.
- MacDonald, A. P. (1970). Internal-external locus of control and the practice of birth control. *Psychological Reports*, 27, 206.
- Manno, B. & Marston, A.P. (1972). Weight reduction as a function of negative reinforcement (sensitization versus positive covert reinforcement). *Behaviour Research Therapy*, 10, 201.
- Manfredi, C.; Warnecke, R.B; Graham, S. & Rosenthal, S. (1977). Social psychological correlates of health behaviour: Knowledge of breast self-examination techniques among black women. *Social Science and Medicine*, 11, 433-440.
- Manuck, B & Toner, J. B. (1979). Health locus of control and health related information seeking at a hypertension Screening. *Social Science & Medicine*, 12A, 823-825.
- Mechanic, D. (1978). *Medical sociology*. (2nd Ed). New York: Free Press.

- Mechanic, D. & Cleary, P.D. (1980). Factors associated with the maintenance of positive health behaviour. *Preventive medicine*, 9, 805-814.
- Milligan, R.A.K, Burke, L; Berlin L.J; Richards J. Dunbar, D; Spencer, M; Balde E; & Gracey, M.P. (1997). Health related behaviours and psycho-social characteristics of 18 year old Australians. *Social Science & Medicine*, 45, 1549-1562.
- Pill, R. & Stott, N.C.H (1982). Concepts of illness causation and responsibility: Some preliminary data from a sample of working class mothers. *Social Sciences and Medicine*, 16, 43-52.
- Pill, R, Peters, T. J & Robling, M.R. (1993). Factors associated with health behaviour among mothers of lower socio economic status: A British example. *Social Science and Medicine*, 25 (9) 1137 – 144.
- Raja, S.N., Williams, S; & Mcgee, R. (1994). Multidimensional health locus of control beliefs and psychological health for a sample of mothers. *Social Science and Medicine*, 39(2), 213-220.
- Rasky, E; Strongegger, W. & Friedl, W. (1997). Health behaviour and risk behaviour: Socioeconomic differences in an Austrian rural county. *Social Science and Medicine*, 44 (3), 423- 426.
- Rosenman, R.H. (1991). Type A behaviour patterns and coronary heart disease: The hostility factor. *Stress Medicine*, 7, 245-253.
- Saltzer, E. B. (1981). Cognitive moderators of the relationship between behavioural intentions and behaviour. *Journal of Personality and Social Psychology*, 41, 260-271.
- Schwartz, G. E. (1982). Testing the bio-psychosocial model: The ultimate challenge facing behavioural medicine. *Journal of Consulting and Clinical Psychology*, 50, 1040-1053.
- Sobal, J. (1986). Health protective behaviours in first year medical students. *Social Science & Medicine*, 2, 593-598.
- Stephoe. A, & Wardle J. (1992). Cognitive, predictors of health behaviour in contrasting regions of Europe. *British Journal of Clinical Psychology*, 31, 485-502.
- Strecher, V.J; Devellis, B.M; Becker, M.H & Rosenstock, I.M. (1986). The role of self-efficacy achieving health behaviour change. *Health Education Quarterly*, 13, 73-92.
- Strongegger W., Freid, W., & Rasky, E. (1997). Health behaviour and risk behaviour: socio economic differences in an Austrian rural Country. *Social Science & Medicine*, 44 (3) 423-426.
- Taylor, S. E. (1995). *Health psychology*. 3rd Edition. San Francisco, CA: McGraw - Hill Inc.
- Tolor, A. (1978). Some antecedents and personality correlates of health locus of control. *Psychological Reports*, 43, 1159-1165.
- Uitenbroek, D.G., Kerekouska, A; & Festchieva N. (1996). Health lifestyle behaviour and sociodemographic characteristics: A study of Varna, Glasgow and Edinburgh. *Social Science and Medicine*, 43, (3) 367 – 377.
- United States Department of Health and Human Services. (1981). *Health style: A self test*. Public Health Service, Washington DC. PHS 81-50155.
- Wallston, K. A. & Wallston, B. S. (1980). Health locus of control scales. *Advances and Innovations in Locus of Control Research*. London: Academic Press.
- Wurtele, S.K., Roberts, M.C., & Leeper. J. D. (1982). Health beliefs and intentions: Prediction of return compliance in a tuberculosis detection drive. *Journal of Applied Social Psychology*. 128: 128 – 139.

Adekunle Anthony ADEGOKE is a Fulbright Scholar-in-Residence, Department of Psychology, Virginia State University, Petersburg, VA 23806, USA. [aadegoke@vsu.edu](mailto:aadegoke@vsu.edu)