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Health Locus Of Control And Health Behaviour Among Female Students And Employees In A Nigerian Tertiary Institution

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Abstract – The study examined the role of health locus of control and health behaviours on women's health. 400 female respondents were recruited employing convenient sampling between ages 18 - 60 years at Obafemi Awolowo University, Ile-Ife, Nigeria. The questionnaire consisted of socio-demographic variables, the adapted version of the Multidimensional Health Locus of Control Scale, and the Health Behaviour Scale. The study assessed the associations between the dimensions of HLOC and health behaviour among women in the institution. Chi-square analysis revealed a significant relationship among the students, academic staff, and non-academic staff population on the internal locus of control scale (X^2 (2) 7.4565, $p < 0.02$). There was also a significant relationship among the two subscales of external locus of control; powerful others (X^2 (2) 6.3818, $p < 0.04$) and chance (X^2 (2) 17.6865, $p < 0.00$) respectively. Health Enhancing Behaviour was also found to be significant among the population (X^2 (2) 9.4420, $p < 0.01$). The study concluded that health locus of control and health behaviour had a significant role in women's predisposition towards their health issues.

Keywords – Health Locus Of Control, Internal/External Locus Of Control, Health Behaviour.

I. INTRODUCTION

Health locus of control is defined as an individual's beliefs regarding where control over his or her health lies [1] which has a central role in health care delivery [2]. Health Locus of Control (HLC) is the degree to which individuals believe that their health is controlled by internal or external factors. People with an internal health locus of control believe that their behaviour influences their health, while people who believe that their health is influenced by others (e.g. doctors or caregivers) or by fate or chance have an external health locus of control [1].

Health locus of control can explain healthy and preventive behaviours and influence people's preferences in treatment decision-making [3]. Researchers have shown that individuals who want more control (internal LOC) tend to seek more information while individuals with external LOC, conversely, delegate decisions to physicians or other 'powerful' people [3, 4].

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Health locus of control reflects people's beliefs about who or what is responsible for the management of their health condition [5]. Locus of control reflects may influence a person's health behaviours and can therefore influence health outcomes. In adults, internal locus of control (the belief that a person can control his or her health condition and that health-related outcomes are contingent on a person's behaviours and actions) has been associated with positive health outcomes such as reduced use of emergency departments [6] and reduced disease burden and increased self-rated health [7], adherence to treatment [8], and general health [9]. Internal locus of control may similarly affect youths with chronic conditions, but studies are lacking. Conversely, external LOC indicates that a person believes that outside factors such as doctors, other people, or chance determine health outcomes. In the adult population, external locus of control has been associated with negative outcomes, such as decreased quality of life [1], increased emergency visits [7], and decreased acceptance of illness [11]. Health locus of control refers to people's attribution of their health to personal or environmental factors [12]. Researchers commonly assess the HLOC construct using three dimensions: internality (I-HLOC), powerful others (P-HLOC), and chance (C-HLOC). Various psychological approaches hold differing views of the benefits of positive health beliefs (i.e., high in I-HLOC, low in P-HLOC, and C-HLOC). Cognitive-behavioural theories [13] postulate that such beliefs motivate health behaviour, which refers to voluntary actions taken to promote health and reduce health risks [14]. These health goals can be attained by engaging in health-enhancing behaviour (for example, exercise), mitigating health-compromising behaviour (for example, smoking), or both. Positive psychology theories [15] on the other hand, posit that positive health beliefs play a central beneficial role in global health appraisal, which refers to the subjective evaluation of one's current mental and physical health status (e.g., physical well-being, emotional problems;[16].

The constructs of Health Locus of Control were derived from the Social Learning Theory developed by Rotter in 1966 [17]. The Social Learning Theory states that an individual learns based on his or her history of reinforcement. The individual will develop general and specific expectancies. Through a learning process, individuals will develop the belief that certain outcomes are a result of their actions (internals) or a result of other forces independent of themselves (externals). From the social learning theory, Rotter developed the Locus of Control Construct consisting of an Internal External rating scale. Wallston, Wallston, Kaplan, and Maides [18] recognised that there was difficulty in predicting health behaviour specifically from generalised expectancy measures such as Rotter's I-E scale. The Health Locus of Control scale is recommended in conjunction with behavioural measures to evaluate health education programmes. Since internal's indeed appear more likely to engage in positive health and sick-role behaviours, it is apparent that the Health Locus of Control emphasizes the importance of the health educators' need to involve themselves in training people to hold more internal beliefs. Thus many health education programmes, which do not label themselves as internality training, still emphasize individual responsibility and internal beliefs.

Behaviours such as stopping smoking, moderating alcohol intake, healthy eating, and physical activity can reduce the risks of developing serious illnesses such as cancer, heart disease, and type 2 diabetes. However, promoting the uptake of healthier behaviour presents challenges, both at the individual and population levels. Behaviour contributes to the burden of illness. Treatment of behaviour-related diseases like cancer is expensive, while the cost of behaviour change interventions is low. While people may aspire towards a healthier lifestyle, the initiation and maintenance of health behaviours result from an interaction of social, psychological, biological, and environmental factors. In recent years the emerging discipline of Health Psychology has tried to explain why people engage in unhealthy behaviours and to inform the development of health behaviour interventions. Research suggests that intentions to change a behaviour, while often a prerequisite of change, can be insufficient to produce sustained change. Starting and maintaining behavioural change can be aided by psychological characteristics and processes. These include the belief that one has the psychological resources to undertake the desired behaviour (self-efficacy) and the individual's ability to use self-regulatory strategies shows how these can be translated into practice for quitting smoking and healthier eating.

II. Design

A cross-sectional descriptive survey design was employed. The sociodemographic variables were age, marital status, religion, level of education, occupation, and monthly income.

III. Sampling Procedure

The target population consisted of female staff and students. To have an adequate representation of socio-demographic variables, age occupation, religion, and marital status were taken into consideration.

IV. Participants

The participants consisted of 460 women recruited from the university campus which comprised participants' ages ranged from 18 to 60 years old which comprised undergraduates, postgraduates, academics, and non-academic staff.

V. Measures

The survey instrument included questions on the Multi-dimensional Health Locus of Control Scale (MHLCS-18) developed by Wallston et al [19] to measure the extent to which individuals will typically endorse statements attributing responsibility for health status to themselves (internal control) or to fate, chance, or other extra personal influences (external control). Whether a person is internal or external is based on a series of statements. The statements are scored and summed to determine whether the individual has internal or external health beliefs.

The Health Behaviour Scale (HBHS-18) was developed by the United States Disease Prevention and Health Promotion Unit of the Public Health Services (USDHHS) [20]. In its original form, the Health behaviour scale has six sections; smoking, alcohol and drugs, nutrition, exercise and fitness, stress control, and safety. In line with Adegoke [21] 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. Subjects were asked to indicate their responses on 5-point Likert format response alternatives that range from very often, often, sometimes, rarely, and never. The total score for each subject on the scale ranged 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 of 0.65 was reported on the instrument by Feldman [22]. Adegoke [21] obtained a reliability score of 0.87 for the Nigerian population.

VI. Procedure

The convenience sampling technique was used for the academic and non-academic staff. These comprised 300 students, 40 academic staff, and 120 non-academic staff. This involved stratification of women according to their job descriptions and the random selection of respondents from their job descriptions. A multistage sampling technique was used to select female students.

VII. Analysis Of Data

The study adopted the quantitative technique using the chi-square tool in the analysis and also the use of percentages.

VIII. Results

Based on the respondents' opinion on the Multidimensional Health Locus of Control scale, on the internal subscale of the instruments, 55.7% agreed that if they got sick, it was their behaviour that determines how soon they would get well while 30.0% disagreed. 54.1% agreed that they were in control of their health while 32.5% disagreed. 15.0% agreed that when they got sick, they are to be blamed while 77.5% disagreed. 44.6% agreed that the main thing that affects their health is what they do while 34.1% disagreed. 8.3% agreed that if they took care of themselves they could avoid illness while 8.3% disagreed 83.7% agreed that if they took the right action, they could stay healthy while 5.8% disagreed. The second part of the instrument measures the influence of significant others on the control over one's health.

On the external subscale, the powerful others; 57.8% agreed that having regular contact with their physician was the best way to avoid illness while 27.2% disagreed. 81.3% agreed that whenever they do not feel well, they should consult a medically trained professional while 10.7% disagreed 39.5% agreed that their family had a lot to do with their becoming sick or healthy while 43.5% disagreed. 6.6% agreed that health professionals control their health while 66.6% disagreed. 45.7% agreed that when they recover from an illness, it was usually because other people (e.g. doctors, nurses, family, friends) had been taking good care of them while 33.2% disagreed. 53.7% agreed that regarding their health, they can only do what their doctor told them to do while 30.4% disagreed.

On the external subscale, chance; 28.3% agreed that no matter what they do if they are going to get sick they would get sick while 55.0% disagreed 19.3 agreed that most things that affect their health happened to them by accident while 57.4% disagreed. 13.3% agreed that most things that affected their health happened to them by accident while 67.2% disagreed. 33.6% agreed that luck played a big role in determining how soothing would recover from an illness while 49.2% disagreed. 15.9% agreed that no matter

what they do, they are likely to get sick while 70.4% disagreed. 44.8% agreed that if it was meant to be they would stay healthy while 34.3% disagreed.

The tables below show the results of the Means and Standard deviations and Chi-square test of the Multidimensional Health Locus of Control Scale and Health Behaviour Scale.

Table 1: Means and Standard Deviations for Multidimensional Health Locus of Control Scale

Variables	**Min- Max value**	**Mean**	**SD**
MHLC Internal	6-30	15.7	4.16
MHLC Powerful others	6-30	16.8	4.17
MHLC Chance	9-30	20.88	4.54

Table 2: Chi square Analysis of Multidimensional Health Locus of Control scale Internal locus of control and external locus of control

Variables	**Students (N=300)**	**Academic (N=40)**	**Non Academic (N=120)**	**Total (460)**
Internal				
< than mean	128(42.7%)	15(37.5%)	34(28.3%)	177(38.5%)
> than mean *	**172(57.3%)**	**25(62.5%)**	**86(71.6%)**	**283(61.5%)**
X^2 =7.4565, df =2, p = 0.02*				
External				
Powerful others				
< than mean	117(39.0%)	17(42.5%)	63(52.5%)	197(42.8%)
> than mean *	**183(61.0%)**	**23(57.5%)**	**57(47.5%)**	**263(57.2%)**
X^2 =6.3818, df =2, p = 0.04*				
Chance				
< than mean	100(33.3%)	13(32.5%)	66(55.0%)	179(38.9%)
> than mean *	**200(66.7%)**	**27(67.5%)**	**54(45.0%)**	**281(61.1%)**
X^2 =17.6855, df =2, p = 0.00*				

Chi square test (p<0.05)*, > than mean scores are Internal, Powerful others and Chance

There was a significant relationship among the three groups for the three subscales; internal locus of control scale (X^2 (2) 7.4565, $p < 0.02$), external powerful others (X^2 (2) 6.3818, $p < 0.04$), and external chance (X^2 (2) 17.6865, $p < 0.00$) respectively.

Respondent's personal opinion on the Health Behaviour scale is presented in Table 3. The first five items on the scale dealt with health practices that were considered harmful to individuals. The majority of the respondents indicated that they never smoked (93.0%) cigarettes, 73.7% never consumed alcoholic drinks and 5.0% sometimes consumed alcoholic drinks. Taking drugs as a way of handling stressful suitable or personal problems was not common among the sampled population. 64.3% never took drugs while 3.2% often took drugs.

Contrary to the first three items that touched smoking, alcohol consumption, and drug intake, the results on the item that has to do with adding table salt to cooked food and eating too much sugar, fat, and eggs indicate that some of the respondents engaged in these harmful practices. 14.3% never added salt to cooked food while 34.1% indicated that they add salt to cooked food often. 36.3% ate balanced diets that contain much sugar, fats, and eggs, while 32.6% sometimes ate such diets and 26.1% often ate such diets.

A significant percentage of respondents engaged in the practices of preventive health behaviours. This was evident in the responses 70.5% often ate balanced diets that contains protein, carbohydrates, vitamins, fats, and oil 59.4% often get enough sleep, 84.3% prayed or lived by religious principles, 64.0% destroyed old and unused medicines, 74.2% read and followed label directions when using prescribed and over the counter drugs, 60.9% avoided areas with a lot of air pollution. It was observed that respondents did not engage in certain health-enhancing behaviours. 35.4% never checked their weight against their height while 25.0% often did. 37.1% rarely engaged in physical exercises or took part in sports while 26.1% often did 40.0% rarely saw a doctor for a medical check while 32.6% did.

Table 3: Means and standard deviations for Health Behaviour Scale

Variables	Min- Max value	Mean	SD
Health Risk Behaviour	5-19	9.72	2.44
Health Enhancing Behaviour	23-73	46.35	7.11

Table 4: Chi square of Analysis of Health Behaviour Scale

Variables	Students (N=300)	Academic (N=40)	Non Academic (N=120)	Total (460)
Health Risk Behaviour(Risky)				
< mean	128(42.7%)	23(57.5%)	51(42.5%)	202(43.1%)
> mean	**172(57.3%)**	**17(42.5%)**	**69(57.5%)**	**259(56.9%)**
X^2 =3.2846, df =2, p = 0.19				
Health Enhancing Behaviour (No Risk)				
< mean	124(41.3%)	11(27.5%)	32(26.7%)	167(36.3%)
> mean	**176(58.7%)**	**29(72.5%)**	**88(73.3%)**	**293(63.7%)**
X^2 =9.4420, df =2, p = 0.01*				

Chi square test (p<0.05), > than mean score are Health Risk and Health Enhancing

IX. Behaviour

Based on the table above, the results of the chi-square analysis revealed that the health-enhancing behaviour was found to be significant among the groups (X^2 (2) 9.4420, $p < 0.01$).

In conclusion, students and employees with high internal health beliefs will display more healthy behaviour, whereas those with a high chance of locus of control beliefs will show more unhealthy behaviour. Furthermore, we assumed that high scores in the powerful others dimension will be associated with a higher likelihood of health behaviour in areas that are often topics of health campaigns (i.e. smoking, and high alcohol consumption).

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