

THE RELATIVE ROLES OF PERSONALITY TRAITS ON PREVENTIVE HEALTH BEHAVIOUR AMONG LAGOS STATE RESIDENTS

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Abstract

This study investigated the relative roles of personality traits on the preventive health behaviour of Lagos State residents in Nigeria. The study adopted a correlational design to seek the extent of relationship between personality traits and preventive health behaviour. The participants were drawn from Lagos, a mega city in Nigeria. Using purposive sampling technique, 290 participants (156 males and 134 females) who were known to have a minimum of secondary school education and are 21 years and above completed the questionnaire measuring personality traits and preventive health behaviour. Results showed that personality traits did not determine preventive health behaviour. That is, irrespective of personality traits, residents of Lagos are conscious of their health and engage in the preventive health practices. Since there has not been evidence that preventable illnesses or diseases are absent in Nigerian cities, the study therefore justifies that behavioural tendencies to practice preventive health behaviours are not only determined by personality traits but other environmental factors.

Keywords: Preventive health, Health behaviour, Personality traits, Lagos residents

INTRODUCTION

Among other health behaviours, Preventive Health Behaviour (PHB) is thought to be more favourable and beneficial to the individual and cost-effective to the government of any nation. Thoughtfully, PHB involves prevention and early detection of illnesses and diseases as opposed to incurred costs in curbing the outbreak of diseases especially those that are non-communicable. An estimate of 55 million deaths in 2011 resulting from non-communicable diseases including cancer, diabetics, and chronic cardiovascular and lung diseases was reported (World Health Organization, 2010). Apart from that, developing countries face multiple health challenges (Dupas, 2011) of which Nigeria as a developing country cannot be exempted. But, the intervention of agencies and organizations that hold much value about human health is expected to increase the occurrence of the preventive behaviours.

Preventive health behaviour is defined as “any activity undertaken by an individual who believes himself to be healthy for the purpose of preventive or detecting illness in an asymptomatic stage (Kasl & Cobb, 1966). Distinguished from the other two health behaviours; illness behaviour and sick-role behaviour that occur in response to specific symptoms or illness. As the first definition of preventive health behaviour, the definition conceptualised preventive health behaviour (PHB) to having cognitive

undertones, and performed for the purpose of protection against illness or identification of any quantity of illness that could creep into the body.

Additionally, (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 diseases or disability and for disease detection in an asymptomatic stage while (Harris & Gutten, 1979) defined the concept 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 towards that end.

Overall, preventive health behaviour is conceived as any medically recommended action, which implies that preventive health behaviours may be voluntarily adopted or medically recommended but has same ultimate goal of prevention or early detection of illness before the symptoms are present. Alternatively, PHB may also be any behaviour that are performed to promote or maintain health from the perspective (Harris & Gutten, 1979). Further, many studies have synonymously expressed their idea of PHB as health-promoting behaviour, health-enhancing behaviour, health-care behaviour and protective health behaviour. Also, some studies have researched on singular practice of PHB such as self-breast examination, dietary

control, weight control, regular exercise, vaccination, compliance to medical instructions, drinking of purified water, practice of safe sex, hygienic environment and so on, all to ensure prevention or early detection of illness.

Wheeler and Rundall (1980) distinguished between primary preventive health behaviour and secondary preventive health behaviour. Primary preventive health behaviour occurs when people engage in activities which may have positive influences on their health and refrain from engaging in activities which may have negative influences. Secondary preventive health behaviour on the other hand occurs when people have their health status professionally monitored so that deleterious changes can be detected and treated as soon as possible. In essence, primary preventive health behaviour is concerned with the prevention before the onset of disease while secondary preventive health behaviour is majorly concerned with prevention through medical recommendation. In view of this, preventive health behaviour may be defined as any anticipatory effort deliberately chosen or medically recommended to prevent, detect or control deleterious effect of illness or diseases in an asymptomatic stage.

Practically, there are expectations that there would be considerable practice of preventive behaviours especially in cities

including that of developing countries owing to industrialisation, standard of living and a reasonable degree of knowledge as against those in the rural areas. For instance Werner (2005) asserts that health-related preventive behaviour is influenced by knowledge. But in the real sense, these features that seem to be advantage of the cities may not be enough reason why Lagos residents in Nigeria may opt for the behaviour but, there may be other underlying factors as there has not been documented evidence that preventable illnesses or diseases are absent in Nigerian cities.

Among many factors that are likely to contradict expectations of intention to perform preventive health behaviour is individual differences. For example, it was reported that most communicable diseases can be prevented because they are a result of individual health behaviours (Centre for Disease Control and Prevention, 2014). Also, people know they should follow few preventive health behaviours to prevent serious future problems but still do not adopt them (Werle, 2011). This shows that humans react to situations differently no matter how beneficial or appealing the behaviour might appear. One notable way to understand individual differences is through personality traits.

Personality is an enduring and unique cluster of characteristics that may change in response to different situations (Schultz &

Schultz, 2005). This implies that certain traits are subsumed as personality and these traits are capable of influencing our behaviour in a varying manner irrespective of the consequences of the behaviour.

In the study of health behaviour, personality traits have been identified as one of the best psychosocial predictors of both general health status and specific outcomes (Hampson, 2012). However, neuroticism and conscientiousness were reported to be more strongly connected with more preventive health behaviours and less risky behaviours (Bogg & Roberts, 2012; Hampson, 2012; Hill & Roberts, 2011, Raynor & Levine, 2009). Further, personality traits represent tendencies to manifest particular patterns of cognitions, emotions, motivations and behaviour (John, Robins & Pervin, 2008). Among the many conceptualisations of personality is the Five-Factor Model (FFM) of personality by Costa and McCrae (1992) regarded as a widely used framework for studying the associations between personality and health (Chapman, Roberts & Duberstein, 2011). The FFM describes personality traits as having five dimensions: neuroticism, extraversion, conscientiousness, openness to experience, and agreeableness.

Being neurotic predisposes individuals to experience negative emotions, to view the world pessimistically and to interpret various stimuli as threatening (Costa &

McCrae, 1992). Hence, individuals high in neuroticism are at greater risk for developing illness and have shorter life spans (Hampson, 2012; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Possibly, neurotics are more prone to illness because their negative emotions and negative thoughts may lead to continuous experience of panic attack, an unhealthy state. However, some have argued that high levels of neuroticism can benefit health under certain circumstances (Friedman, 2000). This assertion possibly holds in that the negative emotions and pessimistic thought may stir the need to practice activities that prevent illness and avoid risky health behaviours. However, most studies contended that healthy neuroticism may arise when paired with high level of conscientiousness (Friedman, 2000; Terracciano & Costa, 2004; Turiano, Whiteman, Hampson, Roberts, & Mroczek, 2012; Vollrath & Torgersen, 2002).

Extraversion describes people that are sociable, talkative, fun-loving and affectionate (Schultz & Schultz, 2005). With these characteristics, people high on extraversion seek to implement health behaviours that are associated with positive rewards such as physical activity and increased fruit intake (DeBrujin, Kremers, Van Mechelen, & Brug, 2005). On the contrary, people high on extraversion may perceive themselves to be less vulnerable and may be reckless in health decisions (Gruber, Mauss, & Tamir, 2011) probably

due to their high level of sociability, love to catch fun, less anxiety about health and less attention to deleterious changes in their health.

Conscientious individuals are described as dutiful, plan-oriented, goal oriented and orderly in the implementation of their actions (Costa & McCrae, 1992). Individuals high in conscientiousness experience better health, as they live longer and are at a lower risk for a variety of illnesses (Chapman, et al., 2011; Kern & Friedman, 2008). Possibly, the quality of orderliness in conscientious individuals guides their action and channels them to course of actions that will help actualise their goals. The insinuation is that illness or diseases that can hamper their goal in life are brought to the barest minimum. For instance, Bogg and Roberts (2012) reported positive association of conscientiousness with preventive health behaviours and few risky health behaviours. Most studies have positively linked conscientiousness and health outcomes giving a positive impression unlike neuroticism with two sides.

Costa and McCrae (1992) described openness to experience as the extent to which an individual is intelligent, curious and a proclivity for various new experiences. In other words, people high in openness desires to acquire knowledge and seek opportunity for new experiences including preventive health practices, but

Woods and Hampson (2010) viewed them as non-conformist. Roberti (2004) described people high in openness as sensation seekers who tend to adopt unhealthy behaviours such as substance use. Similarly, Armon and Toker (2012) reported negative associations with health-promoting behaviours. On the contrary, individuals with this trait are “experience seekers” that might be more proactive in seeking out information that might serve as an advantage in managing their health (Iwasa, Masui, Gondo, Yoshida, Inagaki, Kawaai, Kim, Yoshida and Suzuki, 2009).

Agreeableness refers to a composite of several lower-order traits related to maintaining interpersonal harmony: trust, honesty, compliance, interpersonal deference, and altruism with a preference for cooperation. (Costa & McCrae, 1992). High agreeable personality demonstrates compliance and trust (Costa & McCrae, 1992), a good indication that they might be compliant with health-promoting behaviours, and predisposed to follow suggested health guidelines (Armon & Toker, 2012). As a compliant person, they may compare their health behaviours with the social context to determine their course of health action. Thus, agreeableness may lead to a variety of responses (Armon & Toker, 2012).

The role of personality traits in health issues identified by previous studies is a guide to investigate the extent of associations and

predictive tendencies of personality traits on preventive health behaviour among residents of a cosmopolitan state like the city of Lagos. From the ongoing, studies linking personality and preventive health behaviour has been investigated but the focus of this study is to investigate the phenomena among residents of Lagos bearing in mind the characteristics of cities such as industrialization, large population, increased social activities, knowledge and literacy, busy and hustling nature. Against this background, the purpose of this study is to investigate the relative roles of personality traits in predicting preventive health behaviour among city dwellers.

The findings of this study would complement previous literature on the role of personality traits on PHB, provide the link between the phenomena from the perspective of characteristic location, increase knowledge of patient attitude to health habits and affect health policy in developing countries like Nigeria.

Hypotheses

Based on the reviewed studies, it was hypothesised that personality traits will have significant independent and joint influence on preventive health behaviour among residents of Lagos, Nigeria.

METHOD

Design

The study adopted a cross-sectional survey design in order to collect data on personality

traits and to find out the extent to which residents of Lagos engaged in preventive health behaviours. Also, the extent and direction of the relationship was investigated using this method.

Participants

Two hundred and ninety participants (290), 156 males (53.8%) and 134 females (46.2%) from different forms of occupation residing in Lagos participated in this study. Their level of education include: post-graduate (19%), first degree/ HND (79%) and secondary school education (9.3%). They were recruited from public areas such as place of worship, and their offices. The minimum age of the participants was 21 years (Mean= 27.70, SD= 4.97).

Instruments

Big Five Inventory (BFI-10) by Rammstedt and John (2007) was used to assess the participants' personality traits (Agreeableness, Neuroticism, Extraversion, Conscientiousness and Openness to experience). The instrument was a 10-item short version of the BFI rated on 5-point Likert scale from 1= disagree strongly to 5= agree strongly. Selecting 2 BFI items for each Big Five dimension, the test-retest correlation in United States was .72, .75 in Germany and .75 overall (Rammstedt & John, 2007). The first five items were opposite of the last five. For example on extraversion, "I see myself as someone that is reserved" was reversed-scored while "I see myself as someone that

is outgoing, sociable” was directly scored as stated by the inventors.

Preventive Health Care Scale developed by Jayanti and Burns (1997) was used to measure preventive health behaviour. It was a 17-item Scale rated on a 3-point scale ranging from 1= always to 3= never. The scale seeks to inquire how often participants undertake preventive health activities such as paying attention to sugar intake, eat fresh fruits and vegetables. The reliability of the scale ranged from .71 to .91 (Jayanti & Burns, 1998). High scores on the scale indicate high level of preventive health behaviours.

Procedure

The participants were drawn from different settings of the city of Lagos where we solicited for their consent before the administration of the questionnaires. A total

of 344 questionnaires containing six sections were distributed and only 290 were recovered yielding a response rate of 84.3 % and 287 was found usable. The participants were cautioned not to indicate on the questionnaire any information that could disclose their identity. Also, the recovered questionnaires were not sorted based on any of the demographic variables. This is to ensure that the responses are treated anonymously and guarantee confidentiality of responses.

Data Analysis

The data was analysed using Statistical Package for Social Sciences (SPSS 20). The inter-variable correlations was tested using Pearson Product Moment Correlation while multiple regression analysis was used to test the roles of personality traits on preventive health behaviour. Statistical significance of predictive relationship was set at $p < 0.05$.

RESULTS

Table 1 Summary of Mean, Standard deviation and Inter-variable Correlations

Variables	M	SD	1	2	3	4	5	6	N=287
Neuroticism	5.18	1.84	1						
Extraversion	5.81	4.97	.068	1					
Conscientiousness	7.91	1.62	.158**	.098	1				
Openness	6.77	1.83	.108**	.091	.151**	1			
Agreeable	7.94	1.70	.239**	-.036	.284**	.080	1		
6. PHB	27.68	1.46	.073	.069	-.087	.080	.001	1	

**Correlation is significant at the 0.01 level of significance

*Correlation is significant at the 0.05 level of significance

The table revealed that neuroticism [$r(287) = .073, p > .05$], extraversion [$r(287) = .069, p > .05$], conscientiousness [$r(287) = -.087, p > .05$], openness [$r(287) = .080, p > .05$] and agreeableness [$r(287) = .001, p > .05$] had no significant relationship with preventive health behaviour.

Table 2: Summary of Multiple Linear Regression of Personality Factors on Preventive Health Behaviour

Source	Beta	t	R	R ²	F	p
Extraversion	.081	1.45				
Agreeableness	.040	.64				
Conscientiousness	.114	-1.82	.165	.027	1.58	>.05
Neuroticism	.048	.785				
Openness	.097	1.60				

The result revealed that the personality traits did not independently determine preventive health behaviour (Extraversion ($\beta = .08, p > .05$), agreeableness ($\beta = .04, p > .05$), conscientiousness ($\beta = .11, p > .05$), neuroticism ($\beta = .04, p > .05$) and openness ($\beta = .09, p > .05$)). This was such that a personality trait does not determine the decision to practice preventive health behaviours.

The result in Table 2 also indicated that personality traits did not jointly determine preventive health behaviour [$R = .165, R^2 = 0.27, F = 1.58, p > .05$]. This implies that personality traits do not always determine preventive health practices rather, people would engage in preventive health practices

irrespective of their personality.

DISCUSSION

This study investigated the role of personality traits in predicting preventive health behaviour of Lagos State residents and found personality traits not to have correlational or predictive relationship with preventive health behaviours contrary to previous reports. Neuroticism and conscientiousness that were identified as the most personality traits predicting health behaviours (Hampson, 2012; Bogg & Roberts, 2004; Hill & Roberts, 2011) were not confirmed. Although there was relationship between neuroticism and conscientiousness, the healthy neurotic (Friedman, 2000; Turiano et al., 2013) but

there was no predictive report on preventive health practices in this study. Basic qualities of neurotics as anxious, guilt-prone, low confidence may override their conscientious trait such that they may become irresponsible, careless and distractible. In other words, such personality combination are not likely to take responsibility for their health, and even when the preventive practice is medically recommended they may not acknowledge viable reasons to adopt the behaviour. Also, agreeableness and openness to experience has been linked with negative health behaviours (Armon & Toker, 2012), a support for the findings of this study. On the contrary, openness may also demonstrate advantageous health practices (Iwasa et al., 2009) while agreeableness may lead to variety of responses (Armon & Toker, 2012). Extraversion was linked with health implementation (De brujin et al., 2005) but they may also be vulnerable to reckless health decisions (Gruber et al., 2011) which is similar to the findings in this study.

Subsequently, contrary findings here may result from our own method of holistic personality investigation on preventive health practices as most studies embark on individual investigations of the personality traits. Also, the context of investigation may be another contributing factor to the differences in this study and previous ones. Notably, most related research on this study in cities are few. In other words, the characteristics of the location

(industrialization) and characteristics of the city dwellers (literacy, knowledge and information) may be the confounding factors in the result. For example, 79% of the study participants have first degree/ Higher National Diploma. Additionally, personality of the individuals may be mediated by other health-related variables particularly, cognitive processes and more health-related psychosocial variables. For example, (Wolf, Gazmararian, Baker, 2005) noted the role of health-literacy while (Ademola & Brieger, 2007) reported the role of self-efficacy in the practice of safe sex in rural south-western Nigeria.

Limitations of the Study

The limitations of this study begins with the use of the 10-item short version of the BFI and the correlational design. The short item version of the personality traits may not fully describe the personality of the city dwellers. Hence, future studies should endeavour to use the 44-item Big Five Personality Inventory. Also, further studies are advised to make comparisons on location context so as to control for the confounding influence of the characteristics of city dwellers.

Conclusion

Despite the findings and limitations of this study, the result indicates that Lagos residents engage in preventive health practices irrespective of their personality traits. Specifically, the study provided an exceptional understanding of health

behaviour outcomes on contextual basis even when previous studies justifies the link between personality traits and health behaviour. Furthermore, the rationale for this finding may prove questionable, to clear all doubts we may get a clearer picture from the scenario of the 2014 Ebola outbreak in the major city of Nigeria, Lagos where within a short time the pandemic disease was thrown out of place.

Also, the findings of this study are beneficial to health care studies. Behavioural tendencies to practice preventive health behaviours are not only determined by personality traits. As the study has attempted to throw light on other underlying possible causes resulting from environmental factors, it is recommended that further research should examine the role of information, health-knowledge, health-awareness and environmental factors.

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