

Personality Factors, Cognitive Distortions, Core Self Evaluation and Health Seeking Behaviour among Residents of Makurdi Metropolis

Rimande Ubandoma Joel², MBBS; Dzer Benjamin Terzungwe, PhD^{2*}, Tomen Egbe Agu, PhD³

^{1,3}*Department of Public Health, Taraba State University, Jalingo*

²*Department of Nursing, College of Health Sciences, Benue State University, Makurdi*

**Corresponding Author*

Abstract: This study investigated personality factors, cognitive distortion, core self-evaluation and health seeking behavior amongst residents of Makurdi metropolis. 138 (45.2%) were male while 167(54.8%) were female. Their ages range from 16-60years. The study employed the survey research design. The Big five inventory, the cognitive distortion questionnaire, core self-evaluation and health protective behavior scale were used for data collection; statistical analysis involved the use of multiple linear regression, simple linear regression and hierarchical multiple regression. Findings indicated that personality factors jointly predicted health seeking behavior among residents of Makurdi metropolis whereas on independent basis, only consciousness and extraversion proved to be significant. Also, cognitive distortions, did not predict health seeking behavior. Core self-evaluation jointly predicted health seeking behavior whereas independently, non-accept, impulse, strategies and clarity predicted health seeking behavior. Finally, personality factors, cognitive distortions and core self-evaluation jointly predicted health seeking behavior. It was recommended that, personality factors of individuals be taken into consideration as it is found to be a significant predictor of health seeking behavior in this study. Finally significant others are encouraged to teach their relations on core self-evaluation as it is found to be a significant predictor of health seeking behavior as reported in this study.

Keywords: Health Seeking Behavior, Personality Factors, Cognitive Distortions, Core-Self Evaluation, Residents in Makurdi Metropolis

I. INTRODUCTION

Health seeking behaviors are often not bad when it brings about wellness, but when it contributes to illness state of person then problem sets in. Health seeking behavior (HSB) has been defined as, "any action or inaction undertaken by individuals who perceive themselves to have a health problem or to be ill for the purpose of finding an appropriate remedy" (Steen and Mazonde, 1999). Health seeking behavior can also be referred to as illness behavior or sick-term behavior. Health seeking behavior is situated within the broader concept of health behavior, which encompasses activities undertaken to maintain good health, to prevent ill health, as well as dealing with any departure from a good state of health. Furthermore, health or care seeking behavior has been defined as any action undertaken by individuals who perceive them to have a health

problem or to be ill for the purpose of finding an appropriate remedy. For this reason, the nature of care seeking is not homogenous depending on cognitive and noncognitive factors that call for a contextual analysis of care seeking behavior.

The health belief model (Rosenstock, 1974) proposes that whether a person performs a particular health behavior is influenced by two major factors: The degree to which the disease negative outcome is perceived by the person as threatening and the degree to which the health behavior is believed to be effective in reducing the risk of a negative health outcome. The first factor, i.e., perceived threat, is determined by whether someone believes he or she is susceptible to (that is, likely to get) the disease, and how severe that person believes it would be if it developed. The second factor, perceived effectiveness of the preventive behavior, takes into account not only whether the person thinks the behavior is useful, but how costly (in terms of money, time and effort) it is to carry out the preventive behavior. When health messages demonstrate to people that there is a real threat to their health and also convince them that a particular behavior can reduce their risk, the likelihood of behavior change is greatly increased.

In a study in Nigeria, as many as 71% of rural dwellers have reported inappropriate HSB during their last illness episode while only 53% of urban dwellers reported inappropriate HSB during their last illness episode. Similarly, Nigerian women living in areas where the ratio of population to Primary Healthcare Centre (PHC) was high (more than 9,000:1) were less likely to have a skilled birth attendant present during childbirth than areas where the ratio of population to Primary Healthcare Centre (PHC) was lower (less than 6,000:1). This disparity makes it necessary to determine the factors affecting HSB among different segments of the population. This is essential to guide policy formulation and implementation. An important aspect of HSB is the choice of healthcare provider made by people when responding to illness episodes (Onwujekwe, Onoka, Uzochukwu, Hanson, 2009; Ononokpono, Odimegwu, 2014). Without doubt, there are factors that could be proposed to be responsible for health seeking behaviors one of which is personality factors.

As already known, personality has been understood as a dynamic organization of characteristics typical of an individual, which influences behaviors, cognition and motivations (Ryckman, 2013). As it regards health seeking behavior personality traits can serve as both protective and deterring factors to an individual's health (Raynor and Levine, 2009). Raynor and Levine (2009) linked extraversion to an increase in strengthening exercises. This is an instance whereby considering the relevance of exercise to one's general health and to one who just recovered from a motor-accident and is required to go through some exercises to gain normality to bones and parts of the body as the case may be. However, extraversion as a factor of one's personality has also been related to higher levels of binge drinking (Benjamin and Wulfert, 2005), increased risky driving (Dahlen and White, 2006) and increased substance abuse (Dordinejad and Shiran, 2011).

Concerning cognitive distortion, many have wondered what cognitive distortion is, and its relational influence to health seeking behavior. It has been observed that, cognitive distortion can be traced and explainable through persistent patterns of reasoning's thereby leading to how one behaves. Beck discerned six types of cognitive distortions: 1) arbitrary inference (reaching a conclusion that has no logical validity); 2) selective abstraction (formulating an idea on the basis of a detail taken out of context, while ignoring other relevant information); 3) overgeneralization (deriving a general rule from isolated incidents and applying it to various other situations); 4) magnification and minimization (perceiving something to be much more, or much less, important than it is); 5) personalization (internalizing attribution for external events); and 6) dichotomous thinking (classifying experiences according to one or two extremes). (Beck and Weishaar, 1989). Burns (1999) expanded the list of cognitive distortions, phrasing them to make them more accessible to the layperson. Burns' Checklist of Cognitive Distortions includes: 1) all-or-nothing thinking; 2) overgeneralization; 3) mental filter (dwelling on negatives while ignoring positives); 4) discounting the positives; 5) jumping to conclusions (including mind-reading, or assuming that all people view one negatively, and fortune-telling, or arbitrarily predicting negative outcomes); 6) magnification or minimization; 7) emotional reasoning, 8) "should statements"; 9) labeling (identifying with one's flaws); and 10) personalization and blame. From the foregoing, it's obvious that, as seen around in recent times, health seeking behaviors have been sponsored by some of these cognitive distortive features.

Core self-evaluation is a broad personality trait that includes shared elements of some of the most frequently studied personality traits, including self-esteem, locus of control, and neuroticism. Although researchers have spent decades studying these individual traits (e.g., self-esteem, neuroticism), only recently have researchers begun to recognize the commonalities among them. Recent research indicates that four core traits—neuroticism (reverse scored), locus of control, generalized self-efficacy, and self-esteem—

are highly related to one another. Individuals who score high in one of these traits tend to score high on all of them, leading researchers to believe that individual traits may all be linked to a common source or core, labeled core self-evaluations. (Judge, Locke, and Durham 1997)

Generally, health seeking behavior is preceded by a decision-making process that is further governed by individuals and/or household behavior, community norms, and expectations as well as provider-related characteristics and behavior. To make these decisions one's personality factors, cognitive distortions and core self-evaluation has a part to play. Consequently on the foregoing, it has been believed that personality factors, cognitive distortion and core self-evaluation have had a huge part to play either independently or jointly.

Statement of Problem

Health seeking behaviors are often not bad when it brings about wellness, but when it contributes to illness or an unwell state of person then problem sets in. personality factors have had a major share in one's behavior generally and health wise in particular. Many believe that by personality some are extremely dirty and nonchalant as it regards their health and thereby exposing themselves to germs and settings that deteriorates human living.

Observable despite the role of personality in health seeking behavior, cognitive distortions have played a pivotal role. It is no news that our circumstances don't define us. Regardless of what happens in life (health status), we always have the power to choose our attitude which may in turn influence the outcome of our health status. So what's the difference between someone who remains hopeful despite experiencing great suffering (as a result of illness) and the person who stubs his or her toe (barely injured) and remains angry and weak the rest of the day? The answer lies in the person's thinking patterns whereby when distorted with the form of anxiety and depression, there is no limit to the one's health seeking behaviors. One's thinking ability if distorted may always exercise health related behaviors that may not encourage wellness rather promotes more harm to a person and other around. This may further escalate to how a person evaluates self. Self-evaluation determines the state of one's wellness and illness. Many have been sick yet base on their core-self-evaluation have been affirmed to be healthy thereby giving room for illness to grow, while on the contrary health seeking behaviors have been promulgated.

Accordingly, health seeking behavior has had its various role players; including personality factors, cognitive distortions and core self-evaluation but scientifically only a few proves have been given to ascertain the extent of its relationships. Thus, this study seeks to look at personality factors, cognitive distortions; core self-evaluation and health seeking behavior among residents in Makurdi metropolis.

Aim and Objective of Study

The aim of this study is to investigate personality factors, cognitive distortions; core self-evaluation and health seeking behavior among residents in Makurdi metropolis. To achieve this aim, the following are the objectives of the study to:

- i. Ascertain the influence of personality factors on health seeking behavior among residents in Makurdi Metropolis.
- ii. Determine the influence of cognitive distortions on health seeking behavior among residents in Makurdi metropolis.
- iii. Investigate the influence of core self-evaluation on health seeking behavior among residents in Makurdi metropolis.
- iv. Establish the joint influence of personality factors, cognitive distortions; core self-evaluation on health seeking behavior among residents in Makurdi metropolis.

Hypothesis

- i. Personality factors will significantly influence health seeking behavior among residents in Makurdi Metropolis.
- ii. Cognitive distortions will significantly influence health seeking behavior among residents in Makurdi metropolis.
- iii. Core self-evaluation will significantly influence health seeking behavior among residents in Makurdi metropolis.
- iv. Personality factors, cognitive distortions; core self-evaluation will significantly jointly influence on health seeking behavior among residents in Makurdi metropolis.

II. METHODOLOGY

This research adopted a cross-sectional design. This is a type of design that is used to collect data to make inferences about a population of interest at a particular time. This chosen design is suitable for this study because it gives room for the researcher to collect that from a cross section of flooding activities in Makurdi metropolises, which is used in making inferences on personality factors, cognitive distortions, core self-evaluation and health seeking behavior among residents in Makurdi metropolis.

The research setting is Makurdi Local Government Area with full consideration of the metropolitan areas. It lies on the south bank of the Benue River. In 1976, following the division of Benue-Plateau state into two states, Makurdi was selected as the capital of Benue state (Anyo 2012). Makurdi's population as a Local Government according to the 2006 census was 406,555 while in 2007; Makurdi had an estimated population of 500,797. This implies that Makurdi local government in terms of population is consistently increasing. Makurdi local government has a land mass of 34,059 square kilometer with eleven (11) Council wards. Makurdi is located

in the middle belt are of Nigeria, situated at the ban of the Benue Valley and is bothered on the west and north by Katsina and Doma Local government area, on the south by both Gwer and Gwer-West Local Government Areas of Benue State.

Makurdi Local government is predominantly a Tiv speaking area. Other ethnic groups found settled in the area include, Idoma, Igede, Etulo, Jukun, Igbo, Yoruba Hausa among others. Makurdi is also a tourist center with the presence of River Benue. The J.S. Tarkaa foundation structure and the Makurdi Zoological garden situated inside Benue State University, Makurdi. Also, the location of the Nigerian Airforce Base, the Benue State University, the Federal University of Agriculture and the National Open University makes Makurdi attractive. The establishments of markets including the modern market, Northbank market, High-level market and Wurukum market, motor parks and gardens generate revenue to the local government. Amongst several factories and industries in Makurdi Local Government, Benue Brewery, Plc, Cocacola Deport and Miva is situated along Km 5, Gboko Road.

Participants of this study were made up residents of Makurdi metropolitan areas which includes; Judges' Quarter, Commissioner's Quarters, Owners' Occupier, High-level, Wadata, Wurukum, Modern Market, BSU (Gboko Road), Lobi Quarters, Idye and Northank.. Also, the participants comprises of people from different socio-economic background, occupation etc. Demographically the participants were duly represented as follows, 175 (57.4%), 98(32.1%) and 32(10.5%) of the participants were of 16-30years, 31-45years and 46-60years respectively. As it pertains to sex of respondents 138(45.2%) were male while 167(54.8%) were females; 36(11.8%), 82(26.9%) and 187(61.3%) indicated that their incomes were high, average and low accordingly. Further on the demography, 204(66.9%) were single as the remaining 101(33.1%) were married; 275(90.2%) were Christian while 30(9.8%) were Islam. Concerning their tribe, Tiv, Idoma, Igede and Others were represented by 143(46.9%), 54(17.7%), 30(9.8%) and 78(25.6%) respectively, as 101(33.1%), 177(58.0%), 27(8.9%) attained primary, secondary and tertiary education respectively.

In determining the sample of this study, simple random sampling will be employed. Simple random sampling will be engaged in order to reduce or eliminate biasness thereby giving every individual the opportunity to be a participant of the study. By way of sampling, the Taro Yamane was used in determining the sample for this research.

The study employs the statistical formula for selecting the sample size from a finite population as formulated by Taro Yamane (1964). Taro Yamane formula is stated as thus:

$$n = \frac{N}{1+N(e)^2}$$

Where 1 = Constant value

n = Sample size

N = Population of the study

e = Sampling error (or level of confidence)

According to Yamane, the margin error is meant to determine and get a reasonable and workable population size. For this study therefore, since $N = 400$ and $e = 0.05$, n can be calculated as:

$$n = \frac{406,555}{1+406,555 (0.05)^2}$$

$$n = \frac{406,555}{1+406,555 \times 0.0025}$$

$$n = \frac{406,555}{1+1016.4}$$

$$n = \frac{406,555}{1017.4}$$

$$n = 399.6$$

Thus, the sample size for the study was 400 respondents.

An initial item pool for the Health Protective Behavior Scale (HPBS) was generated based on read and referred literature and a single-item open-ended survey. An expert group screened this initial item pool using an item-level content validity index. Pilot testing was conducted. The degree of variation, the response rate, the item-total correlation coefficient, and the factor loading in factor analysis and item analysis were used to screen items using data of pilot testing. 454 subjects were recruited evaluate the psychometric properties of the HPBS. Analyses included internal consistency, test-retest reliability, factor analysis, parallel analysis, correlation analysis and criterion validity analysis. The final iteration of the HPBS was developed with 32 items and five dimensions: interpersonal support, general behavior, self-knowledge, nutrition behavior and health care. Cronbach's alpha coefficient and test-retest reliability were 0.89 and 0.89 respectively. Correlation coefficients of the five dimensions ranged from 0.28 to 0.55. The Spearman correlation coefficient between the total scores on the WHOQOL-BREF and on the HPBS was 0.34. HPBS has sufficient validity and reliability to measure health protective behaviors in adults.

The Big Five Inventory (BFI) by John and Srivastava (1999) is a 44-item inventory that measures an individual on the Big Five Factors (dimensions) of personality (Goldberg, 1993).

Each of the factors is then further divided into personality facets. It has a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. The BFI scale scoring ("R" denotes reverse-scored items): Extraversion: 1, 6R, 11, 16, 21R, 26, 31R, 36 Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42 Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39 Openness: 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44.

The Cognitive Distortions Questionnaire (CD-Quest; de Oliveira, Trial-based cognitive therapy: A manual for clinicians, Routledge, New York, 2015), a brief, 15-item questionnaire, assesses the frequency and intensity of cognitive distortions. The CD-Quest has been shown to have sound psychometric properties in American, Australian, and Bra-zilian undergraduate samples and one Turkish-speaking outpatient clinical sample. The current study aimed to provide the first evaluation of the psychometric properties of the English version of the CD-Quest in a clinical sample and the first evaluation of any version of the CD-Quest in a sample of adults diagnosed with social anxiety disorder (SAD). In a sample of treatment-seeking adults with SAD, the CD-Quest demonstrated good convergent validity, discriminant validity, known-groups validity, and treatment sensitivity.

Core self-evaluations (CSE) were developed by Judge and his colleagues in 1997 and developed a global scale for measurement in 2003. This paper examines the reliability and validity of a measure for employees of Information technology (IT) companies in India. Data was collected from 410 respondents of three major Indian IT companies. Exploratory factor analysis was conducted to test its stability, reliability and validity. In this study, four factors were identified as self-esteem, neuroticism, generalized self-efficacy, and locus of control to measure CSE. The result showed the reliability coefficient (Cronbach's Alpha) of 0.88 which is higher than 0.70. The convergent validity and discriminant validity coefficients are within the established criteria. Hence, core self-evaluations scale (CSE) is a reliable and valid scale for measuring CSE among Indian IT professionals.

III. RESULTS

Hypothesis 1: This hypothesis stated that there will be a significant influence of personality factors (openness, conscientiousness, extraversion, agreeableness and neuroticism) on health seeking behavior among residents of Makurdi metropolis. The hypothesis was tested using Multiple Linear Regression and the result is presented in Table 1.

Table 1: Multiple Linear Regressions showing the influence of personality factors (openness, conscientiousness, extraversion, agreeableness and neuroticism) on health seeking behavior among residents of Makurdi metropolis

DV	Predictors	R	R ²	df	F	β	t	p
Health Seeking Behaviour (overall)	Constant	.765	.585	5,299	84.456		6.007	.000
	Openness					.013	.150	.881
	Conscientiousness					.524	5.537	.000
	Extraversion					.317	5.547	.000
	Agreeableness					-.006	-1.154	.878
	Neuroticism					-.049	-.786	.433

The result presented in Table 1 revealed that Personality traits (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) jointly predicted overall health seeking behavior among residents of Makurdi metropolis [R=.765, R²=.585, F(5,299)=84.456, p<.01]. Personality factors (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) contributed 59% of the total variance observed in overall health seeking behavior among residents of Makurdi metropolis. On the dimensions, the results indicate that only conscientiousness (β=.524, t=5.537, p<.01) and extraversion (β=.317, t=5.537, p>.01) whereas openness (β=.013, t=.150, p>.05), agreeableness (β=-.006, t=-.154, p>.05), and neuroticism (β=-.049, t=-.786, p>.05) did not independently influence health seeking behavior among residents of Makurdi metropolis. Based on the above results, hypothesis three was accepted.

Hypothesis 2: This hypothesis stated that, there will be a significant influence of cognitive distortions on health seeking behavior among residents of Makurdi metropolis. Simple Linear Regression was used in testing this hypothesis and the result obtained is presented in Table 2.

Table 2: Simple Linear Regressions showing the influence of cognitive distortions on health seeking behavior among residents of Makurdi metropolis.

DV	Predictors	R	R ²	df	F	β	t	p
Psych H (overall)	Constant	.020	.000	1,303	.125		15.97	.000
	Care					-.020	-.354	.724

The result presented in Table 2 revealed that cognitive distortions did not significantly influenced health seeking behavior among residents of Makurdi metropolis [R=.020, R²=.000, F(1,303)=.125, p<.01]. Cognitive distortions contributed 0% to the total variance observed in overall health seeking behavior among residents of Makurdi metropolis. Based on the above results, hypothesis two was accepted.

Hypothesis 3: This hypothesis stated that there will be a significant influence of core self-evaluation (nonaccept, goals, impulse, aware, strategies and clarity) on health seeking behavior among residents of Makurdi metropolis. Multiple Linear Regression was used in testing this hypothesis and the result obtained is presented in Table 2.

Table 3: Multiple Linear Regressions showing the influence of core self-evaluation on health seeking behaviour among in-school adolescents in Makurdi metropolis

DV	Predictors	R	R ²	df	F	β	t	p
Health Seeking Behaviour (overall)	Constant	.781	.610	6,298	77.543		3.998	.000
	Nonaccept Goals					1.076	3.273	.000
	Impulse					-.430	-2.113	.035
	Aware Strategies					-.136	-1.680	.094
	Clarity					.352	5.561	.000
						-.243	-3.313	.001

The result presented in Table 3 revealed that core self-evaluation and it dimensions significantly influenced health seeking behavior among residents of Makurdi metropolis [R=.781, R²=.610, F(6,298)=77.543, p<.01]. Core self-evaluation and it dimensions contributed additional 61% of the total variance observed in overall health seeking behavior among residents of Makurdi metropolis. On independent basis nonaccept (β=1.076, t=3.273, p<.01), impulse (β=-.430, t=-2.113, p<.05), strategies (β=.352, t=5.561, p<.01) and clarity (β=-.243, t=-3.313, p<.01) significantly influenced health seeking behaviour among residents of Makurdi metropolis whereas goals (β=-.081, t=-

.732, p>.05) and aware (β=-.352, t=-1.680, p>.01) did not significantly influence health seeking behaviour among residents of Makurdi metropolis. Based on the above results, hypothesis one was accepted.

Hypothesis 4: This hypothesis stated that there will be a significant joint influence of personality traits, cognitive distortions and core self-evaluation on health seeking behavior among residents of Makurdi metropolis when age, sex, income and religion are controlled. This hypothesis was tested using hierarchical Multiple regression analysis and the result is presented in Table 4.

Table 4: Summary of hierarchical multiple regression showing joint influence of personality traits, cognitive distortions and core self-evaluation on health seeking behavior among residents of Makurdi metropolis when age, sex, income and religion are controlled.

Model	Predictors	Step 1	Step 2	Step3	Step4
		β	β	β	β
Model 1 Demographic variables	Age	-.133*	-.074*	-.074	-.036
	Sex	.058	.111*	.112*	.102
	Income	.222	.067	.066	.132**
	Religion	.112	.040	.040	.005
Model2 Personality Factors	Openness		.149	.150	-.023
	Conscientiousness		.368**	.368**	.333*
	Extraversion		.318**	.317	.122
	Agreeableness Neuroticism		-.013 -.040	-.013 -.040	.011 -.036
Model3 Cognitive Dist	Cognitive Dist		.002		.040
Model 4 Core Self-Evaluation	Nonaccept Goals			.423	
	Impulse			.059	
	Aware			.006	
	Strategies			-.333**	
	Clarity			.402** -.371**	
	R	.287	.781	.781	.815
	R ²	.082	.610	.610	.663
	ΔR^2	.082	.528	.000	.053
	F	6.719	51.292	46.007	35.480
	ΔF	6.719	79.884	.004	7.602

**=P<.01.

The result presented in Table 4 revealed that in model 1 when age, sex, income and religion were tested, the variables jointly predict overall health seeking behavior among residents of Makurdi metropolis [$R=.287$, $R^2=.082$, $F(4,300)=6.719$, $p<.01$]. Independently only age ($\beta=-.133$, $p<.05$) and income ($\beta=-.222$, $p<.01$) significantly influenced health seeking behavior among residents of Makurdi metropolis whereas sex ($\beta=.058$, $p>.05$) and religion ($\beta=.112$, $p>.05$) did not independently predict health seeking behavior among residents of Makurdi metropolis.

In model 2 (step2) when personality traits and its dimensions were introduced, the variables jointly predicted health seeking behavior among residents of Makurdi metropolis [$R=.781$, $R^2=.610$, $F(9,295)=51.292$, $p<.01$]. Model 2 as a whole explained 61% of the total variance observed in overall health seeking behavior among residents of Makurdi metropolis. The results further indicate that personality traits and its dimensions jointly contributed an additional 53% ($\Delta R^2=.528$) of the variance in health seeking behavior among residents of Makurdi metropolis after controlling for age, sex, income and religion. This is a statistically significant contribution by this personality traits trait as indicated by the F-Change value ($\Delta F=79.884$, $p<.01$). This result indicates that even when age,

sex, income and religion are controlled, personality traits and its dimensions jointly predicted health seeking behavior among residents of Makurdi metropolis.

In model 3 (step3) when cognitive distortion was introduced, the variable did not significantly predict health seeking behavior among residents of Makurdi metropolis [$R=.781$, $R^2=.610$, $F(10,294)=46.007$, $p<.01$]. Model 3 as a whole explained 61% of the total variance observed in health seeking behavior among residents of Makurdi metropolis. The results indicate that cognitive distortion contributed an additional .0% ($\Delta R^2=.000$) of the variance in health seeking behavior among residents of Makurdi metropolis after controlling for age, sex, income and religion. There is a statistical significant contribution as indicated by the F-Change value ($\Delta F=.004$, $p>.05$). This result indicates that when age, sex, income and religion were controlled, cognitive distortion did not significantly predict health seeking behavior among residents of Makurdi metropolis.

In model 4 (step4) when health core self-evaluation and its dimensions were introduced, the variables jointly predicted health seeking behavior among residents of Makurdi metropolis [$R=.815$, $R^2=.663$, $F(16,288)=35.480$, $p<.01$].

Model 4 as a whole explained 66% of the total variance observed in health seeking behavior among residents of Makurdi metropolis. The results further indicated that health core self-evaluation and its dimensions jointly contributed an additional 5.3% ($\Delta R^2=.053$) of the variance in health seeking behavior among residents of Makurdi metropolis after controlling for age, sex, income and religion. There is a statistically significant contribution by this construct as indicated by the F-Change value ($\Delta F=7.602$, $p>.01$). This result shows that even when age, sex, income religion were controlled, core self-evaluation and its dimensions jointly predicted health seeking behavior among residents of Makurdi metropolis. Based on this result, hypothesis four was confirmed.

IV. DISCUSSION AND CONCLUSION

The first hypothesis stated that, there will be a significant influence of personality factors (openness, conscientiousness, extraversion, agreeableness and neuroticism) on health seeking behavior among residents of Makurdi metropolis. The stated hypothesis was accepted. The present study was supported by the findings of Raynor and Levine, (2009) which proved that personality traits can serve as both protective and deterring factors to health Raynor and Levine (2009) linked extraversion to an increase in strengthening exercises. However, extraversion in students has also been related to higher levels of binge drinking (Benjamin & Wulfert, 2005), increased risky driving (Dahlen and White, 2006) and increased substance abuse (Dordinejad & Shiran, 2011). Students scoring high on extraversion were also involved in riskier sexual behaviors; including increased sexual partners (Ingledew and Ferguson, 2007) and decreased condom use (Raynor and Levine, 2009).

Also, in agreement with the present study, Rhodes and Smith, (2006) found a consistent pattern between neuroticism and health-deterring behaviors. Indeed, neuroticism was associated with unfavorable behaviors, like decreased exercise adherence and an increase in alcohol consumption in college students (Littlefield, Sher and Wood, 2009). Similar to extraversion, high neuroticism was related to increased substance use (Dordinejad and Shiran, 2011) and increased prescription drug abuse (Benotsch et al., 2013). Agreeableness was related to an increase in health-promoting behaviors. Raynor and Levine (2009) linked high agreeableness in college students to reduced binge drinking, increased alcohol-related harm reduction strategies and a decrease in the number of sexual partners.

The second hypothesis stated that, there will be a significant influence of cognitive distortions on health seeking behavior among residents of Makurdi metropolis was rejected as result presented revealed that cognitive distortions did not significantly influenced health seeking behavior among residents of Makurdi metropolis. This finding is contrary to the findings of Hu et al., (2012) which found that people with high Core Self Evaluation (CSEs) see themselves in a more

positive light than those with low CSEs Hence plays a major part in health seeking behavior. These fundamental appraisals about oneself influence how people behave in specific situations and how motivated they are to do so consistently. Further, in another study in terms of health behaviors, the four core traits play a crucial role in how people care for themselves. The relation between each of those specific traits and health behavior has been studied: Self-esteem and self-efficacy both represent self-evaluative tendencies (Schütz, 2001; Lanaj et al., 2012). Whereas self-esteem is defined as the overall evaluation of one's own worth, self-efficacy refers to one's perceived ability to cope with difficulties and to perform well in challenging situations (Bandura, 1977; Judge and Bono, 2001). People with high self-esteem report being happier, tend to experience greater control, and have better coping abilities (Baumeister et al., 2003). Besides, people in general tend to protect and enhance their self-esteem in order to feel good about themselves (Baumeister, 2010; Schütz and Baumeister, 2017).

The third hypothesis which stated that there will be a significant influence of core self-evaluation (nonaccept, goals, impulse, aware, strategies and clarity) on health seeking behavior among residents of Makurdi metropolis was accepted. This hypothesis was supported with Judge et al., (2003)'s finding which proved that the Core Self Evaluation reflect "a basic, fundamental appraisal of one's worthiness, effectiveness, and capability as a person". This is in relation to health seeking behavior. Core self-evaluation and its dimensions contributed additional 61% of the total variance observed in overall health seeking behavior among residents of Makurdi metropolis. Hu et al., (2012)'s findings supports this research as their findings proved that, people with high Core Self Evaluations see themselves in a more positive light than those with low CSEs. These fundamental appraisals about oneself influence how people behave in specific situations and how motivated they are to do so consistently. Schütz, (2001) and Lanaj et al., (2012) further supports the findings of this present study. In terms of health behaviors, the four core traits play a crucial role in how people care for themselves. The relation between each of those specific traits and health behavior has been studied: Self-esteem and self-efficacy both represent self-evaluative tendencies.

Lastly, hypothesis four, formulated stated that, there will be a significant joint influence of personality traits, cognitive distortions and core self-evaluation on health seeking behavior among residents of Makurdi metropolis when age, sex, income and religion are controlled. This hypothesis was accepted. Supporting this finding is Chang et al., (2012) and Baumeister, (2017)'s Core self-evaluations have consistently been found to have positive effects on different health-related outcomes.

V. RECOMMENDATIONS

The following recommendations were made based on the findings of the study.

- i. Personality factors of individuals are taken into consideration as it is found to be a significant predictor of health seeking behavior in this study.
- ii. Finally significant others are encouraged to teach their relations on core self-evaluation as it is found to be a significant predictor of health seeking behavior as reported in this study.

REFERENCES

- [1] Alarcon, G., Eschleman, K. J., and Bowling, N. A. (2009). Relationships between personality variables and burnout: a meta-analysis. *Work Stress* 23, 244–263.
- [2] Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Henry Holt & Company.
- [3] Ashton, M.C., Lee, K., 2007. Empirical, theoretical, and practical advantages of the Hexaco model of personality structure. *Personality and Social Psychology Review* 11, 150–166.
- [4] Bandura, A. J. (1977). *Social Learning Theory*. Englewood Cliffs, NJ: Prentice-Hall.
- [5] Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. New York, NY: Free Press.
- [6] Baumeister, R. F. (2010). “The self,” in *Advanced Social Psychology: The State of the Science*, eds R. F. Baumeister and E. J. Finkel (New York, NY: Oxford University Press), 139–175.
- [7] Baumeister, R. F., Campbell, J. D., Krueger, J. I., and Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychol. Sci. Public Int.* 4, 1–44. doi: 10.1111/1529-1006.
- [8] Beck, A.T. & Weishaar, M.E. (1989). Cognitive therapy. In A. Freeman, K.M. Simon, L.E. Beutler, & H. Arkowitz (Eds.), *Comprehensive handbook of cognitive therapy* (pp. 21-36). New York: Plenum Press.
- [9] Block, J. (1995). A contrarian view of the five-factor approach to personality description. *Psychological Bulletin*, 117, 187–215.
- [10] Bogg, T., and Roberts, B. W. (2004). Conscientiousness and health-related behaviors: a meta-analysis of the leading behavioral contributors to mortality. *Psychol. Bull.* 130, 887–919.
- [11] Booth-Kewley, S., and Vickers, R. R. Jr. (1994). Associations between major domains of personality and health behavior. *J. Pers.* 62, 281–298.
- [12] Brewer, E. W., and Shapard, L. (2004). Employee burnout: a meta-analysis of the relationship between age or years of experience. *Hum. Res. Dev. Rev.* 3, 102–123.
- [13] *Burnout in Health Care*, ed. J. R. B. Halbesleben (Hauppauge, NY: Nova Science Pub Inc), 65–78.
- [14] Burns, D.D. (1999). *The feeling good handbook* (Revised ed.). New York: Plume Books.
- [15] Burns, David D. (1989). *The Feeling Good Handbook: Using the New Mood Therapy in Everyday Life*. New York: W. Morrow. ISBN 978-0-688-01745-3.
- [16] Burns, J. M. (1978). *Leadership*. New York, NY: Harper & Row.
- [17] Byrne, A., Dionisi, A. M., Barling, J., Akers, A., Robertson, J., Lys, R., et al. (2014). The depleted leader: the influence of leaders’ diminished psychological resources on leadership behaviors. *Leadersh. Q.* 25, 344–357.
- [18] Cattell, R. B. (1943a). The description of personality. 1. Foundations of trait measurement. *Psychological Review*, 50, 559–594.
- [19] Cattell, R. B. (1943a). The description of personality. 1. Foundations of trait measurement. *Psychological Review*, 50, 559–594.
- [20] Cattell, R. B. (1943b). The description of personality: Basic traits resolved into clusters. *Journal of Abnormal and Social Psychology*, 38, 476–506.
- [21] Cattell, R. B. (1945). The description of personality: Principles and findings in a factor analysis. *American Journal of Psychology*, 58, 69–90.
- [22] Chang, C. H. D., Ferris, D. L., Johnson, R. E., Rosen, C. C., and Tan, J. A. (2012). Core self-evaluations: a review and evaluation of the literature. *J. Manag.* 38, 81–128. doi: 10.1177/0149206311419661
- [23] Christian, M. S., Bradley, J. C., Wallace, J. C., and Burke, M. J. (2009). Workplace safety: a meta-analysis of the roles of person and situation factors. *J. Appl. Psychol.* 94, 1103–1127.
- [24] Conner M, Norman P. *Predicting health behaviour*. UK: McGraw-Hill Education; 2008.
- [25] Dahlen, E. R. & White, R. P. (2006) The Big Five factors, sensation seeking, and driving anger in the prediction of unsafe driving. *Personality and Individual Differences*, 41(5), pp. 903–915.
- [26] Demerouti, E., and Bakker, A. B. (2008). “The oldenburg burnout inventory: a good alternative to measure burnout (and engagement),” in *Handbook of Stress and*
- [27] Demerouti, E., and Nachreiner, F. (1998). Zur spezifität von burnout für dienstleistungsberufe: fakt oder artefakt? [the specificity of burnout in human services: fact or artifact?]. *Zeitschrift für Arbeitswissenschaft* 52, 82–89.
- [28] Demerouti, E., Bakker, A. B., Nachreiner, F., and Schaufeli, W. B. (2001). The job demands–resources model of burnout. *J. Appl. Psychol.* 86, 499–512.
- [29] Demerouti, E., Bakker, A. B., Vardakou, I., and Kantas, A. (2003). The convergent validity of two burnout instruments: a multitrait–multimethod analysis. *Eur. J. Psychol. Assess.* 19, 12–23.
- [30] Dordinejad, F. G. & Shiran, M. A. G. (2011) Personality traits and drug usage among addicts. *Literacy Information and Computer Education Journal*, 2(2), pp. 402-405.
- [31] Elder, G. H. (1974). *Children of the depression*. Chicago: The University of Chicago Press.
- [32] Ferris, D. L., Rosen, C. R., Johnson, R. E., Brown, D. J., Risavy, S. D., and Heller, D. (2011). Approach or avoidance (or both?): integrating core self-evaluations within an approach/avoidance framework. *Pers. Psychol.* 64, 137–161.
- [33] Franke, F., Ducki, A., and Felfe, J. (2015). “Gesundheitsförderliche führung [Health-promoting leadership],” in *Trends der Psychologischen Führungsforschung: Neue Konzepte, Methoden und Erkenntnisse*, ed. J. Felfe (Göttingen: Hogrefe), 253–263.
- [34] Franke, F., Felfe, J., and Pundt, A. (2014). The impact of health-oriented leadership on follower health: development and test of a new instrument measuring health-promoting leadership. *Zeitschrift für Personalforschung* 28, 139–161.
- [35] Franke, F., Vincent, S., and Felfe, J. (2011). “Gesundheitsbezogene führung [Health-oriented leadership],” in *Gesundheitsförderung und Gesundheitsmanagement in der Arbeitswelt: Ein Handbuch*, eds E. Bamberg, A. Ducki, and A.-M. Metz (Göttingen: Hogrefe), 371–392.
- [36] French D, Vedhara K, Kaptein AA, Weinman J. *Health Psychology*. UK:Wiley- Blackwell; 2010.
- [37] Galton, F. (1884). Measurement of character. *Fortnightly Review*, 36, 179–185.
- [38] Glick, W. H. (1985). Conceptualizing and measuring organizational and psychological climate: pitfalls in multilevel research. *Acad. Manag. Rev.* 10, 601–616.
- [39] Graen, G. B., and Uhl-Bien, M. (1995). Relationship-based approach to leadership: development of leader-member exchange (LMX) theory of leadership over 25years: applying a multi-level multi-domain perspective. *Leadersh. Q.* 6, 219–247.
- [40] Gurt, J., Schwennen, C., and Elke, G. (2011). Health-specific leadership: is there an association between leader consideration for the health of employees and their strain and well-being? *Work Stress* 25, 108–127.
- [41] Gurt, J., Uhle, T., and Schwennen, C. (2010). “Fragebogen zum arbeits- und gesundheitsschutz—betriebliche gesundheitsförderung [occupational health and safety questionnaire—occupational health promotion],” in *Handbuch Wirtschaftspsychologischer Testverfahren*, eds W. Sarges, H. Wottawa, and C. Roos (Lengerich: Pabst), 45–54.
- [42] Harms, P. D., Credé, M., Tynan, M., Leon, M., and Jeung, W. (2017). Leadership and stress: a meta-analytic review. *Leadership. Q.* 28, 178–194.

- [43] Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-based Approach*. New York, NY: Guilford Press.
- [44] Helmond, Petra; Overbeek, Geertjan; Brugman, Daniel; Gibbs, John C. (2015). "A Meta-Analysis on Cognitive Distortions and Externalizing Problem Behavior" (PDF). *Criminal Justice and Behavior*. 42 (3): 245–262.
- [45] Higgins, E. T. (1998). Promotion and prevention: regulatory focus as a motivational principle. *Adv. Exp. Soc. Psychol.* 30, 1–46.
- [46] Higgins, E. T., Roney, C. J. R., Crowe, E., and Hymes, C. (1994). Ideal versus ought predilections for approach and avoidance distinct self-regulatory systems. *J. Pers. Soc. Psychol.* 66, 276–286.
- [47] Hobfoll, S. E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *Am. Psychol.* 44, 513–524.
- [48] Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: advancing conservation of resources theory. *Appl. Psychol.* 50, 337–421.
- [49] Hofmann, D. A., Morgeson, F. P., and Gerrass, S. J. (2003). Climate as a moderator of the relationship between leader-member exchange and content specific citizenship: safety climate as an exemplar. *J. Appl. Psychol.* 88, 170–178.
- [50] Hu, J., Wang, Z., Liden, R. C., and Sun, J. (2012). The influence of leader core self-evaluation on follower reports of transformational leadership. *Leadersh. Q.* 23, 860–868.
- [51] Judge, T. A., and Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability with job satisfaction and job performance: a meta-analysis. *J. Appl. Psychol.* 86, 80–92.
- [52] Judge, T. A., Erez, A., Bono, J. E., and Thoresen, C. J. (2003). The core self-evaluations scale: development of a measure. *Pers. Psychol.* 56, 303–331.
- [53] Kromm, W., Frank, G., and Gadinger, M. (2009). "Sich tot arbeiten und dabei gesund bleiben [working to death while staying healthy]," in *Unternehmensressource Gesundheit: Weshalb die Folgen Schlechter Führung Kein Arzt Heilen Kann*, eds W. Kromm and G. Frank (Düsseldorf: Symposion Publishing GmbH), 27–52.
- [54] Kulbok PA, Cox CL. Dimensions of adolescent health behavior. *J Adolesc Health.* 2002;31(5):394–400.
- [55] Lanaj, K., Chang, C. H. D., and Johnson, R. E. (2012). Regulatory focus and work-related outcomes: a review and meta-analysis. *Psychol. Bull.* 138, 998–1034.
- [56] Lazarus, R. S., and Folkman, S. (1984). *Stress, Appraisal, and Coping*. New York NY: Springer.
- [57] Leary, M. R., and MacDonald, G. (2003). "Individual differences in self-esteem: a review and theoretical integration," in *Handbook of Self and Identity*, eds M. R. Leary and J. P. Tangney (New York, NY: Guilford Press), 401–418.
- [58] Luszczynska, A., and Schwarzer, R. (2003). Planning and self-efficacy in the adoption and maintenance of breast self-examination: a longitudinal study on self-regulatory cognitions. *Psychol. Health* 18, 93–108.
- [59] Maslach, C., Schaufeli, W. B., and Leiter, M. P. (2001). Job burnout. *Annu. Rev. Psychol.* 52, 397–422. doi: 10.1146/annurev.psych.52.1.397
- [60] McCrae, R. R. and Costa, P. T. (2003). *Personality in adulthood: A five-factor theory perspective* (2nd ed.). New York: The Guilford Press.
- [61] McGee, R., and Williams, S. (2000). Does low self-esteem predict health compromising behaviours among adolescents? *J. Adolesc.* 23, 569–582.
- [62] Mischel, W., and Shoda, Y. (1995). A cognitive-affective system theory of personality: reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychol. Rev.* 102, 246–268.
- [63] Norman, P., Bennett, P., Smith, C., and Murphy, S. (1998). Health locus of control and health behaviour. *J. Health Psychol.* 3, 171–180.
- [64] Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *Journal of Abnormal and Social Psychology*, 66, 574–583.
- [65] Ononokpono DN, Odimegwu CO (2014) Determinants of Maternal Health Care Utilization in Nigeria: a multilevel approach. *Pan Afr Med J.*; 17 Suppl 1():2.
- [66] Onwujekwe O, Onoka C, Uzochukwu B, Hanson K (2009). Constraints to universal coverage: inequities in health service use and expenditures for different health conditions and providers. *Int J Equity Health.* 2011 Nov 13; 10():50.
- [67] Pandey KR, Jha AK, Dhungana R, Lamsal R. Health seeking behavior of parents for children with pneumonia. *JNMA J Nepal Med Assoc.* 2009;48(174):131.
- [68] Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., and Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88, 879–903.
- [69] Prochaska, J. O., and DiClemente, C. C. (1983). Stages and processes of self-change of smoking: toward an integrative model of change. *J. Consult. Clin. Psychol.* 51, 390–395.
- [70] Raynor, D. A. & Levine, H. (2009) Associations between the five-factor model of personality and health behaviors among college students. *Journal of American College Health*, 58(1), pp. 73–82. Benjamin, L. & Wulfert, E. (2005) Dispositional correlates of addictive behaviors in college women: binge eating and heavy drinking. *Eating Behaviors*, 6(3), pp. 197–209.
- [71] Resick, C. J., Whitman, D. S., Weingarden, S. M., and Hiller, N. J. (2009). The bright-side and the dark-side of CEO personality: examining core self-evaluations, narcissism, transformational leadership, and strategic influence. *J. Appl. Psychol.* 94, 1365–1381.
- [72] Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychol. Monogr.* 80, 1–28.
- [73] Ryckman, R. M. (2013) *Theories of Personality* (10th ed.). Belmont, CA: Wadsworth Publishing
- [74] Rosenstock, I.M. (1974) Historical origins of the health belief model. *Health Education Monographs*, 2, 328–335
- [75] Schaufeli, W. B., and Taris, T. W. (2014). "A critical review of the job demands–resources model: implications for improving work and health," in *Bridging Occupational, Organizational and Public Health: A Transdisciplinary Approach*, eds G. F. Bauer and O. Hämmig (Dordrecht: Springer Science C Business Media), 43–68.
- [76] Schröder-Abé, M., Rudolph, A., and Schütz, A. (2007). High implicit self-esteem is not necessarily advantageous: discrepancies between explicit and implicit self-esteem and their relationship with anger expression and psychological health. *Eur. J. Pers.* 21, 319–339.
- [77] Schütz, A. (2001). "Self-esteem and interpersonal strategies," in *The Social Mind: Cognitive and Motivational Aspects of Interpersonal Behavior*, eds J. P. Forgas, K. D. Williams, and L. Wheeler (Cambridge: Cambridge University Press), 157–176.
- [78] Schütz, A., and Baumeister, R. F. (2017). "Positive illusions and the happy mind," in *The HappyMind: Cognitive Contributions to Well-Being*, eds M. D. Robinson and M. Eid (Cham: Springer International Publishing), 177–193.
- [79] Schütz, A., and DePaulo, B. M. (1996). Self-esteem and evaluative reactions: letting people speak for themselves. *J. Res. Pers.* 30, 137–156.
- [80] Schwarzer, R. (1992). "Self-efficacy in the adoption and maintenance of health behaviors: theoretical approaches and a new model," in *Self-Efficacy: Thought Control of Action*, ed. R. Schwarzer (Washington, DC: Hemisphere), 217–242.
- [81] Schwarzer, R., and Fuchs, R. (1995). "Self-efficacy and health behaviours," in *Predicting Health Behavior: Research and practice with Social Cognition Models*, eds M. Conner and P. Norman (Buckingham: Open University Press), 163–196.
- [82] Skakon, J., Nielsen, K., Borg, V., and Guzman, J. (2010). Are leaders' well-being, behaviours and style associated with the affective well-being of their employees? A systematic review of three decades of research. *Work Stress* 24, 107–139.
- [83] Steinmayr, R., Schütz, A., Hertel, J., and Schröder-Abé, M. (2011). Mayer-Salovey-Caruso Test zur Emotionalen Intel ligenz

(MSCEIT). Deutschsprachige Adaptation des Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) von John D. Mayer, Peter Salovey und David R. Caruso. Bern: Verlag Hans Huber.

- [84] Steen, T.W. and Mazonde, G.N. (1999) Ngaka ya Setswana Ngaka ya Sekgoa or both? Health Seeking Behavior in Botswana with Pulmonary Tuberculosis. *Social Science and Medicine*, 48, 163-172. [https://doi.org/10.1016/S0277-9536\(98\)00329-3](https://doi.org/10.1016/S0277-9536(98)00329-3)
- [85] Stumpp, T., Muck, P. M., Hülshager, U. R., Judge, T. A., and Maier, G. W. (2010). Core self-evaluations in Germany: validation of a german measure and its relationships with career success. *Appl. Psychol.* 59, 674–700.
- [86] Tett, R. P., and Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. *J. Appl. Psychol.* 88, 500–517.
- [87] Thurstone, L. L. (1934). The vectors of mind. *Psychological Review*, 41, 1–32.
- [88] Thurstone, L. L. (1934). The vectors of mind. *Psychological Review*, 41,1–32.
- [89] Tice, D. M. (1991). Esteem protection or enhancement? Self-handicapping motives and attributions differ by trait self-esteem. *J. Pers. Soc. Psychol.* 60, 711–725.
- [90] Tupes, E. C. and Christal, R. E. (1992). Recurrent personality factors based on trait ratings. *Journal of Personality*, 60, 225–251. (Originally published 1961.)
- [91] Viner RM, Ozer EM, Marmot M, Resnick M, Fatusi A, Currie C.: Adolescence and the social determinants of health. *The Lancet* (2012)379:1641-1652