Chapter One

Introduction

1.1 Background to the Study

The steady progress in the biomedical management of cancer has prompted healthcare systems to aim at improving patients' quality of life (QoL) while also working towards survival. Improving patients' QoL is an important area of concern in social medicine and psychology. Quality of life describes people's perceptions of their life circumstances as compared to the ideals and culture of where they reside in comparison to their own aspirations, opportunities, principles and concerns[1]. It thus lies in the gap between people's subjective opinion of their situation in life as compared to their aspirations. It is a complex construct that embraces all aspects of human functioning including the perception of their subjective state that can influence their general psychosocial and physical well-being[2].

Quality of life is sometimes regarded as synonymous with health-related QoL (HRQoL), though they are slightly different. Quality of life is assessed using generic or disease-specific scales. Generic QoL is measured by means of a general QoL questionnaire without considering respondents' health status or disease diagnosis, while a disease-specific QoL tool is focused on assessing the challenges associated with having a given disease condition[2,3]. The HRQoL measurement is particularly useful in the provision of health services, as it generates reports to determine how a disease and its treatment affect the various domains of patients' lives that can aid in the planning of quality patient care[4,5].

Cancer as a disease has a high potential to negatively impact patients' QoL. It constitutes a foremost health challenge in Africa with a projected 752,000 new cancer cases diagnosed annually and an expected annual increase of 70% between 2012 and 2030[6,7,8]. The focus of cancer treatment is not merely about the prevention of death and treatment complications. Rather, it also encompasses patient-reported outcomes like QoL that are currently being considered as essential targets in cancer patients' management and recognized as primary endpoints by regulatory agencies[9]. Empirical findings have reported reduced QoL in cancer patients[10,11,12]. Though it could be assumed that a severe diagnosis such as cancer would negatively influence a patient's QoL, this may not always be so as QoL is a subjective experience that might not be solely determined by physical health status but by other internal and external variables like personality traits, resilience and perceived stigma.

A key feature of the human adaptation process to life exigencies is personality. It affects and is greatly affected by the events in a person's life[13]. Personality is an enduring, pervasive and relatively stable pattern of motivation, feelings, attitudes and behaviors. Regarding cancer, the subjective reactions to the diagnosis and potential to adapt to the alteration in functioning associated with the diagnosis involve the patients' integrations of emotions and beliefs about their diagnosis along with their idiosyncratic ways of coping. The Big-5 Personality Model comprising conscientiousness, agreeableness, neuroticism, openness to experience and extraversion (CANOE) dimensions is one of the theoretical psychological frameworks used to explore different personality traits[14]. Personality traits are linked to our core motivational system which determines what we are driven to achieve in the absence of a significant environmental interference and hence constitute an

important variable to be explored in relation to QoL[15].

Previous research have shown a close link between personality traits and diseases and that they can predict health outcomes[16,17,18,19]. Most studies have confirmed that conscientiousness and extraversion positively predict QoL[16,20,21]. Several researchers have conversely reported that neuroticism negatively predict QoL[16,,19,22,23]. Highly extroverted and conscientious patients are characterized by lower levels of anxiety and depression, which translates into better QoL, while the QoL of highly neurotic patients is likely to be lower due to their predisposition to feeling depressed and anxious, and the tendency to emotionally respond negatively to stressful situations[24]. Furthermore, low neuroticism trait with high extraversion is related to positive health outcomes[25]. Personality characteristics in clinical settings are important as they play a role in determining patients' capacity to adapt to their health challenges and to practice behaviors geared towards improving survival and QoL.

Resilience is considered to be involved in a person's ability to not only overcome but to also positively adapt to the varied expressions of stressors and stress that may not be readily overcome. It describes an individuals' ability to effectively confront life's adversities[26]. Resilience is an ever-changing and time-dependent phenomenon that can differ from one time point to another[27]. It is a process involving the recognition of possibilities and utilization of personal resources to gravitate towards desired outcomes[27]. Being resilient is established as a protective factor against adversity and negative emotions because of its association with personal attributes like optimism, self-esteem and self-efficacy[28,29,30]. Resilience has been shown to predict and to have a linear relationship with QoL in patients with different non- communicable diseases

including cancer patients[31,32,33,34]. Hence, increasing psychological resilience is associated with improved QoL and reduced negative emotions by buffering against the effect of stress in cancer patients[35]. The relationship between QoL and various psychosocial variables has been shown to be moderated by resilience[36,37].

Cancer is a highly stigmatized condition in patients and by the public[38,39]. Stigma is a complex social phenomenon that involves the labeling and rejection of others on the basis of perceived or observed differences. It disrupts the interpersonal interactions of patients' with others, causing a decline in social functioning and in the ability to fulfill expected roles, with potential to jeopardize their QoL[40]. High stigma level is associated with worse QoL in multiple settings[41,42]. However, resilience has been found to mediate how the QoL of patients experiencing inflammatory bowel disease are affected by perceived stigma[43]. Understanding how personality traits, resilience and perceived stigma influence QoL has important clinical implications in guiding the design of effective psychosocial interventions to accelerate recovery and improve cancer patients' QoL.

1.2 **Statement of the Problem**

Quality of life is a very important indicator of cancer patients' treatment outcome due to its association with survival[44]. The prognostic value of assessing QoL makes it essential for medical- decision making and in the design of interventions for improving cancer patients' outcome[45]. However, the confrontation of cancer patients with numerous disease and treatment related physiological and psychosocial challenges often result in the deterioration of patients' QoL which starts at diagnosis and may linger for a while[10,46]. Studies show that 50% to 83% of cancer patients

experience poor QoL during the active treatment and at survivorship[11,12]. A considerable proportion of patients with cancer in Sub- Saharan Africa report suboptimal overall QoL[47].

Poor QoL negatively impact different domains of cancer survivorship, resulting in poor treatment adherence, reduced engagement in cancer survivorship care, increased utilization of hospital services, slow return to usual activities and inability to tolerate rigorous cancer treatments[48]. This underscores the need to periodically assess QoL and its predictors so as to gain insight into cancer patient response to care[49]. Yet a review of QoL studies in the medical sciences showed that only a negligible number of studies on QoL emerge from African countries compared to Europe and North America[3]. Furthermore, the usual goal of cancer management is to increase survival rate and lessen treatment complications without assessing or capturing patients' emotional and mental well-being, though a cancer diagnosis significantly affects patients' psychosocial functioning with implications for QoL[10,50,51]. It is critical to recognize the possible variables influencing cancer patients' QoL so these maybe addressed holistically.

All studies safe one in a recent systematic review showed low to medium significant relationship between QoL and personality traits[52]. While some personality traits such as conscientiousness and extroversion are almost always often associated with positive QoL outcome others like neuroticism are often linked with poor QoL[52,53,54,55,56]. Resilience and stigma are other factors that can influence cancer patients' quality of life. Positive association has often been reported between QoL and resilience described as the ability to endure adverse conditions without

breaking[57,58]. The experience of stigma in cancer is referred to as the negative opinion about an individual by others simply due to his or her diagnosis is often reported among patients with different cancer types[59,60].

The occurrence of cancer stigma can be as high as 80% based on unfounded views with likely distressing repercussion for oncology patients[61]. Stigma influences QoL negatively both in cancer and other patient populations[62,63,64]. Perceived stigma from important persons in a patient's life may also impair resilience through reducing self-esteem and the feeling of self-efficacy and eventually affecting QoL[65]. It is therefore important to explore how personality traits, perceived stigma and resilience affect cancer patients' quality of life as relatively few studies have done this.

1.3 Aim and Objectives of the Study

This research explores how personality traits, resilience and perceived stigma influence QoL in individuals with cancer. Specifically, this study seeks to:

i. ascertain the QoL related problems that are most reported by cancer patients;

ii. examine the contributions of personality traits (CANOE) to the prediction of cancer patients' QoL;

iii. investigate how resilience and perceived stigma influence cancer patients' QoL; and

iv. find out how cancer types influence cancer patients' QoL.

1.4 Research Questions:

The following research questions will be addressed in this study:

i. which are the most reported QoL related problems by cancer patients?

ii. how will the personality traits (CANOE) influence cancer patients' QoL?

iii. what will be the impact of resilience and perceived stigma on cancer patients' QoL?

iv. how might resilience and cancer types influence cancer patients' QoL?

1.5 Hypotheses

Ho1 Personality traits (CANOE) will significantly predict QoL jointly and independently

Ho2 Resilience and perceived stigma will have significant main and interaction effect on QoL.

Ho3 Resilience and cancer types will have significant main and interaction effect QoL.

1.6 Significance of the Study

This study's outcome will be of immense relevance to clinical psychologists working in cancer settings, the cancer patients, oncologists and researchers. The following benefits will be derived from this study among others:

1. Clinical psychologists and other psychosocial support staff working in cancer settings will identify how personality traits, resilience and perceived stigma influence

QoL and how they might be considered in designing interventions to improve cancer patients' QoL. This will facilitate a more adapted and uniquely patient-centered prescription for the psychosocial care. Oncologists will better appreciate the roles personality traits, resilience and perceived stigma play on patients' QoL and realize the importance of assessing these and intervening when necessary to help improve their patients' health outcomes.

2. Cancer patients will experience better satisfaction with care and improved QoL when their care is personalized through their healthcare providers giving due consideration to their personal experience of cancer.

3. Furthermore, the identification of the predictors of QoL would make it more likely to recognize patients who may benefit from being referred to palliative and or supportive care early[66].

4. This study will positively expand knowledge in the area of factors influencing cancer patients QoL as well as serve as an important reference tool for other researchers interested in conducting a similar study.

1.7 Scope of the Study

The focus of this study was on the exploration of how cancer patients' QoL at the University College Hospital (UCH), Ibadan is influenced by the Big-5 personality traits, resilience and perceived stigma. Specifically, data was collected from the Radiation Oncology Department which is one of the most active radiation treatment centers in Nigeria that provides holistic care to hundreds of cancer patients annually. The Department also has an active psycho-oncology unit that runs clinical services

every Tuesday and is also actively involved in research activities. The Study's dependent variable, quality of life, was measured with an adapted version of the Quality of Life in Adult Cancer Survivors (QLACS) scale while the independent variables personality traits, resilience and perceived stigma were measured using the Big Five Inventory-2 Extra Short Form (BFI-2-XS), the Brief Resilient Coping Scale (BRCS) and an adapted Cancer Stigma Scale from the Cataldo Lung Cancer Stigma Scale (CLCSS) respectively[67,68,69,70].

1.8 Limitations of the Study

This study has some drawbacks that should be considered in the interpretation of findings.

1. The study sample was more selective than representative as it included only relatively physically stable cancer outpatients who visited the Radiation Oncology Clinic for treatment on outpatient basis and as such the results cannot be generalized to all cancer patients in Nigeria.

2. Being a cross-sectional research, data was gathered at a particular time frame hence results do not reflect possible fluctuations in the independent variables at different points of the cancer care continuum and how this may influence the patients' QoL.

3. Finally, this study used abbreviated measures which might decrease their accuracy.

1.9 Operational Definition of Terms

Cancer Patient: This refers to any patient that has been diagnosed with a malignant tumour including but not limited to breast, cervical and prostate cancers. It also refers to patients at any stage of the disease.

Personality Traits: This describes the relatively permanent disposition of a cancer patient categorized into conscientiousness, agreeableness, neuroticism openness to experience and extraversion. Higher scores on the personality traits measure used in this study indicate stronger expression of the specific trait being measured. Higher agreeableness, conscientiousness, extroversion and openness to experience should relate to or predict better quality of life while higher neuroticism is expected to relate to or predict worse quality of life

Quality of Life: This describes the subjective view of cancer patients about their overall enjoyment of life in the context of their beliefs about how cancer-specific challenges and general life concerns have affected them within the culture and community where they live. In this study, quality of life is conceptualized as the sum of the responses to both generic and cancer-specific quality of life questions. Higher scores on the scale used to measure quality of life in this study indicated poorer quality of life

Resilience: This is the capacity that cancer patients have to confront the challenges of their diagnosis and successfully pull through. Patients with high resilience cope with their cancer more adaptively and are expected to have better quality of life**.** Higher scores on the scale used to measure resilience in this study indicated better resilience.

Perceived Stigma: This refers to the feeling of being negatively labeled and rejected by others because of having a cancer diagnosis. Cancer patients with high perceived stigma are expected to have reduced quality of life. Higher scores on the scale used to measure perceived stigma in this study indicated higher perceived stigma.

Endnotes

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Chapter Two

Literature Review

2.1 Conceptual Review

2.1.1 Quality of Life

QoL is a multifaceted concept influenced by individual's emotional state, physical health status, beliefs, and interpersonal relationships that are themselves impacted by the prevailing environmental and cultural realities[1]. QoL is a subjective rating that an individual makes regarding his/her overall functioning that cuts across multiple domains depending on the measures used. The concept integrates the safeguarding of psychosocial and physical health which is thought more imperative than just extending survival time in cancer patients[2]. It is a generally agreed however that QoL covers physical, psychosocial, role-oriented and general functioning[3].

During the survivorship years, assessment of QoL allows for the quantification of functioning[4]. Physical functioning is deduced from how physical health status affects the ability to perform everyday activities related to self-care and navigating ones physical environment. Emotional functioning in cancer patients refers to their subjective inner feelings of resilience, acceptance, fatalism, depression, anxiety, fears of recurrence. Social functioning describes a patient's ability to meaningful interact with other and engage in activities that can help build relationships. Role functioning though closely tied to physical functioning is centered on identifying the extent to which a health condition has affected peoples' ability to perform their customary and occupational roles in the different spheres of life and within the larger society. As such, examination of QoL allows the opportunity to contrast the standard of personal

life of a potentially vulnerable group with that of the general population. As QoL in cancer patients is a result of the interactions among the disease, psychological and environmental factors it is essential to identify these factors that may become a focus for intervention if amenable to change to safeguard QoL[5,6].

2.1.2 Personality Traits

Personality is the stable uniqueness of a individuals' behavioural pattern that determines their idiosyncratic adjustment to life. It is the integration of a person's experiences and behavioral patterns which are genetically predetermined disposition[7]. Personality traits play important roles in individuals' behavioural dispositions and how they react to exogenous life events[8]. While personality traits are enduring and pervasive with regards to motivational, emotional, attitudinal, behavioral and interpersonal tendencies, they are not necessarily maladaptive. Conscientiousness, agreeableness, neuroticism, openness to experience and extraversion (CANOE) are commonly used in categorizing existing personality traits[9]. Each personality trait is multifarious comprising other personality characteristics in explaining the variations seen in personality. Openness to experience depicts a free attitude to exploring novel experiences and ways of life as well as making new acquaintance. Individuals with high openness to experience trait are curious and unconventional[10].

Conscientiousness that typifies purpose driven, orderly, and responsible attributes which increases the possibility of people giving more attention to their health and living longer have been extensively researched[11]. On the other hand, extroversion, agreeableness and openness to experience which depict high degrees optimism/sociability, amicability/geniality and imagination/creativity respectively are

less commonly researched with mixed results[11]. A growing body of literature though with some inconsistency show neuroticism is linked with negative health outcomes[12]. Two major paths by which neuroticism impacts health have been proposed; anxiety-provoking dysfunctional behaviors that may result in poorer health and anxiety-provoking attentiveness that may lead to improved health[12]. For instance, neuroticism has been linked with poorer physical and maladaptive health behaviours among oncology patients[13]. People with this trait more often experience negative and unstable emotions in response to demanding situations[11].

Personality's link with health has remained stable across decades[14]. The way patients manage their emotions based on their personality attributes might incline them to imbibing health risky behaviors and prevent them from engaging in activities that are beneficial to their health such as adhering to prescribed treatment as seen in neurotic patients who tend to adhere less and inappropriately to prescribed management procedures[15,16]. Conversely, conscientious individuals, due to the confidence they have in their proficiency at managing themselves, are more likely to comply with their doctors' recommendations[17]. People with extraversion and agreeableness traits tend to be advantaged in creating affirmative bonds with their formal and informal caregivers, enabling them to harness the benefits of social support towards achieving their health management goals[16]. Furthermore, elevated levels of conscientiousness, openness to experience and extroversion have been shown to predict a more participation in cancer screening[18].

2.1.3 Resilience

Resilience is the process of rising above unpleasant, stressful and traumatic life experiences[19]. In chronic health conditions, resilience is normally defined from the three perspectives of traits, outcome, and process[20]. Traits reflect the potential to show doggedness and flexibility in reaction to illness-induced problems, health outcomes mirror the tendency to be positive even in patients with poor prognosis along with a process that is dynamic in promoting effective adaptation in the context of chronic disease[20]. There is an ongoing debate with respect to how to define resilience, but prior works have recognized the impact of training programs on enhancing resilience, which infers that resilience is modifiable[20].

The stress induced by receiving a diagnosis such as cancer with the implications of treatment makes patients vulnerable to psychological distress, insomnia, fatigue and impaired QoL. Additionally, cancer patients are confronted with the significant life changes they have to adapt to as they navigate their treatment trajectory. A review of resilience in cancer patients defined resilience as the ability to sustain or re-establish a reasonably steady emotional and/or physical state when tackling stress-inducing life events and adversity[19]. Resilience in cancer settings refers to the patients' protective attributes and/or modifiable inherent resources that can be harnessed to encourage a successful adjustment to cancer, enhance meaning in life, and promote a sense of coherence, hopefulness, and acceptance. Notwithstanding the considerable pain associated with the cancer experience, a lot of patients still demonstrate notable resilience.

2.1.4 Perceived Stigma

Perceived stigma is the internalization of an assigned negative characteristic that undermines a person's worth so that the individual no longer regards himself or herself as a typical person but as one who is disdained and perceived as a contaminated[21]. It indicates a type of seclusion and denigration that occurs in interpersonal and intrapersonal context. Stigma related to health is a vital aspect of global health appraisal linked with different diseases and the multifarious association of the phenomenon with other forms of societal oppressions[22,23,24]. Disease-related stigma is the stigmatization directed towards people with certain illnesses[22].

Specific to cancer, a systematic review reported that cancer stigma and anticipation of discrimination starts from labeling patients based on their physical appearance to tagging them as family resource drainers due to the financial burden of cancer treatment along with perceived poor prognosis[25]. Stigma induced acts such as verbal abuse, neglect or reduced social interactions with cancer patients and physically separating of their personal belongings are common[26]. The consequence of internalizing stigma or perceived stigma include compromised self-esteem and mental health, shrinking of social support due to social withdrawal and reduced access to healthcare with implications for quality of life[22].

2.2 Theoretical Framework

Various theoretical models have been used to explain the different biopsychosocial factors that influence QoL in the context of ill health. Some of these theories are discussed next especially in relation to cancer.

2.2.1 Quality of Life and Maslow's Motivation and Personality Theory

Abraham Maslow developed his theory on the Hierarchy of Needs (HoN) after about two decades of exploring his interest in motivation and personality[27,28]. Though he did not specifically use the expression 'quality of life' in describing his work, this could be inferred from the potential improvement in quality of life that will be accrued from the fulfillment of the individual 'needs' he identified. He related 'motivations', the driving force propelling individuals to act, to personality and organized what he termed the motivating prompts into a hierarchical structure with six levels[28]. He opined that when needs are considered very crucial there is a higher probability that people will be galvanize to take actions towards their fulfillment. By implication, when these needs are unfilled for whatever reason, there is a chance for increased distress and reduced quality of life. His hierarchy of human needs is summarized below starting with the most basic to the higher order needs:

1. Physiological Needs – This includes the most essential physiological needs such as oxygen, food and water necessary to sustain existence as well as 'non-homeostatic' needs such as need for sleep and sex. The aftermath of cancer often has challenging ramifications for the patient's ability to meet certain physiological needs. For example, the experience of feeding difficulties due to nausea and vomiting following chemotherapy; sleep problems induced by pain, sexual dysfunctions due to hormonal changes or surgery can impair in cancer patients quality of life [29].

2. Safety Needs – This comprise having a sense of security and stability; feeling protected from harm; as well as freedom from anxiety, fear and chaos. The feeling of dread and uncertainty surrounding cancer along with the preoccupation with the fear

of cancer recurrence, fear of dying from cancer can heighten the sense of insecurity in cancer with implications for patients' quality of life[30,31].

3. Belongingness and Love Need – This includes the reciprocal exchange of affection and acceptance from those in ones social network. Cancer patients that felt or perceived stigma and discrimination often report worse quality of life compared to those that do not feel this way due to feelings of loneliness[29].

4. Esteem – This encompasses a secure sense of self-appraisal and a perception of being held in high repute by others. Cancer patients are sometimes reported to have low self- esteem due to the undesirable changes in appearance, sexuality and or social role functioning leading to lower life and social satisfaction as well as lower QoL[32,33].

5. Self Actualization – This describes a sense of achievement that emanates from an individual's creative or active utilization of special talents, gifts, efforts or opportunities to attain desired goals. A cancer diagnosis may affect dreams and aspirations as well as the ability to pursue previously cherished goals with possibility of causing a discrepancy between the actual and ideal self[34]. Patients who are still able to pursue their life goals and self-actualize despite the challenges of having a cancer diagnoses will likely report better QoL via the discovery of greater purpose to live for, developing meaningful relationships and experiencing less negative emotions[35].

6. Aesthetic Needs – This entails an appreciation of beauty, a craving and preference for symmetry or finishing of a something that of great importance mainly in the physical and sometimes social environment. This aesthetic need is important in

exploring the experiential source of meaning that cancer patients may adopt for coping with the challenges of their diagnosis[36]. Here, the beauty or significance of that which is in the patients physical and social environment becomes the focus of engagement and meaning finding with potential to enhance the patient's QoL.

Though Maslow opines that the order of the HoN are not rigid, he suggests however that with the majority of individuals, motivation will first center on satisfying the most indispensable needs after which focus will shift (deliberately or instinctively) to higher level needs[28]. But there are some exceptions where deprivations of those basic needs are overlooked due to motivations on other value embedded needs being higher. Like a cancer patient being willing to endure the side effects of cancer treatments because of a stronger need to return to a normal state of health or to extend survival so they can spend some more time with loved ones. In cases like these, Maslow acknowledges that, how people or patients will choose to be galvanized into action based on the hierarchy of needs is context dependent. A close examination of Maslow's 'needs' shows they are interconnected and perhaps similarly necessary for enhanced wellbeing and QoL of individuals. Though Maslow's hierarchical structure of needs have not been empirically supported, it nevertheless appears to offer a comprehensive, theoretically driven blueprint through which quality of life could be investigated in people irrespective of their circumstances.

2.2.2 The Centre for Health Promotion (CHP) Model

The CHP Model developed at the University of Toronto looks at QoL as being related to disease in general based on the multidimensional conceptualization of health and QoL by the World Health Organization[37,38]. The CHP model recognized

that people are dynamic multidimensional beings, possessing spiritual and psycho-physiological facets with an inherent desire to 'belong' and to pursue their personal unique goals as they interact with the environment[37]. This model views the people as at the centre in understanding their QoL without losing sight of the opportunities and constraints to choices posed by the 'macro environment' whose impact is further influenced the importance the individual attaches to each. Essentially, the theory characterizes QoL as the extent of people's ability to utilize the opportunities given by life in terms of the three major aspects related to: becoming, belonging, and being.

The term 'being' comprises the spiritual, physiological and emotional facets. Each is further split into more specific categories. The physical being domain comprises physical health status, self-care/hygiene, nourishment, fitness and general physical appearance. The psychological being refers to emotional and mental adjustment. The spiritual being or spiritual beliefs and values, includes things like religiosity, personal standards of conduct and abstract experiences related to the arts such as the appreciation of music.

'Belonging' is also made up of three domains: the physical and social environment as well as community resources. Belonging to a physical environmental context captures the individual's perception of privacy and safety in the home, workplace/school and neighbourhood. Belonging to a social environment domain comprises a person's perception of having a meaningful relationship and intimacy with others in a social context including family members, colleagues at work, friends and members of the society at large. Belonging to a community comprise the notion of access to the resources within such community including access to employment to

earn adequate income, access to health, education, recreational and other social services.

Finally, 'becoming' comprises three domains of practical, leisure and growth activities. The practical becoming activities include personal evaluation of self-care, domestic, study and paid or volunteer engagements geared towards achieving personal goals. The leisure activities comprise personal appraisal of relaxation enhancing activities that reduce stress while promoting work-life balance. The growth becoming activities promote the formal or informal development, maintenance and/or improvement of skills and knowledge for adapting to change[37].

2.2.3 The Conceptual Model of Patient Outcomes

This theoretical HRQoL model integrates clinical and psychosocial perspectives to healthcare in determining QoL. This approach promotes the investigation and clarification of the causal relationships that exist among the biopsychosocial components health[39]. The model emphasizes the link amongst diverse health related variables by suggesting straightforward interactions along a given path starting at the bio-physiological point towards to the subjective end of a person's interpersonal interactions as a social being. The model classified possible patient outcomes into five principal health components with a suggestion that identifying the exact connections among these components will provide a guide towards developing useful clinical interventions[39]. These five components include biological factors, symptoms status, functioning, perceptions of general health and composite QoL.

The first component is concerned with how general health is affected by how the body system functions in terms of its cells and organ. The symptoms status concept

refers to the patient's awareness and opinion of an uncharacteristic physical, mental or emotional state[39]. The concept of functioning is seen in the individual's ability to execute certain tasks such as independently carrying out self-care routines. The next concept of general health perceptions refers to a personal rating that incorporate the biological/physiological factors, symptom status and functioning as well as mental health and which all culminate into the last health concept of the overall or global HRQoL[39].

In general, QoL is conceived as a subjective experience of contentment with life that may be influenced by personal health and demographic characteristics, perceptions, as well as social environmental factors that determine biopsychosocial functioning[39]. This model is structured in such a way that personal and ecological attributes interact with the biological process to jointly influence the remaining factors in the model[39]. The model uses arrows to depict dominant causal associations amongst concepts while the reciprocal relationships are not shown but implied with the possibility of bidirectional relationship[39].

2.2.4 The Contextual Model of Health-Related Quality of Life (CM-HRQoL)

The CM-HRQoL was formed purposely to proffer explanation for the determinants of cancer specific QoL[40]. The model recognizes macro and micro level QoL determinants that are respectively factors that reside outside of or within individual cancer patients. The macro or systemic level factors are environmental factors that can influence patients functioning and the process of their recovery such as the prevailing economic circumstances, availability of social support, cultural perception and attitudes towards illness that may influence the experience of stigma or health

seeking behaviour as well as factors related to quality of healthcare services and accessibility[40]. The micro or individual level factors are those personal characteristics of patients that are capable of affecting how they function and progress to recovery and include disease-specific features (cancer type, stage of cancer and symptom severity), their health beliefs and motivation to practice health promoting behaviour, as well as their psychological qualities related to personality traits, resilience, mood, anxiety, or general feeling of self-esteem and self-efficacy[40].

In summary, all models of QoL recognize the individualistic nature of measuring HRQoL which generally seeks to capture how much patients' are satisfied with their current state of health as compared to the desire state[41]. The appraisal of QoL integrates the healthcare providers' opinion of patients' health status based on concrete and objective health indicators with the patients' subjective appraisal according to their own personal experience of the disease[41].

2.3 Review of Empirical Studies

2.3.1 Quality of Life and Personality Traits

Personality traits are linked to the formation of our motivational system, which in the absence of a significant environmental interference, determines the direction of our achievement drive and how we encounter life's adversities. The disconcerting cancer experience affects patients' expression of their personality[42]. Also, patients' predispositions tend to encourage recurring pattern of affective, practical and expressive behaviors that determine how they cope with the consequences and requirements of diseases which may impact on their QoL[14]. A recent descriptive systematic review of studies with women having non- metastatic breast cancer

reported that personality had little to medium impact on QoL with the potency of the effect being dependent on the trait measured and aspect of QoL that is assessed[43]. Studies from other clinical settings have explored the link QoL has with the 5-factor personality traits of openness to experience, conscientiousness, extraversion, agreeableness and neuroticism[44, 45,46,47].

The relationship QoL has with openness to experience trait is inconsistent. While openness to experience was found to have a negative influence on the level of QoL among Lebanese medical students, with insignificant relationship reported between openness to experience and QoL among postmenopausal women[48,49,]. Also, openness to experience failed to predict HRQoL among patients with hypertension[50]. However, high score on openness to experience was associated with higher overall QoL in non-metastatic breast cancer patients[43].

The positive association between QoL and conscientiousness trait appears relatively stable across multiple studies. Conscientiousness had a positive relationship with QoL in adult with congenital heart problems, in a sample of hypertensive patients and those with disabilities[46,50,51]. High score on the conscientiousness was also linked with perception of better health and improved overall QoL in breast, lung and ovarian cancer patients[43,52,53]. Conscientiousness furthermore, showed significant individual contribution to the prediction of breast cancer women's QoL[47].

Similar to conscientiousness, it studies reporting on the association between extraversion and QoL are relatively consistent in reporting a positive association between both. High extraversion traits showed positive relationship with QoL dimensions among patients with congenital heart disease and epilepsy[44,46]. Amongst

patients with breast cancer, high extraversion trait was positively correlated with higher overall QoL[43,54]. The correlation between extraversion and QoL in lung and ovarian cancer patients was reported as positive[52,53]. In another study extraversion significantly predicted QoL independently in breast cancer patients[47]. However a study assessing the mediation role of addiction to internet on the relationship between QoL and personality traits showed that extraversion negatively predicted the QOL[55].

Agreeableness seems the least researched of the personality traits. Significant linear relationship was reported between agreeableness and QoL among people with disabilities[51]. Amongst postmenopausal women, agreeableness influenced all domains of QoL except for bodily pain[49]. Agreeableness was associated with HRQoL with specific reference to the environmental domain in a group of patients with hypertension[50]. Agreeableness was also found to significantly predict QoL in breast cancer patients[47].

Neuroticism is the most researched of the personality traits in different settings. The neuroticism trait has negative relationship with QoL and its different dimensions among patients with epilepsy and congenital heart disease[44,46]. Type D personality (similar to the neurotic domain of the Big-Five) in patients diagnosed with gastric cancer and primary brain tumor reported significantly elevated physical and emotional symptoms as well as more reduced QoL compared to patients without type D personality[56]. Another study found that being a lung cancer patient with this personality was more strongly related to the patients' QoL compared to having other types of cancer[57]. Also, among breast cancer patients and people with disabilities,

QoL and neuroticism were negatively correlated[51,54]. Irrespective of being healthy or having a cancer or chronic medical condition diagnosis, higher neuroticism trait was inversely correlated with the emotional functioning domain of QoL[43]. Yet, among a set of Lebanese medical students' a linear relationship was reported between QoL and neuroticism[48]. The authors opined that the unexpected result may have been due to utilizing different measures of QoL and personality traits compared to other studies or the result of possible interaction effect between personality traits which do not exist in isolation[48]. Neuroticism was also a strong QoL predictor among dry eye disease patients and predictor of oral HRQoL among Chinese undergraduates without previous history of orthodontic treatment[45,58]. Further, neuroticism was an important individual predictor of worse HRQoL among end-of-life cancer patients and survivors[59,60]. However, neuroticism failed to predict HRQoL among patients with hypertension[50].

2.3.2 Quality of Life and Resilience

Resilience is the ability of people experiencing stressful situations to maintain reasonably safe and stable emotional and physiological state, as well as the capacity to deal with new challenges and have positive outcomes despite of these[61]. Individuals with high resilience often see the positive sides of their problems and as such have fewer depressive episodes and more positive emotions[61]. Higher levels of resilience do not shield patients from being affected by distress, but help them adapt when facing significant adversities as higher resilience levels are associated with lesser negative emotions and better interpersonal communication[62, 63,64].

Among people with colon cancer as well as those with colorectal cancer with

permanent colostomy, resilience had significant linear relationship with QoL[65,66,67]. Similarly, Psychological resilience had significant association with every domain of HRQoL amongst newly diagnosed breast cancer patients in Sweden[68]. Also, significant linear relationship was found between overall QoL scores and resilience among 98 patients with head and neck cancer being managed with curative intention, [69]. Furthermore, greater resilience scores predicted better HRQoL and reduced COVID-19 related concerns amongst ovarian cancer survivors' during COVID[70]. Even among family caregivers of cancer patients, resilience was positively related with QoL[71]. In another study among parents of pediatric cancer patients, higher parental resilience was associated with superior QoL[72].

However, not all studies report positive relationship between QoL and resilience. One study amongst breast cancer patients, reported an inverse relationship between functional QoL and resilience, while another in a similar sample reported no statistically significant relationship between resilience and QoL domains [73,74].

2.3.3 Quality of Life and Perceived Stigma

Illness stigmatization is prevalent in certain disease conditions, such as HIV, obesity, psychiatric illness and even in cancers[25,75,76,77,78]. Illness stigma can limit access to health care services via negatively impacting health-seeking behaviour, reduce compliance to prescribed treatment, diminishes self-esteem and self-efficacy while intensifying symptoms of psychological distress[79]. Cancer stigma has negative association with mental health and QoL in patients[80,81,82,83,84]. A systematic review of stigma experience among cancer patients relates elevated perceived stigma with lower QoL[25].

Likewise, among non-cancer patients, a systematic review of stigma amongst people with psychosis indicated that greater stigma was correlated with reduced QoL[77]. Also, a statistically notable inverse correlation exists between self-stigma with QoL in schizophrenia patients[78]. Among Australians living with HIV, stigma related to the disease also predicted poorer QoL[85]. Among people with long COVID, total social stigma was related with lower mental HRQoL, but not with physical HRQoL after controlling for overall symptoms and disease burden[86]. Also, significant negative relationship exists between stigma with QoL amongst patients treated for leprosy in Medan[87].

2.3.4 Quality of Life and Socio-demographic Factors

Literature on socio-demographic factors' influence on cancer patients' QoL has been inconsistent. Education qualification is a socio-demographic characteristic that seems to affect cancer patients' QOL such that those with higher educational qualifications reported higher QOL[88]. Furthermore, educational levels strongly predict cancer patients QoL, and higher educational status is correlated with higher QOL among patients with various types of cancers[88,89]. It may be because patients with higher educational status have a better appreciation of contemporary issues around them along with what needs to be done for a better outcome, which could help improve their overall well-being and QOL[90]. In another study of 168 cancer patients, there was significant difference in education level in relation to QoL where decreased QoL score was associated with lower educational levels[91]. While another study found that breast cancer patients with postsecondary education had lower QoL compared with those that possess a secondary education or less[92,93]. Breast cancer patients with a

better educational and employment statuses reported superior QoL than those who were otherwise placed[94].

Age can both negatively and positively influence QoL[92]. QoL has significant relationship with age in 108 adult cancer survivors[89]. Older age was associated with worse physical functioning domain of QoL[93,95,96]. But being young was associated with a better social domain QoL and a significant predictor of a better QoL in another study[97]. However, age did not show significant relationship with QoL amongst cancer patients in some other studies[98,99].

Gender differences in QoL have also been reported with overall QoL score being lower for male cancer patients than female cancer patients[95,100]. But, the association between QoL and gender was not significant amongst patients receiving palliative and adjuvant chemotherapy[98].

2.3.5 Quality of Life and Cancer Type

Some studies have examined QoL in different cancers and documented varying levels of QoL based on types of cancer[101,102]. Among 104 cancer patients with different types of cancer no significant association between the different cancer types and the patients overall QoL was found, thus implying that patients with different cancer types were similar in their overall quality of life[97]. A large population-based research of cancer survivors however, reported worse physical capabilities, reduced self-reported health as well as poorer QoL amongst survivors compare to people who cancer free, with significant difference across different cancer types[103]. Some cancers like multiple myeloma, lung cancer and a mixed category of cancers that are less common had the worst QoL outcomes, while patient with melanoma reported

comparable levels of QoL to those without cancer[103]. Furthermore, among leukemia patients in Iran, it was found that QoL significantly differed by leukemia type[104]. Chronic Myeloid Leukemia (CML) patients report higher QoL scores while, the patients with Acute Lymphatic Leukemia (ALL), reported poorer QoL which is indicative of need for more attention[104]. The general HRQOL was worse after treatment for bladder cancer patients than for prostate or colorectal cancer patients across all domains safe for anxiety/depression[96]. Also, among older cancer patients, QoL correlated with the type of cancer[105]. The probable explanation for poorer QoL outcomes for certain cancers is lesser cure rate, higher symptom burden, severer treatment side effects and more prevalence of co-morbidity[103].

2.4 Conceptual Framework

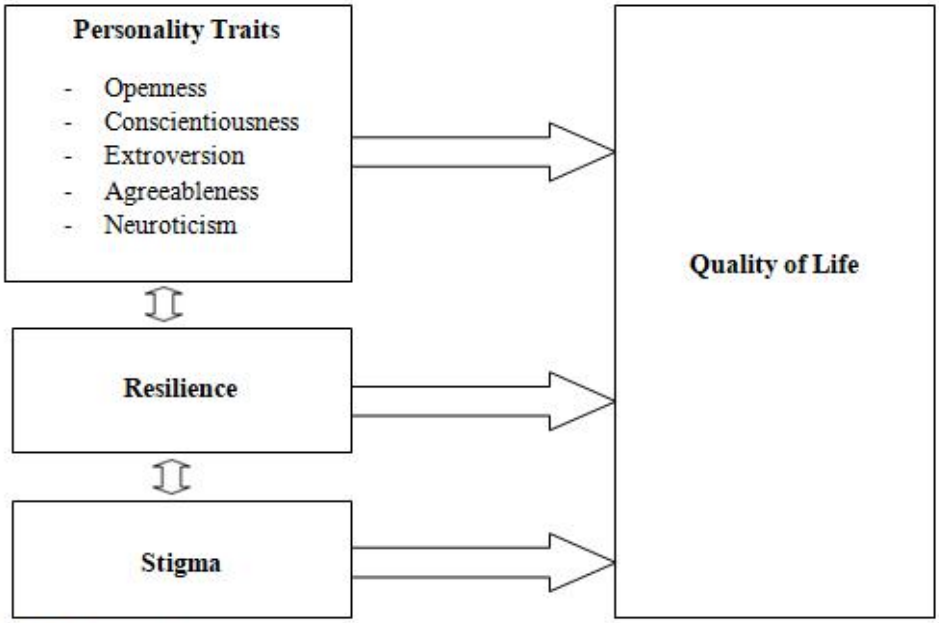

Figure 2.1: Schematic diagram of the conceptual framework

Source: Fieldwork, 2023

The conceptual framework in Figure 2.1 shows the relationship among QoL, personality traits, resilience and perceived stigma.

2.5 Summary of Literature Reviewed

There is a tendency for cancer patients to experience lower overall and/or domain specific QoL[106]. Personality traits, resilience and stigma are related to and can predict QoL at varying levels both in clinical and non clinical settings. Personality refers to relatively stable manner of thinking, feeling, and acting that is linked to health through determining how events, challenges, and feelings are evaluated [107]. Personality traits in cancer patients can be vital in determining the QoL of the patients as they may be more important than clinical characteristics in determining patients' capacity to cope with their diagnoses [108]. Personality factors can affect the response to treatment, and personality assessment could be especially important when preparing a treatment plan for specific patients to enhance QoL [109]. Neuroticism is the most researched of the five personality traits with regards to QoL. Most studies associated poorer QoL with neuroticism and better QoL with extraversion and conscientiousness. Findings on the relationship between openness to experience and QoL are quite inconsistent while literature is sparse on the association between agreeableness and QoL. Resilience is a dynamic process that protects and facilitates an individual successful coping with as well as promotes recovery from challenging life circumstances like cancer [110, 111]. More often than not resilience and QoL in cancer settings report positive associations as stronger resilience is often associated with better health, mitigation of illness, and quick recovery [111]. Stigma is a socially constructed phenomenon whereby individuals with diseases or disabilities are regarded as different from others and considered socially undesirable or offensive [112]. Stigma almost consistently reports negative associations with QoL[25]. Also, socio-demographic and clinical attributes have varying influence on cancer patients' QoL.

Endnotes

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Chapter Three

Methodology

3.1 Research Design

This is a quantitative descriptive cross-sectional study. This type of research design gathers data from a sample in a population of individuals with common characteristics. Data is collected at a single time point with variables recorded for each participant without influencing or manipulating the data in any form. A descriptive cross-sectional survey makes it easier to identify trends that can facilitate the development of interventions and services to meet the needs of a given population. This type of research design is fast to conduct, relatively affordable and measures multiple outcomes simultaneously. It is however, impossible for the researcher to infer cause-and-effect relationships.

3.2 Population of the Study

The population for this study comprises all cancer patients receiving treatment at the University College Hospital (UCH), Ibadan.

3.3 Sample and Sampling Techniques

The purposive, non-probability procedure of sampling in which the study participants who meet inclusion criteria were selected based on their availability rather than through random selection was used to enroll consenting cancer patients who visited the Radiation Oncology Department, UCH for treatment. Only cancer patients who were 18years or older and receiving treatment on outpatient basis were eligible to participate in the study.

Based on a recent publication on the number of patients treated monthly at the Radiation Oncology Clinic in UCH, it was estimated that 230 cancer patients will be treated in the clinic over the three and a half months period (from mid January to April ending 2023) allotted for data collection[1]. A suitable sample size of 144 was obtained using Krejcie and Morgan table[2].

3.4 Description of the Research Instrument

The instrument used for data collection was a structured questionnaire which was divided into five sections. The first section contains nine items eliciting the respondents' personal and clinical data including their age (in years), gender, religion, employment status, marital status, educational status, ethnic group, and cancer type and stage. The study respondents were asked to write their age in years and to tick the appropriate options as it applies to them for gender: Male () Female () (responses coded as 1 and 2 respectively), religion: Christianity () Islam () Others () (responses coded as 1, 2 and 3 respectively), employment status: Unemployed (), Employed () (responses coded as 1 and 2 correspondingly), marital status: Married () Divorced/Separated/Widowed () Never married () (responses coded as 1, 2 and 3 respectively), educational status: None (), Primary, Secondary (), Tertiary () (responses coded as 0, 1, 2, and 3 respectively), ethnic group: Yoruba () Igbo () Hausa () Others () (responses coded as 1, 2, 3 and 4 respectively), cancer type: Breast () Cervix () Prostate () Others () (responses coded as 1, 2, 3 and 4 respectively) and cancer stage: (responses coded as 1, 2, 3 and 4 for stages 1 to 4 respectively).

The other sections contain questions that assessed the dependent variable, QoL and independent variables (personality traits, resilience and stigma respectively).

3.4.1 Dependent Variable

QoL was assessed with an adapted version of the 47-item QoL in Adult Cancer Survivors (QLACS) scale[3]. The instrument has cancer-specific and generic QoL domains. The generic domains are focused on matters of concern to cancer survivors, which do not relate exclusively to their cancer, but can be responded to by samples from the general population. The cancer-specific domains assess concerns with experiences directly related to having cancer. A composite QoL score is obtained by adding up all responses to every statement on the scale. The scores of all positive statements were reversed such that lower scores (or more response of "never") correspond to better QoL[3]. A 5- point response format of Never (0), A few times (1), Sometimes (2), Often (3) and Always (4) was used on the scale[4].

To lessen patients' burden of responding to lengthy items while also ensuring that only very statistically relevant items were used to assess QoL, only items that loaded at .700 and higher on factor analysis were selected for administration. Hence, for this study, 24 items of the original 47 items of the QLACS scale were used for assessing quality of life. Scores on the adapted QLACS scale ranges from 0 to 96. Elevated scores on the scale correspond to poorer QoL. A typical item on the QLACS scale is: *'You worried about cancer coming back'*.

3.4.2 Independent Variables – Personality Traits, Resilience and Stigma

Personality was assessed using the Big Five Inventory–2 Extra-Short Form (BFI-2-XS)[5]. Some items on the scale are reverse-keyed and denoted by "R". The 15-item scale is made up of 5 subscales with 3 items each: Conscientiousness (3R, 8R, 13), Openness to experience (5, 10R, 15), Extraversion (1R, 6, 11), Agreeableness (2, 7R,

12) and Neuroticism (4, 9, 14R). A 4-point scale was used to appraise responses from 1 Disagree Strongly to 4 Agree Strongly. Possible subscales score ranges from 3 to 12. Elevated scores on the subscales connote greater expression of specific personality traits. Typical items on each subscale are: I am someone who …: *'is fascinated by art, music, or literature'* (Openness to experience); *'tends to be disorganized'* (Conscientiousness); *'tends to be quiet'* (Extraversion); *'is sometimes rude to others'* (Agreeableness); and *'tends to feel depressed, blue'* (Neuroticism).

The Brief Resilient Coping Scale (BRCS) employed in measuring resilience comprises of four statements designed to capture the respondents' inclination to cope adaptively with stressful situations using a five-point Likert response format[6]. The cumulative scores on the scale vary from 4 to 20. Elevated scores on the scale signify greater resilience. A typical item on the scale is '*I actively look for ways to replace the losses I encounter in life'*.

Five items of the shortened Cataldo Lung Cancer Stigma Scale (CLCSS) were utilized in assessing perceived stigma[7]. CLCSS was developed for assessing lung cancer-related stigma in patients[8]. The term 'lung' was removed from every item that has it and items related to smoking were removed to make the scale usable in measuring self-perceived cancer stigma irrespective of cancer type. A 4-point response format of: 1 - 'A few times', 2 – 'Sometimes', 3 – 'Often' to 4 - 'Always' was used with scores ranging from 5 to 20. High score indicate greater self-perceived cancer stigma. A typical item on the scale is *'Some people act as though it is my fault that I have cancer'*.

3.5 Validity of Research Instrument

The QLACS scale has demonstrated good concurrent and retrospective validity as well as convergent and divergent validity in earlier studies by the authors of the scale and other researchers[9,10]. The BRCS factorial validity and its positive correlation with the WHOQOL-BREF has been reported[11]. The authors of the BFI-2-XS reported that the scale has retained much of the full measure validity[5].

A pilot study was conducted using 20 cancer patients receiving treatment in a private cancer facility prior to data collection. To check the extent to which items are in agreement with one another, the item-total correlation was calculated for each group of items. This is the relationship between items with all other items put together. A modest item-correlation proves an item is measuring something different from the construct measured by the combined items. When correlation is smaller than 0.3 it shows that the equivalent item fails to correlate well with the general scale and should be dropped if possible[12].

The item-total correlations for all the 24 items on the adapted QLACS scale were significant and range from .289 to .687 which is considered adequate. For the 5-item stigma scale, the item-total correlation for all 5 items were significant and demonstrated sound item-total correlation ranging from of .549 to .710. With regards to the BRCS, the item-total correlations for all 4 items were significant and demonstrated sound item-total correlation ranging from of .679 to .823. Also, for of the five subscales from the BFI-2-XS demonstrated sound item-total correlation of .526 to .663 for openness to experience, .604 to .791 for conscientiousness, .702 to .904 for extroversion, .611 to .928 for agreeableness and .485 to .917 for

neuroticism.

Furthermore, when the instruments were subjected to principal component analysis to ascertain if the constructs were consistent with the researchers understanding of the nature of the constructs or the number of factors contained in each instrument, it was found that the factors loaded adequately across instruments.

3.6 Reliability of the Research Instrument

The subscales of the QLACS have yielded adequate reliability scores above 0.70 in previous studies [9,10]. The authors of the BFI-2-XS reported a test retest reliability range of .60 to .80 in university sample and .71 to .80 in the college sample for the 15-item scale[4]. The BRCS has shown satisfactory reliability alpha of .69 amongst stable mental health patients[11].

A pilot study was conducted using 20 cancer patients receiving treatment in a private cancer facility prior to data collection to ascertain the suitability of the measures for this setting. The adapted 24-item QLACS scale used in this study yielded an acceptable reliability score of .881, the 5-item adapted Cataldo lung cancer stigma scale yielded an acceptable reliability score of .638 and the 4-item BRCS yielded an acceptable reliability score of .733. Also, the five BFI-2-XS subscales used in this study yielded acceptable reliability score of .511 for openness to experience, while conscientiousness, neuroticism, extroversion, and agreeableness had reliability scores of .529, .698, .745 and .776 respectively.

3.7 Administration of Research Instrument and Method of Data Collection

After the research title was approved ethical approval was applied for and received

from the UI/UCH/IRB to undertake the study. The ethical approval letter was taken to the Head, Radiation Oncology Department, of the University College Hospital, Ibadan to formally notify him and the nurses of the intention to collect data and to obtain permission to collect data from cancer patients.

A trained Research Assistant was engaged to collect data from the respondents and was introduced to the nurses. Data was collected on clinic days when patients receive radiation and chemotherapy treatments. Patients were approached in the clinic reception or waiting area by the Research Assistant who explained the nature of the study to them and enquire about their willingness to take part in the research. Those who expressed their willingness to take part were given the informed consent form to review and sign, while those who were unable to read were read to. There were assured of their right to choose to not participate in the study as there would be no penalty for refusal. However, the benefit of participating in a research of this nature was explained to them. The respondents were assured of confidentiality and anonymity of the data that they provided. Respondents who freely agreed to partake in the research were given the questionnaire to fill while waiting to be seen by their consultants. The filled questionnaires were collected immediately after completion.

3.8 Method of Data Analysis

Data was analyzed on International Business Machines Statistical Package for Social Sciences (IBM-SPSS) version 21 using descriptive statistics as applicable for socio-demographic and medical characteristics. Preliminary analysis was performed using zero-order correlation. Multiple regression analysis was employed to assess the combined and individual contributions of personality traits (CANOE) on the

prediction of cancer patients' QoL, 2x2 ANOVA was utilized in determining the main and interactive effect of resilience and stigma on the QoL of cancer patients, while 2x4 ANOVA was done to ascertain the main and interactive effect of resilience and cancer types on quality of life. Decisions on all statistical analyses were determined using a significance level of $p \leq 0.05$ (95% CI).

Endnotes

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Chapter Four

Results and Discussion of Findings

4.1 Demographic Data Analysis

The respondents had an age range from 18 to 89 (mean = 52.64; SD = 15.20). Classification in terms of age groups in years shows that 74 (51.5%) of the respondents were in the 40 to 60 years bracket representing the most common age group, followed by 61 to 89 years with 44 (30.6%) respondents and 18 to 39 years with 26 (18.1%) respondents. With regards to gender, 105 (72.9%) of the study participants were female while 39 (27.1%) were male. For religion, 101 (70.1%) practiced Christianity, 38 (26.4%) Islam and 5 (3.5%) practiced other forms of religion. With regards to employment status, 69 (47.9%) were employed, 51 (35.4%) were unemployed, 5 (3.5%) were retired but 19 (13.2%) did not indicate their employment status. For marital status, 85 (59.0%) were married, 31 (21.5%) were divorced, separated or widowed while 28 (19.5%) were never married. With regards to educational level, 60 (41.7%) had tertiary level of education, 41 (28.5%) had secondary level of education, 25 (17.4%) had primary level of education while 18 (12.4%) did not have a formal education. For ethnic group, 111 (77.1%) were Yoruba, 12 (8.3%) were Igbo, 1 (0.7%) were Hausa and 62 (43.1%) were from a combination of other tribes. With regards to the respondents clinical characteristics, 48 (33.3%) had breast cancer, 21 (14.6%) had cervical cancer, 13 (9.0%) had prostate cancer and 62 (43.1%) had a combination of other forms of cancer. For the cancer stage, 101 (70.1%) of the respondents did not know their cancer stage, stages 1 and 3 each comprise 13 (9.0%) of the respondents, 12 (8.3%) had stage 2 cancer while 5 (3.5%) indicated stage 4 cancer. See Table 4.1 for other details.

Table 4.1: Respondents' Characteristics (N = 144)

Variables	Frequency	Percentage
Age of respondents (years)		
18 – 39	26	18.06%
40 – 60	74	51.38%
61 – 89	44	30.56%
Mean ± SD	**52.64 ± 15.20**	
Gender		
Male	39	27.08%
Female	105	72.92%
Religion		
Christianity	101	70.14%
Islam	38	26.39%
Others	5	3.47%
Employment status		
Unemployed	51	35.42%
Employed	69	47.92%
Retired	5	3.47%
Not indicated	19	13.19%
Marital status		
Married	85	59.03%
Not currently married	31	21.53%
Never married	28	19.44%
Educational level		
Nil Formal Education	18	12.50%
Primary	25	17.36%
Secondary	41	28.47%
Tertiary	60	41.67%
Ethnicity		
Yoruba	111	77.08%
Igbo	12	8.34%
Hausa	1	0.69%
Others	20	13.89%
Cancer type		
Breast cancer	48	33.33%
Cervical cancer	21	14.58%
Prostate cancer	13	9.03%
Others	62	43.06%
Cancer stages		
Stage 1	13	9.03%
Stage 2	12	8.33%
Stage 3	13	9 .03%
Stage 4	5	3.47%
Not indicated	101	70.14%

Source: Fieldwork, 2023

4.2 Presentation of Data Based on Research Questions

Table 4.2.1: Cancer Patients' Reported Quality of Life Related Problems

(N = 144, $\bar{x}$ = 36.01)

In the past 4 weeks ...	Never	A few times	Some times	Often	Always
	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)
1 You felt blue or depressed.	50 (34.72)	23 (15.97)	43 (29.86)	16 (11.11)	12 (8.33)
2 You worried about little things.	48 (33.33)	21 (14.58)	53 (36.81)	12 (8.33)	10 (6.94)
3 You felt anxious.	42 (29.16)	20 (13.89)	45 (31.25)	25 (17.36)	12 (8.33)
4 You felt happy.	45 (31.25)	28 (19.44)	23 (15.97)	30 (20.83)	18 (12.50)
5 You were content with your life.	35 (24.31)	31 (21.53)	27 (18.75)	21 (14.58)	30 (20.83)
6 You had difficulty doing activities that require concentrating.	70 (48.61)	23 (15.97)	33 (22.92)	13 (9.03)	5 (3.47)
7 You had trouble remembering things.	91 (63.19)	20 (13.89)	26 (18.06)	6 (4.17)	1 (0.69)
8 You were bothered by pain that kept you from doing the things you wanted to do.	43 (29.86)	23 (15.97)	40 (27.78)	18 (12.50)	20 (13.89)
9 You had aches or pains.	27 (18.75)	20 (13.89)	48 (33.33)	22 (15.28)	27 (18.75)
10 You lacked interest in sex.	23 (15.97)	10 (6.94)	58 (40.28)	18 (12.50)	35 (24.31)
11 You were dissatisfied with your sex life.	39 (27.08)	10 (6.94)	61 (42.36)	13 (9.03)	21 (14.58)
12 You didn't have energy to do the things you wanted to do.	27 (18.75)	20 (13.89)	50 (34.72)	28 (19.44)	19 (13.19)
13 You felt tired a lot.	34 (23.61)	29 (20.14)	42 (29.17)	25 (17.36)	14 (9.72)
14 You avoided social gatherings.	53 (36.81)	15 (10.42)	38 (26.39)	23 (15.97)	15 (10.42)
15 You avoided your friends.	80 (55.56)	19 (13.19)	22 (15.28)	17 (11.81)	6 (4.17)
16 You had financial problems because of the cost of cancer surgery/treatment.	19 (13.19)	6 (4.17)	28 (19.44)	30 (20.83)	61 (42.36)
17 You had money problems that arose because you had cancer.	15 (10.42)	7 (4.86)	21 (14.58)	34 (23.61)	67 (46.53)

18 You appreciated life more because of having had cancer.	75 (52.08)	18 (12.50)	17 (11.81)	14 (9.72)	20 (13.89)
19 You felt that cancer helped you to recognize what is important in life.	72 (50.00)	20 (13.89)	18 (12.50)	13 (9.03)	21 (14.58)
20 You worried that your family members were at risk of getting cancer.	85 (59.03)	21 (14.58)	28 (19.44)	4 (2.78)	6 (4.17)
21 You felt unattractive because of your cancer or its treatment.	84 (58.33)	19 (13.19)	19 (13.19)	9 (6.25)	13 (9.03)
22 You were bothered by hair loss from cancer treatment.	104 (72.22)	13 (9.03)	14 (9.72)	7 (4.86)	6 (4.17)
23 You worried about dying from cancer.	65 (45.14)	24 (16.67)	22 (15.28)	15 (10.41)	18 (12.50)
24 You worried about cancer coming back.	86 (59.72)	18 (12.50)	23 (15.97)	6 (4.17)	11 (7.64)

Source: Fieldwork, 2023

Table 4.2.1 shows that the most common quality of life related problem reported by study participants is financial problems shown by 67 (46.53%) and 61 (42.36%) responding always to items 17 and 16 respectively about financial challenges due to cancer or its treatment. The next problem commonly reported is related to lack of interest in sex shown by 35 (24.31%) responding always to 'You lacked interest in sex'. However, about a fifth (20.83%) of the study participants responded always to 'You were content with your life.'

The least quality of life problem reported by the study participants was related to hair loss shown by 104 (72.22%) responding never to item 22, followed by 91 (63.19%) responding never to 'You had trouble remembering things' and 86 (59.72%) responding never to 'You worried about cancer coming back'.

Table 4.2.2: Personality Traits on Cancer Patients Quality of Life

I am someone who	Disagree strongly Freq (%) $\bar{x}$	Disagree Freq (%) $\bar{x}$	Agree Freq (%) $\bar{x}$	Agree strongly Freq (%) $\bar{x}$
1R. Tends to be quiet	50 (34.72) $\bar{x}$ = 32.52	21 (14.58) $\bar{x}$ = 44.38	32 (22.22) $\bar{x}$ = 37.15	41 (28.47) $\bar{x}$ = 39.44
2. Is compassionate and has a soft heart	4 (2.78) $\bar{x}$ = 25.74	9 (6.25) $\bar{x}$ = 43.41	22 (15.28) $\bar{x}$ = 39.36	109 (75.69) $\bar{x}$ = 39.76
3R. Tends to be disorganized	78 (54.17) $\bar{x}$ = 34.81	23 (15.97) $\bar{x}$ = 38.27	23 (15.97) $\bar{x}$ = 42.72	20 (13.89) $\bar{x}$ =41.08
4. Worries a lot	46 (31.94) $\bar{x}$ = 28.24	25 (17.36) $\bar{x}$ = 38.68	40 (27.78) $\bar{x}$ = 39.70	33 (22.92) $\bar{x}$ = 46.27
5. Is fascinated by art, music or literature	15 (10.42) $\bar{x}$ =31.79	15 (10.42) $\bar{x}$ =43.44	57 (39.58) $\bar{x}$ =38.77	57 (39.58) $\bar{x}$ =35.18
6. Is dominant and acts as a leader	14 (9.72) $\bar{x}$ =39.06	24 (16.67) $\bar{x}$ =42.80	41 (28.47) $\bar{x}$ =36.83	65 (45.14) $\bar{x}$ =35.04
7R. Is sometimes rude to others	83 (57.64) $\bar{x}$ =34.25	26 (18.06) $\bar{x}$ =40.23	16 (11.11) $\bar{x}$ =40.98	19 (13.19) $\bar{x}$ =37.56
8R. Has difficulty getting started on tasks	66 (45.83) $\bar{x}$ =33.30	31 (21.53) $\bar{x}$ =40.18	30 (20.83) $\bar{x}$ =44.47	17 (11.81) $\bar{x}$ =37.21
9. Tends to feel depressed, blue.	61 (42.36) $\bar{x}$ =28.00	21 (14.58) $\bar{x}$ =36.83	41 (28.47) $\bar{x}$ =45.16	21 (14.58) $\bar{x}$ =49.22
10R. Has little interest in abstract ideas	33 (22.92) $\bar{x}$ =33.68	49 (34.03) $\bar{x}$ =40.22	40 (27.78) $\bar{x}$ =37.99	22 (15.28) $\bar{x}$ =37.14
11. Is full of energy	9 (6.25) $\bar{x}$ =48.58	21 (14.58) $\bar{x}$ =43.05	49 (34.03) $\bar{x}$ =36.08	65 (45.14) $\bar{x}$ =34.26
12. Assumes the best about people	1 (0.69) $\bar{x}$ =56.69	13 (9.03) $\bar{x}$ =40.96	36 (25.00) $\bar{x}$ =35.96	94 (65.28) $\bar{x}$ =38.22
13. Is reliable and can be counted on always	-	6 (4.17) $\bar{x}$ =41.62	27 (18.75) $\bar{x}$ =38.14	111 (77.08) $\bar{x}$ =36.42
14R. Is emotionally stable and not easily upset	14 (9.72) $\bar{x}$ =46.92	24 (16.67) $\bar{x}$ =42.84	51 (35.42) $\bar{x}$ =39.38	55 (38.19) $\bar{x}$ =30.65
15. Is original, comes up with new ideas	2 (1.39) $\bar{x}$ =46.49	17 (11.81) $\bar{x}$ =45.27	51 (35.42) $\bar{x}$ =38.84	74 (51.4) $\bar{x}$ =34.35

Source: Fieldwork, 2023
R denotes reverse scored

Table 4.2.2 shows the descriptive statistics (frequency, percentage and mean) of personality traits (CANOE) on cancer patients' QoL.

From the QoL mean values based on responses of strongly disagree or strongly agree, the table shows that study participants who strongly disagree to item 2, being someone who 'Is compassionate and has a soft heart' had the lowest mean QoL score ($\bar{x}$ = 25.74) indicating a best QoL, followed by those who responded strongly disagree to item 9, being someone who 'Tends to feel depressed, blue' ($\bar{x}$ = 28.00) and those who responded strongly disagree to item 4, being someone who 'Worries a lot' ($\bar{x}$ = 28.24).

However, those who responded strongly disagree to item 12 being someone who 'Assumes the best about people' have the highest QoL mean score ($\bar{x}$ = 56.69) and hence the poorest QoL, followed by those who responded strongly agree to item 9 being someone who 'Tends to feel depressed, blue' ($\bar{x}$ = 49.22), those who responded strongly disagree to item 14R being someone who 'Is emotionally stable, not easily upset' ($\bar{x}$ = 46.92), those who responded strongly disagree to item 15 being someone who 'Is original, comes up with new ideas' ($\bar{x}$ = 46.49) and strongly agree to item 4, being someone who 'Worries a lot' ($\bar{x}$ = 46.27). Possessing higher QoL mean score indicates worse QoL while having lower QoL mean scores indicate better quality of life.

Table 4.2.3: Perceived Stigma on Cancer Patients' Quality of Life

	Never Freq (%) $\bar{x}$	Few times Freq (%) $\bar{x}$	Sometimes Freq (%) $\bar{x}$	Often Freq (%) $\bar{x}$	Always Freq (%) $\bar{x}$
1. I feel I'm not as good as others because I have cancer	91 (63.19) $\bar{x}$= 31.21	21 (14.58) $\bar{x}$= 43.9	23 (15.97) $\bar{x}$= 46.53	5 (3.47) $\bar{x}$= 61.35	4 (2.78) $\bar{x}$= 59.74
2.I'm very careful whom I tell I have cancer	22 (15.28) $\bar{x}$= 27.48	10 (6.94) $\bar{x}$= 39.41	17 (11.81) $\bar{x}$= 41.56	21 (14.58) $\bar{x}$= 42.88	74(51.39) $\bar{x}$= 37.45
3. I was hurt how people reacted to learning I have cancer	109 (75.69) $\bar{x}$= 33.10	11 (7.64) $\bar{x}$= 48.45	17 (11.81) $\bar{x}$= 51.47	5 (3.47) $\bar{x}$= 48.64	2 (1.39) $\bar{x}$= 54.00
4. People I care about stopped calling after learning that I have cancer	121 (84.03) $\bar{x}$= 34.50	10 (6.94) $\bar{x}$= 55.57	7 (4.86) $\bar{x}$= 45.49	3 (2.08) $\bar{x}$= 45.33	3 (2.08) $\bar{x}$= 58.67
5. Some people act as though it is my fault that I have cancer	124 (86.11) $\bar{x}$= 35.60	15 (10.42) $\bar{x}$= 48.58	2 (1.39) $\bar{x}$= 45.34	2 (1.39) $\bar{x}$= 47.99	1 (0.69) $\bar{x}$= 40.00

Source: Fieldwork, 2023

Table 4.2.3 shows the descriptive statistics (frequency, percentage and mean) of perceived stigma on cancer patients' QoL. The table shows that cancer patients who never perceived stigma have lower mean QoL scores indicating better QoL compared to those who perceived any level of stigma.

A little over half of the respondents in this study as shown in item 2 were always careful who they told they had cancer (51.39%). However, majority (63.19% to 86.11%) indicated never to 4 out of the 5 cancer stigma-related items indicating most had little or no stigma. Participants with the least mean quality of life scores and

hence better quality of life are the 22 (15.28%) who responded never to item 2 being careful about who they told they had cancer ($\bar{x}$ = 27.48), followed by the 91 (63.19%) who responded never to item 1 on not feeling as good as other people due to having cancer (x = 31.21). Cancer patients with the poorest quality of life are the 4 (2.78%) who indicated always to item 1 ($\bar{x}$ = 59.74), followed by the 3 (2.08%) who indicated always to item 4 on those the patients cared about no longer calling after hearing they had cancer ($\bar{x}$ = 58.67) and the 2 (1.39%) who indicated always to item 3 on people's reaction to the news of their cancer ($\bar{x}$ = 54.00)

It is noteworthy that all the participants who indicated never to all the stigma-related items have mean quality of life scores that are lower than 36.01 which is the mean QoL score of the study sample. This indicates that they have better QoL compared to those who experienced higher levels of stigma.

Table 4.2.4: Resilience on Cancer Patients' Quality of Life

	Does not describe me at all Freq (%) $\bar{x}$	Does not describe me Freq (%) $\bar{x}$	Describes me Freq (%) $\bar{x}$	Describes me very well Freq (%) $\bar{x}$
1. I look for creative ways to alter difficult situations	-	16 (11.11) $\bar{x}$= 44.31	59 (40.97) $\bar{x}$= 41.79	69 (47.92) $\bar{x}$= 32.19
2. Regardless of what happens to me I believe I can control my reactions to it	5 (3.47) $\bar{x}$= 41.80	18 (12.50) $\bar{x}$= 46.48	54 (37.50) $\bar{x}$= 42.06	67 (46.53) $\bar{x}$= 31.03
3. I believe that I can grow in positive ways by dealing with difficult situations	3 (2.08) $\bar{x}$= 45.33	14 (9.72) $\bar{x}$= 52.29	56 (38.89) $\bar{x}$= 40.22	71 (49.31) $\bar{x}$= 32.12
4. I actively look for ways to replace the losses I encounter in life.	3 (2.08) $\bar{x}$= 28.56	18 (12.50) $\bar{x}$= 45.67	64 (44.44) $\bar{x}$= 38.64	59 (40.97) $\bar{x}$= 33.86

Source: Fieldwork, 2023

Table 4.2.4 shows the descriptive statistics (frequency, percentage and mean) of resilience on cancer patients' QoL. The table shows that 49.31% of the respondents opine that the statement on item 3 on being able to grow in positive direction despite difficulties aptly describes them. Furthermore, 47.92% of the respondents indicated that the item 1 statement on seeking creative avenues to deal with difficulties perfectly describes them. Patients who indicated that the statement in item 3 on being able to grow in positive direction despite difficulties failed to describe them had the highest mean score and hence worst QoL as higher mean scores indicate poorer QoL ($\bar{x}$ = 52.29). Also, those who indicated that the item 2 statement affirming their ability to control how they react irrespective of circumstances failed to describe them had high QoL mean score and hence poor QoL ($\bar{x}$ = 46.48). However, the 3 (2.08%) patients who in their response to in item 4 actively seek avenues to restore their

losses in life reported the lowest mean QoL score ($\bar{x}$ = 28.56) and hence the best QoL.

It is noteworthy that participants who indicated describes me very well to all the resilience items have mean QoL scores that are lower than 36.01 which is the mean QoL score in this study sample. This indicates that they had better QoL than most others with diminished resilience.

Table 4.2.5: Cancer Types on Cancer patients' Quality of Life

Cancer types	Frequency (%)	$\bar{x}$ (SD)
Breast cancer	48 (33.33)	40.09 (17.47)
Cervical cancer	21 (14.58)	33.96 (15.48)
Prostate cancer	13 (9.03)	34.89 (13.04)
Others	62 (43.06)	33.78 (14.26)
Total	144 (100.00)	36.01 (15.60)

Source: Fieldwork, 2023

Table 4.2.5 shows the descriptive statistics for cancer types against cancer patients' QoL. The table shows that compared to other cancer types, breast cancer patients have the highest QoL mean score (40.09) indicating worse QoL compared to patients with cervical (33.96), prostate (34.89) or other (33.78) cancer types.

5.1 Presentation of Data Based on Hypotheses

In this section, the outcomes of the statistical data analyses are presented for the hypotheses that were raised in chapter two to either confirm or reject them. The study investigated influence of personality traits, resilience and stigma on cancer patients' QoL. Three hypotheses were tested using multiple regression analysis, 2 x 2 analysis of variance (ANOVA) and 2 x 4 ANOVA. All three hypotheses were accepted.

Preliminary analysis of descriptive and zero-order correlation among personality traits (conscientiousness, agreeableness, neuroticism, openness to experience and extroversion), resilience, stigma and cancer patients QoL as shown on Table 4.3.1

Table 4.3.1: Summary of zero-order correlation among personality traits (CANOE), resilience, stigma and QoL

Variables	1	2	3	4	5	6	7	8
1 Quality of life	1							
2 Resilience	-.29**	1						
3 Stigma	.51**	-.08	1					
4 Openness to experience	-.13	.23*	-.09	1				
5 Conscientiousness	-.22**	.09	-.07	.18*	1			
6 Extroversion	-.27**	.07	-.16	.25**	.05	1		
7 Agreeableness	-.12	.12	-.01	.13	.47**	.06	1	
8 Neuroticism	.59**	-.34**	.37**	-.24**	-.14	-.20*	-.20*	1
N	144	144	144	144	144	144	144	144
Mean	36.01	13.29	4.47	9.14	9.88	8.85	10.41	6.57
SD	15.60	2.29	3.06	1.64	1.85	1.98	1.64	2.42

Source: Fieldwork, 2023
** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

The results demonstrate resilience has significant inverse relationship with QoL ($r_{(144)}$ = -.29, P<0.01) meaning that higher resilience correlates with better QoL (low scores indicate better QoL). Also, stigma has significant linear relationship with QoL ($r_{(144)}$ = .51, P<0.01) meaning that the higher the stigma, the worse the QoL (high scores indicate worse QoL). Conscientiousness has significant inverse relationship with QoL ($r_{(144)}$ = -.22, P<0.01) meaning that higher conscientiousness correlates with better QoL (low scores indicate better QoL). Also, extroversion trait has significant inverse relationship with QoL ($r_{(144)}$ = -.27, P<0.01) meaning that the higher the extroversion trait, the better the QoL. Furthermore, neuroticism trait has significant linear association with QoL ($r_{(144)}$ = .59, P<0.01) meaning high neuroticism trait

correlates with worse the QoL (higher scores indicate worse QoL). However, QoL did not show significant relationship with openness to experience ($r_{(144)}$ = -.13, P>0.05) or agreeableness ($r_{(144)}$ = -.12, P>0.05). Table 4.3.1 further shows that resilience has significant linear relationship with openness to experience ($r_{(144)}$ = .23, P<0.01) but inverse relationship with neuroticism ($r_{(144)}$ = -.34, P<0.01) meaning the higher the openness to experience the stronger the resilience and the higher the neuroticism the weaker the resilience. Resilience however did not have significant relationship with the other independent variables. Stigma has significant linear relationship with neuroticism ($r_{(144)}$ = -.37, P<0.01) but no significant relationship with the other independent variables. This implies that high neuroticism is associated with worse perceived stigma.

Hypothesis One: Personality traits (conscientiousness, agreeableness, neuroticism, openness to experience, and extroversion) will significantly predict cancer patients' quality of life jointly and independently was analyzed using multiple regression analysis as depicted on Table 4.3.2

Table 4.3.2: Summary of Multiple Regression Showing Joint and Independent Predictions of Personality Traits (CANOE) on Cancer Patients' QoL

Predictors	β	t	Sig	R	R^2	F	Sig
Openness to experience	.07	.97	.34				
Conscientiousness	-.21	-2.74	.01				
Extroversion	.17	-2.43	.02	.64	0.40	18.66	.00
Agreeableness	.09	1.22	.22				
Neuroticism	.56	8.07	.00				

Dependent Variable: Quality of life

Source: Fieldwork, 2023

Table 4.3.2 shows the joint and relative contributions of the personality traits (CANOE) as predictors of cancer patients' QoL. The model was significant statistically ($F_{(5,138)}$ =18.66, P <0.01; R^2 = 0.40). Hence personality traits jointly influence the prediction of QoL in cancer patients significantly, accounting for 40.3% of the variance in cancer patients' QoL. In terms of independent contributions however, it is observed that neuroticism had the strongest independent influence to the prediction of cancer patients' QoL (β = .56, t = 8.07, P <0.01), followed by conscientiousness (β = -.21, t = -2.74, P<0.05) and extroversion (β = -.17, t = -2.43, P <0.05). However, no significant independent influence to the prediction of cancer patients' QoL was found for openness to experience (β = .068, t = .966, P >0.05) and agreeableness (β = .092, t = 1.22, P >0.05). Therefore, the first hypothesis is partially accepted. What the result means therefore is that when taken together, the personality traits of conscientiousness, agreeableness, neuroticism, openness to experience and extroversion significantly act together to predict cancer patients' QoL. However, when considered separately, better QoL is only significantly predicted by higher conscientiousness and extroversion but lower neuroticism.

Hypothesis Two: Resilience and stigma will have significant main and interaction effect on the QoL of cancer patient was analyzed using 2x2 ANOVA as presented on Table 4.3.3

Table 4.3.3: 2 x 2 ANOVA of main and interaction effects of resilience and stigma on cancer patients' QoL

Source	SSs	Df	MS	F	Sig.
Corrected Model	11256.21[a]	3	3752.07	22.32	.00
Intercept	187282.55	1	187282.55	1114.23	.00
Stigma	7987.11	1	7987.11	47.52	.00
Resilience	2009.50	1	2009.50	11.96	.00
Stigma * Resilience	6.26	1	6.26	.04	.85
Error	23531.45	140	168.08		
Total	221494.32	144			
Corrected Total	34787.66	143			

a. R Squared = .32 (Adjusted R Squared = .31); SSs = Sum of Squares; MS = Mean Square

Source: Fieldwork, 2023

Table 4.3.3 shows the result of the 2x2 analysis of variance indicating that resilience reveals a significant main effect on cancer patients' QoL ($F_{(1,140)}$ = 11.96, P<0.01). Also, stigma shows a significant main effect on cancer patients' QoL ($F_{(1,140)}$ = 47.52, P<0.01). However, there was no significant interaction effect between resilience and stigma on cancer patients' QoL ($F_{(1,140)}$ = .04, P>0.05). The model accounts for 32.00% of the variation in cancer patients QoL (R^2 = .32). Hence the second hypothesis is partially accepted. What the result means therefore is that independently, resilience and stigma have significant influence on cancer patients' QoL but they do not both significantly act together to influence cancer patients' QoL.

Hypothesis Three: Resilience and cancer types will have significant main and interaction effect on the QoL of cancer patients. The data was analyzed using 2x4 ANOVA as shown on Table 4.3.4

Table 4.3.4: 2 x 4 ANOVA of main and interaction effects of resilience and cancer type on the QoL of cancer patients

Source	SSs	df	MS	F	Sig.
Corrected Model	5367.75[a]	7	766.82	3.55	.00
Intercept	120177.73	1	120177.73	555.55	.00
Resilience	2041.96	1	2041.96	9.44	.00
Cancer Type	1929.65	3	643.22	2.97	.03
Resilience*Cancer Type	304.41	3	101.47	.47	.70
Error	29419.91	136	216.32		
Total	221494.32	144			
Corrected Total	34787.66	143			

a. R Squared = .15 (Adjusted R Squared = .11)
SSs = Sum of Squares; MS = Mean Square

Source: Fieldwork, 2023

Table 4.3.4 shows the result of the 2x4 analysis of variance indicating that resilience has a considerable main effect on cancer patients' QoL ($F_{(1,136)} = 9.44$, $P<0.01$). Also, cancer type has a considerable main effect on cancer patients' QoL ($F_{(1,136)} = 2.97$, $P<0.05$). However, there was no significant interaction effect between resilience and cancer type on cancer patients' QoL ($F_{(1,136)} = .47$, $P>0.05$). The model however explains 15.00% of the variation in cancer patients QoL ($R^2 = .15$). Thus the third hypothesis is partially accepted. This result means that when taken individually, each of resilience and cancer type has significant influence on cancer patients' QoL but they do not both significantly act together to affect cancer patients' QoL.

4.4 Discussion of Findings

This section discusses results of the analyzed data on the influence of personality traits, resilience and stigma on cancer patients' QoL. Three hypotheses were tested with all three hypotheses partially accepted.

Hypothesis one stated that personality traits (CANOE) will significantly predict QoL in cancer patients jointly and independently. Personality refers to an individual's enduring and pervasive pattern of personal motivation, emotion, interpersonal style, attitudes, and behaviors that are stable over a long time after young adulthood. The result showed significant joint and relative contributions of the personality traits (CANOE) to the prediction of cancer patients' QoL. The model jointly explained 40.3% of the variation in cancer patients' QoL which further connotes that personality traits are very important to consider when assessing cancer patients QoL. Other studies have reported significant joint influence of personality traits on the prediction of QoL amongst women with breast cancer[1,2].

In terms of independent contributions however, it is observed that neuroticism had the strongest independent contribution to the prediction of QoL in cancer patients, followed by conscientiousness and extroversion. However, while high conscientiousness and extroversion predicted better QoL, neuroticism predicted worse QoL. Extant studies have reported similar findings as that of this study. Cancer patients high on conscientiousness tend to adhere with treatment plans and seek health-related information that enable them take positive health actions in terms of self-care behaviors which can help improve their QoL[3,4]. In other studies, high trait conscientiousness also significantly predicted better QoL among breast, lung and

ovarian cancer patients[1,2] [,5,6]. A possible explanation for conscientiousness significantly predicting QoL in cancer patients could be because patients with high conscientiousness often perceive themselves as being capable of managing their cancer- or illness-related difficulties and usually participate actively in their treatment[7].

Extraversion represents the tendency to experience positive emotions, to be sociable, dominant and assertive. This study's result is comparable to that amongst patients with breast cancer, where high extraversion trait predicted better overall QoL[1,2,8]. Like in this study, the correlation between extraversion and QoL in lung and ovarian cancer patients was reported as positive[5,8]. Furthermore, a high level of extroversion is protective for cancer patients' psychological health and hence capable of predicting better QoL[9]. The influence of extraversion on better QoL is most likely attributable to the high level of optimism among those with high extraversion trait, their ability to effortlessly form relationships with greater likelihood of accessing social support. Social support refers to the network of family, relatives, friends, neighbors, and the community that are accessible to cancer patients whenever they require psychological, physical, and financial assistance[10]. High level of social support is linked with the practice of safer health behavior, better access to health services and desirable health outcomes[11]. Thus patients with high extroversion often have better access to social support which is directly associated with improved quality of life and treatment adherence in patients with chronic diseases such as cancer[12].

Neuroticism is regarded as a negative personality trait that is characterized by the tendency to be pessimistic, sad, and worried[13]. Patients high on neuroticism are

fearful, less likely to adhere to treatment regimen and are more prone to frequent hospital visits[14]. The findings of this study that neuroticism predicted worse QoL in cancer patients is similar to that reported in other studies where high neuroticism was a significant independent predictor of worse QoL[15,16,17]. The finding however differs from that reported amongst women with breast cancer in Ibadan where neuroticism failed to show significant relative influence on the prediction of QoL[2].

In the current study, contrary to the expectation that openness to experience and agreeableness will independently significantly influence the prediction of QoL in cancer patients, they did not. This study's finding with regards to openness to experience is similar to that reported amongst breast cancer patients in Ibadan but differs from that of a study amongst women with BRCA1/BRCA2 mutations where openness to experience was found to significantly predict QoL [2,17]. However, agreeableness was found to significantly predict QoL amongst breast cancer patients in another study contrary to that reported in the current study[2].

Hypothesis two stated that resilience and stigma will have significant main and interaction effect on cancer patients' QoL. The outcome of data analysis revealed that both resilience and stigma have significant main effects on cancer patients' QoL but no significant interaction effect was noticed between resilience and stigma on cancer patients' QoL. This study similar to other studies, found a significant main influence of resilience on better QoL amongst colorectal and breast cancer patients[18,19,20,21]. Also among patients having ovarian cancer and a heterogeneous group of cancer patients, high levels of resilience resulted in higher QoL[22,23]. Other studies have also reported the negative influence of stigma on QoL[24]. Likewise, a systematic review of

stigma experience among cancer patients found that patients with moderate or high stigma report low QoL[25]. While the current study did not find any interaction effect between stigma and resilience on QoL, another study reported resilience mediated the association between QoL and stigma[26].

Hypothesis three stated that resilience and cancer types will have significant main and interactive effect on cancer patients' QoL. The result indicated that while no significant interaction effect of resilience and cancer types on QoL was found, resilience and cancer types had significant main effects on cancer patients QoL. Extant studies as pointed out earlier have established the positive effect of high resilience on cancer patients QoL[18,19,20,21,22,23].

Cancer types had significant main effect on QoL. Specifically, breast cancer patients reported significantly worse QoL compared to cervical, prostate and other combined cancer types in this study. This finding differs from that of another study amongst patients with heterogeneous cancer types where there was no significant difference in QoL based on cancer types[27]. However, the present study's finding is comparable to another study where breast cancer patients reported better QoL when judged against patients with some other forms of reproductive system cancers[28]. Different cancers may have different effects on QoL based on variations in the prognostic implication of specific cancer diagnosis, the symptom burden, intensity of treatment and severity of treatment side effects such as the amputation of body parts [29].

Preliminary analysis showed significant inverse relationship between the positive factors such as resilience, conscientiousness and extroversion with QoL. This finding

in the current study implies that higher resilience, conscientiousness and extroversion were related to lower QoL of life scores which indicates superior QoL. The outcome of a study carried out among people with head and neck cancer resemble those of the current study where higher resilience was related to better overall QoL scores[30]. Furthermore, among colorectal, breast and ovarian cancer patients, resilience was found to have significant linear correlation with QoL[18,19,20,21,22,23]. This highlights the necessity for interventions to enhance resilience in cancer patients where it is noticed to be low. However, contrary to findings in this study, some other studies either failed to find significant relationship between QoL and resilience or reported that psychological resilience was associated with worse functional QoL[31,32]. While high resilience does not prevent patients from encountering life's adversities, it provides them the necessary cushioning effect to emotionally adjust as they optimistically confront their problems[33].

The correlation between higher conscientiousness and extroversion with better QoL has also been reported in literature. Higher conscientiousness is related to better QoL in breast, lung and ovarian cancer patients [1,2,5,6]. Similarly, higher extraversion is relatively consistent in its association with better overall QoL in patient with different cancer types[1,2,5,6,8]. Extroversion could however be a two-faced trait whose positive association with QoL may be dependent on context as persons with this trait are prone to take risks which may result in higher extroversion being negatively associated with worse QoL[34]. Although no significant relationship emerged between openness to experience and QoL in this study, openness to experience had a linear association with overall QoL in non-metastatic breast cancer patients[1].

This research revealed a noteworthy linear relationship between negative factors such as stigma and neuroticism with QoL which in this study implies that as stigma and neuroticism increase, QoL of life scores also increase which indicates lower QoL. Hence as stigma and neuroticism increases, the cancer patients' QoL reduces. This is similar to the finding among breast cancer and brain tumour patients in other studies where QoL and neuroticism were negatively correlated[35,36]. Also, other studies have shown that stigma has negative relationship with QoL in patients with different cancer[37,38,39,40]. Stigma is often associated with less willingness to disclose disease status, poor treatment adherence, and increased psychological distress, with a negative implication for QoL[24].

Endnotes

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Chapter Five

Conclusion

5.1 Summary of Findings

One hundred and forty-four (144) cancer patients partook in this study with a mean age of 52.64. Three hypotheses were tested in this study. The first hypothesis stated that personality traits (CANOE) will significantly influence the prediction of cancer patients' QoL jointly and independently. The result showed significant joint (CANOE) and relative contributions of the personality traits (conscientiousness, extroversion and neuroticism) to the prediction of cancer patients' QoL. The model jointly explained 40.3% variation in cancer patients' QoL which further connotes that personality traits are very important to consider when assessing cancer patients quality of life.

Hypothesis two stated that resilience and stigma will have significant main and interaction effect on cancer patients' QoL. The outcome of data analysis revealed that both resilience and stigma had significant main effects on cancer patients' QoL. However, the study did not find significant interaction effect between resilience and stigma on cancer patients' QoL.

Finally, hypothesis three stated that resilience and cancer types will have significant main and interaction effect on cancer patients' QoL. The outcome of data analysis showed that both resilience and cancer type had significant main effects on cancer patients' QoL. However, no significant interaction effect was seen between resilience and cancer type on cancer patients' QoL.

5.2 Conclusion

It is concluded that personality traits jointly predict cancer patients' quality of life. However, while conscientiousness and extroversion independently predict improved QoL, neuroticism independently predict poorer QoL and openness to experience and agreeableness did not significantly predict QoL in cancer patients.

The influence of resilience and stigma combined did not result in any change in QoL. However the effect of resilience influences a better QoL outcome while the effect of stigma results in a worse QoL outcome.

The main effect of cancer types on QoL is such that breast cancer patients reported worse quality of life than all the other cancers represented in this study. However, the effect of resilience and cancer type combined did not result in a significant change in cancer patients' QoL.

5.3 Recommendation

Based on the findings obtained from this study, the following recommendations are made:

i. Personality traits should be considered in QoL assessments of cancer patients in order to accurately interpret QoL results and to aid the integration of patients' worldview into the design and delivery of effective psychosocial interventions targeted at improving cancer patients' QoL.

ii. Resilience in cancer patients should be regularly monitored and interventions to enhance or build resilience should be considered in efforts geared towards improving the QoL of cancer patients.

iii. Cancer-related stigma should be tackled at the root through public health education and patients' perceived stigma should be assessed and addressed promptly so that it does not hamper the QoL of cancer patients.

iv. Furthermore, patients with various cancer types should be screened for specific disease-related factors that may account for differences in quality of life.

5.4 Contribution to Knowledge

This study contributes to existing literature on cancer patients' QoL in certain respects. The study has broadened the understanding of factors influencing QoL in cancer patients by including factors such as personality traits, resilience and stigma for exploration of their influence on quality of life. The study has thus contributed to knowledge by revealing the importance of investigating these factors to afford clinical psychologists with an enhanced insight into areas of focus when designing clinical interventions to improve patient outcomes. The findings of this study are essential to developing QoL interventions that can enhance resilience, reduce stigma and take cognizance of cancer patients' personality traits.

5.5 Suggested Area of Further Research

The contributions of this study notwithstanding, its limitations provide some important pointers for future research.

1. A research grant funded multi-center study with a more representative larger sample size than the one used in this study will allow for better generalization of findings to the cancer patient population.

2. Longitudinal studies that collect data at different time points in the cancer care continuum would be more reflective of possible fluctuations in personality traits, resilience and stigma and how this may influence cancer patients' QoL.

3. Finally, future studies should use measures in their original state to increase accuracy of collected data.

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Appendix 1
Informed Consent Form

I am Elizabeth Oluwatoyin Akin-Odanye a postgraduate psychology student in Lead City University, Ibadan. I am conducting a research for academic purpose on the topic: "Influence of Personality Traits, Resilience and Perceived Stigma on Cancer Patients' Quality of Life".

I am inviting you to participate in this research which involves you responding to a set of questions on a questionnaire. Your personal identifying information will not be collected and every piece of information you provide will be confidential. You are free to choose whether or not to take part in this study. Your treatment in this hospital will not be affected in anyway by your decision. You can also withdraw from this study whenever you choose. If you are interested in knowing more about the study, please contact the researcher through her phone number at the end of this document.

Statement of person giving informed consent:

I have read (or I have had read to me) what this research is all about in a language that I understand. I understand that I am free to choose to take part or not to take part in the research. I know enough about what is expected of me as well what I stand to gain or lose by taking part in the study to decide that I want to take part in it. I understand that I may freely stop participating in this study at any time. I have received a copy of this consent form and additional information sheet to keep for myself.

Date: _____ Name: _____ Signature:_____

Contact information

For any question about your participation in this research, you can contact the principal investigator Elizabeth Akin-Odanye on 08069576894

PLEASE KEEP A COPY OF THE SIGNED INFORMED CONSENT

Appendix I1

Study Instrument

Instruction: This questionnaire is designed to find out the things influencing cancer patients' quality of life. All information provided will be utilized only for the purpose of research and will be handled with utmost confidentiality. Please complete the questions as honestly as possible as there are no wrong or right answers. Thank you

Demographic and clinical information

Age: _____years **Gender**: Male () Female ()

Ethnic group: Yoruba ( ) Igbo ( ) Hausa ( ) Others ( ) Please specify _

Religion: Christianity ( ) Islam ( ) Others ( ) Please specify _____

Employment status: Unemployed ( ) Employed ( ) Retired ( )

Education: None ( ) Primary ( ) Secondary ( ) Tertiary ( )

Current marital status: Married ( ) Not currently married ( ) Never married ( )

Cancer type: Breast ( ) Cervix ( ) Prostate ( ) Others ( ) Please specify _____

Cancer stage: I () II () III () IV ()

<QLACS - Adapted>

Instruction: The following statements ask about things that can affect your quality of life. Please circle a number that describes how often each statement is true for you in last one month using the format below:

0 = never 1 = A few times 2 = sometimes 3 = often 4 = always

S/N	In the past 4 weeks ...	
1	You felt blue or depressed.	0 1 2 3 4
2	You worried about little things.	0 1 2 3 4
3	You felt anxious.	0 1 2 3 4
4	You felt happy.	0 1 2 3 4
5	You were content with your life.	0 1 2 3 4

6	You had difficulty doing activities that require concentrating.	0 1 2 3 4
7	You had trouble remembering things.	0 1 2 3 4
8	You were bothered by pain that kept you from doing the things you wanted to do.	0 1 2 3 4
9	You had aches or pains.	0 1 2 3 4
10	You lacked interest in sex.	0 1 2 3 4
11	You were dissatisfied with your sex life.	0 1 2 3 4
12	You didn't have energy to do the things you wanted to do.	0 1 2 3 4
13	You felt tired a lot.	0 1 2 3 4
14	You avoided social gatherings.	0 1 2 3 4
15	You avoided your friends.	0 1 2 3 4
16	You had financial problems because of the cost of cancer surgery or treatment.	0 1 2 3 4
17	You had money problems that arose because you had cancer.	0 1 2 3 4
18	You appreciated life more because of having had cancer.	0 1 2 3 4
19	You felt that cancer helped you to recognize what is important in life.	0 1 2 3 4
20	You worried that your family members were at risk of getting cancer.	0 1 2 3 4
21	You felt unattractive because of your cancer or its treatment.	0 1 2 3 4
22	You were bothered by hair loss from cancer treatment.	0 1 2 3 4
23	You worried about dying from cancer.	0 1 2 3 4
24	You worried about cancer coming back.	0 1 2 3 4

<The Big Five Inventory–2 Extra-Short Form (BFI-2-XS)>

Instruction: Here are a set of attribute that may be applicable-to you. Kindly circle a number against each item to state the degree of your agreement or otherwise with the statement using the format below.

1-Disagree strongly **2-Disagree** 3-**Agree** **4-Agree strongly**

I am someone who ……

1R. Tends to be quiet.	1 2 3 4
2. Is compassionate and has a soft heart.	1 2 3 4
3R.Tends to be disorganized.	1 2 3 4

4. Worries a lot.	1 2 3 4
5. Is fascinated by art, music, or literature.	1 2 3 4
6. Is dominant and acts as a leader.	1 2 3 4
7R. Is sometimes rude to others.	1 2 3 4
8R. Has difficulty getting started on tasks.	1 2 3 4
9. Tends to feel depressed, blue.	1 2 3 4
10R. Has little interest in abstract ideas.	1 2 3 4
11. Is full of energy.	1 2 3 4
12. Assumes the best about people.	1 2 3 4
13. Is reliable and can always be counted on.	1 2 3 4
14R. Is emotionally stable, not easily upset.	1 2 3 4
15. Is original, comes up with new ideas.	1 2 3 4

BRCS

Instruction: Reflect on the extent to which the statements below depict how you behave by circling the most appropriate number using the below format:

1-Does not describe me at all 2-Does not describe me 3-Describes me 4-Describes me very well

1. I look for creative ways to alter difficult situations	1 2 3 4
2. Regardless of what happens to me I believe I can control my reaction to it.	1 2 3 4
3. I believe that I can grow in positive ways by dealing with difficult situations.	1 2 3 4
4. I actively look for ways to replace the losses I encounter in life.	1 2 3 4

Cancer Stigma scale *(Adapted)*

Instruction: Please respond to the following statements using these response formats:

0 = never 1 = A few times 2 = sometimes 3 = often 4 = always

1. I feel I'm not as good as others because I have cancer.	1 2 3 4
2. I'm very careful whom I tell I have cancer.	1 2 3 4
3. I was hurt how people reacted to learning I have cancer.	1 2 3 4
4. People I care about stopped calling after learning that I have cancer.	1 2 3 4
5. Some people act as though it is my fault that I have cancer.	1 2 3 4

Appendix III Ethical Approval

INSTITUTE FOR ADVANCED MEDICAL RESEARCH AND TRAINING (IAMRAT)
College of Medicine, University of Ibadan
Director: Prof. IkeOluwapo O. Ajayi,
MBBS (Ib), M. Cl.Sc., Ph.D, MD, FMCGP, FWACP
Tel: 08023268431
E-mail: ikeajayi2003@yahoo.com

UI/UCH EC Registration Number: **NHREC/05/01/2008a**

NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

Re: Psychosocial Predictors of Quality of Life among Cancer Patients in Ibadan

UI/UCH Ethics Committee assigned number: UI/EC/22/0250

Name of Principal Investigator:	**Elizabeth O. Akin-Odanye**
Address of Principal Investigator:	Department of Sociology & Psychology Lead City University, Ibadan
Date of receipt of valid application:	13/07/2022

Date of meeting when final determination on ethical approval was made: **N/A**

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and *given full approval by the UI/UCH Ethics Committee.*

This approval dates from **19/08/2022** to **18/08/2023.** If there is delay in starting the research, please inform the UI/UCH Ethics Committee so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. *All informed consent forms used in this study must carry the* UI/UCH EC *assigned number and duration of* UI/UCH EC *approval of the study.* It is expected that you submit your annual report as well as an annual request for the project renewal to the UI/UCH EC at least four weeks before the expiration of this approval in order to avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the UI/UCH EC. *No changes are permitted in the research without prior approval by the* UI/UCH EC *except in circumstances outlined in the Code. The* UI/UCH EC *reserves the right to conduct compliance visit to your research site without previous notification.*

UI/UCH EC
19 AUG 2022
APPROVED

Professor IkeOluwapo O. Ajayi
Director, INSTITUTE OF MEDICINE
Chairperson, UI/UCH Research Ethics Committee
E-mail: ajiuchec@gmail.com

Appendix IV

Result Output

```
DATASET ACTIVATE DataSet2.
FREQUENCIES VARIABLES=AgeGroup Gender Religion Employment
Tribe Edu MartlStus CancerTyp CancerStage
/ORDER=ANALYSIS.
```

Frequencies

```
[DataSet2] I:\MSc\LCU MSc Study Final.sav
```

Statistics

	Age groups	Gender	Religion	Employ stat	Ethnicity	Education	Marital Status	Cancer Type	Cancer Stage	
N	Valid	144	144	144	125	144	144	144	144	43
	Missing	0	0	0	19	0	0	0	0	101

Frequency Table

Age groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<40years	26	18.2	18.2	18.2
	40 to 60years	73	51.0	51.0	69.2
	>60years	44	30.8	30.8	100.0
	Total	144	100.0		

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	39	27.1	27.1	27.1
	Female	105	72.9	72.9	100.0
Total		144	100.0	100.0	

Religion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Christianity	101	70.1	70.1	70.1
	Islam	38	26.4	26.4	96.5
	Others	5	3.5	3.5	100.0
	Total	144	100.0		

Employ stat

		Frequency	Percent	Valid Percent	Cumulative Percent
	Unemployed	51	35.4	40.8	40.8
	Employed	69	47.9	55.2	96.0
	Retired	5	3.5	4.0	100.0
	Total	125	86.8	100.0	
Missing	System	19	13.2		
Total		144	100.0		

Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yoruba	111	77.1	77.1	77.1
	Ibo	12	8.3	8.3	85.4
	Hausa	1	.7	.7	86.1
	Others	20	13.9	13.9	100.0
	Total	144	100.0		

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	18	12.5	12.5	12.5
	Primary	25	17.4	17.4	29.9
	Secondary	41	28.5	28.5	58.4
	Tertiary	60	41.7	41.7	100.0
Total		144	100.0		

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	85	59.0	59.0	59.0
	Currently unmarried	31	21.5	21.5	80.5
	Never married	28	19.4	19.4	100.0
Total		144	100.0		

Cancer Type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Breast cancer	48	33.3	33.3	33.3
	Cervical cancer	21	14.6	14.6	47.9
	Prostate cancer	13	9.0	9.0	56.9
	Others	62	43.1	43.1	100.0
	Total	144	100.0		

Cancer Stage

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Stage 1	13	9.0	30.2	30.2
	Stage 2	12	8.3	27.9	58.1
	Stage 3	13	9.0	30.2	88.4
	Stage 4	5	3.5	11.6	100.0
Total		43	29.9	100.0	
Missing	System	101	70.1		
Total		144	100.0		

```
RELIABILITY
/VARIABLES=BFI5 BFI10R BFI15
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL.
```

Reliability - Openness

Notes

Output Created		09-JUL-2023 18:18:02
Comments		
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Missing Value Handling	Matrix Input	
	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=BFI5 BFI10R FI15 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE /SUMMARY=TOTAL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

[DataSet1] I:\Validation of scales Untitled2.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.511	3

Item Statistics

	Mean	Std. Deviation	N
BFI5	4.05	.999	20
BFI10R	3.20	1.881	20
BFI15	4.55	.759	20

Item-Total Statistics

	Scale Mean if Item Deleted	cale Variance if Item Deleted	Corrected Item- Total Correlation	ronbach's Alpha if Item Deleted
BFI5	7.75	4.829	.438	.296
BFI10R	8.60	2.253	.347	.603
BFI15	7.25	5.776	.382	.430

Scale Statistcs

Mean	Variance	Std. Deviation	N of Items
11.80	7.747	2.783	3

```
RELIABILITY
/VARIABLES=BFI3R BFI8R BFI13
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL.
```

Reliability - Conscientiousness

Notes

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Missing Value Handling	Matrix Input	
	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES= BFI3R BFI8R BFI13 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE /SUMMARY=TOTAL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

[DataSet1] I:\Validation of scales Untitled2.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.529	3

Item Statistics

	Mean	Std. Deviation	N
BFI3R	3.75	1.682	20
BFI8R	3.80	1.361	20
BFI13	4.80	.616	20

Item-Total Statistics

	Scale Mean if Item Deleted	cale Variance if Item Deleted	Corrected Item- Total Correlation	ronbach's Alpha if Item Deleted
BFI3R	8.60	2.989	.344	.507
BFI8R	8.55	3.734	.424	.282
BFI13	7.55	6.155	.420	.479

Scale Statistcs

Mean	Variance	Std. Deviation	N of Items
12.35	7.818	2.796	3

```
RELIABILITY
/VARIABLES=BFI1R BFI6 BFI11
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL.
```

Reliability – Extroversion

Notes

Output Created		09-JUL-2023 18:18:56
Comments		
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Missing Value Handling	Matrix Input	
	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES= BFI1R BFI6 BFI11 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE /SUMMARY=TOTAL.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.00

[DataSet1] I:\Validation of scales Untitled2.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.745	3

Item Statistics

	Mean	Std. Deviation	N
BFI1R	4.40	1.046	20
BFI6	3.70	.657	20
BFI11	4.40	1.046	20

Item-Total Statistics

	Scale Mean if Item Deleted	cale Variance if Item Deleted	Corrected Item- Total Correlation	ronbach's Alpha if Item Deleted
BFI1R	8.10	2.305	.570	.676
BFI6	8.80	3.537	.503	.762
BFI11	8.10	1.989	.720	.466

Scale Statistcs

Mean	Variance	Std. Deviation	N of Items
12.50	5.211	2.283	3

```
RELIABILITY
/VARIABLES=BFI2 BFI7R BFI12
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL.
```

Reliability - Agreeableness

Notes

Output Created		09-JUL-2023 18:19:26
Comments		
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	N of Rows in Working Data File	20
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES= BFI2 BFI7R BFI12 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE /SUMMARY=TOTAL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

```
[DataSet1] I:\Validation of scales Untitled2.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.776	3

Item Statistics

	Mean	Std. Deviation	N
BFI2	4.55	.887	20
BFI7R	4.45	.759	20
BFI12	4.50	1.000	20

Item-Total Statistics

	Scale Mean if Item Deleted	cale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
BFI2	8.95	2.050	.810	.462
BFI7R	9.05	3.418	.321	.955
BFI12	9.00	1.789	.787	.476

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.50	4.895	2.212	3

```
RELIABILITY
/VARIABLES=BFI4 BFI9 BFI14R
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL.
```

Reliability - Neuroticism

Notes

Output Created		09-JUL-2023 18:19:50
Comments		
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	N of Rows in Working Data File	20
Missing Value Handling	Matrix Input	
	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES= BFI4 BFI9 BFI14R /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE /SUMMARY=TOTAL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

[DataSet1] I:\Validation of scales Untitled2.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.698	3

Item Statistics

	Mean	Std. Deviation	N
BFI4	3.05	1.731	20
BFI9	2.55	1.820	20
BFI14R	2.20	1.196	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
BFI4	4.75	5.355	.765	.228
BFI9	5.25	6.513	.501	.640
BFI14R	5.60	10.358	.350	.782

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
7.80	14.484	3.806	3

```
RELIABILITY
/VARIABLES=BRCS1 BRCS2 BRCS3 BRCS4
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL.
```

Reliability - Resilience

Notes

Output Created		09-JUL-2023 18:27:32
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	20
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES= BRCS1 BRCS2 BRCS3 BRCS4 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE /SUMMARY=TOTAL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

[DataSet1] I:\Validation of scales Untitled2.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.733	4

Item Statistics

	Mean	Std. Deviation	N
BRCS1	3.70	.470	20
BRCS2	3.60	.598	20
BRCS3	3.80	.410	20
BRCS4	3.55	.510	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
BRCS1	10.95	1.418	.536	.668
BRCS2	11.05	1.208	.512	.693
BRCS3	10.85	1.397	.694	.599
BRCS4	11.10	1.463	.418	.734

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
14.65	2.239	1.496	4

```
RELIABILITY
/VARIABLES=CSS1 CSS2 CSS3 CSS4 CSS5
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL.
```

Reliability - Stigma

Notes

Output Created		09-JUL-2023 18:28:02
Comments		
Input	Data	I:\Validation of scales Untitled2.sav
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	20
Missing Value Handling	Matrix Input	
	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES= CSS1 CSS2 CSS3 CSS4 CSS5 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE /SUMMARY=TOTAL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

```
[DataSet1] I:\Validation of scales Untitled2.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.638	5

Item Statistics

	Mean	Std. Deviation	N
CSS1	.85	1.226	20
CSS2	2.40	1.603	20
CSS3	.50	1.100	20
CSS4	.45	1.146	20
CSS5	.30	.923	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
CSS1	3.65	13.924	-.024	.764
CSS2	2.10	10.726	.182	.727
CSS3	4.00	9.158	.727	.425
CSS4	4.05	8.576	.793	.380
CSS5	4.20	10.695	.607	.511

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
4.50	15.211	3.900	5

```
RELIABILITY
  /VARIABLES=QLACS1nf QLACS3nf QLACS4nf QLACS5pfRevised
QLACS6pfRevised QLACS7cp QLACS8cp QLACS9p QLACS10p
QLACS11sp QLACS12sp QLACS13ef QLACS14ef QLACS15sa
QLACS16sa QLACS17fp QLACS18fp QLACS19bRevised
QLACS20bRevised QLACS21df QLACS22a QLACS23a QLACS24dr
QLACS25dr
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA
/STATISTICS=DESCRIPTIVE SCALE
/SUMMARY=TOTAL.
```

Reliability - QLACS

Notes

Output Created		09-JUL-2023 18:29:09
Comments		
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	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	20
	Matrix Input	
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=QLACS1nf QLACS3nf QLACS4nf QLACS5pfRevised QLACS6pfRevised QLACS7cp QLACS8cp QLACS9p QLACS10p QLACS11sp QLACS12sp QLACS13ef QLACS14ef QLACS15sa QLACS16sa QLACS17fp QLACS20bRevised QLACS21df QLACS22a QLACS23a QLACS24dr QLACS25dr /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA /STATISTICS=DESCRIPTIVE SCALE /SUMMARY=TOTAL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

[DataSet1] I:\Validation of scales Untitled2.sav

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	19	95.0
	Excluded[a]	1	5.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.881	24

Item Statistics

	Mean	Std. Deviation	N
QLACS1nf	2.68	2.730	19
QLACS3nf	1.32	1.565	19
QLACS4nf	1.37	1.571	19
QLACS5pfRevised	.95	1.545	19
QLACS6pfRevised	1.05	1.649	19
QLACS7cp	1.16	1.385	19
QLACS8cp	1.21	1.273	19
QLACS9p	1.16	1.385	19
QLACS10p	.58	1.017	19
QLACS11sp	1.74	1.821	19
QLACS12sp	2.47	1.577	19
QLACS13ef	1.37	1.674	19
QLACS14ef	.95	1.545	19
QLACS15sa	2.32	1.293	19
QLACS16sa	2.00	1.563	19
QLACS17fp	1.53	1.611	19
QLACS18fp	.74	1.327	19
QLACS19bRevised	2.95	1.682	19
QLACS20bRevised	3.05	1.580	19
QLACS21df	.47	1.264	19
QLACS22a	.37	.831	19
QLACS23a	.74	1.368	19
QLACS24dr	.89	1.595	19
QLACS25dr	.21	.918	19

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
QLACS1nf	30.58	283.591	.756	.865
QLACS3nf	31.95	328.608	.519	.874
QLACS4nf	31.89	312.988	.811	.866
QLACS5pfRevised	32.32	337.895	.357	.879
QLACS6pfRevised	32.21	321.842	.608	.871
QLACS7cp	32.11	329.988	.569	.873
QLACS8cp	32.05	338.719	.431	.877
QLACS9p	32.11	332.211	.523	.874
QLACS10p	32.68	357.450	.053	.884
QLACS11sp	31.53	326.819	.462	.876
QLACS12sp	30.79	321.398	.648	.870
QLACS13ef	31.89	335.433	.364	.879
QLACS14ef	32.32	334.784	.413	.877
QLACS15sa	30.95	323.386	.763	.869
QLACS16sa	31.26	325.316	.581	.872
QLACS17fp	31.74	327.427	.523	.874
QLACS18fp	32.53	331.708	.560	.874
QLACS19bRevised	30.32	363.450	-.090	.892
QLACS20bRevised	30.21	342.398	.267	.881
QLACS21df	32.79	334.731	.524	.875
QLACS22a	32.89	373.433	-.423	.890
QLACS23a	32.53	339.485	.381	.878
QLACS24dr	32.37	319.579	.674	.870
QLACS25dr	33.05	345.497	.416	.878

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
33.26	360.538	18.988	24

```
MEANS TABLES=QLACSComposite_1 BY BFI1R BFI2 BFI3R BFI4
BFI5 BFI6 BFI7R BFI8R BFI9 BFI10R BFI11 BFI12 BFI13
BFI14R BFI15
/CELLS MEAN COUNT.
```

Means

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
QLACSComposite_1 * BFI1R	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI2	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI3R	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI4	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI5	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI6	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI7R	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI8R	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI9	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI10R	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI11	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI12	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI13	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI14R	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BFI15	144	100.0%	0	0.0%	144	100.0%

QLACSComposite_1 * BFI1R

QLACSComposite_1

Tends to be quiet	Mean	N
Agree strongly	39.44	41
Agree a little	37.16	32
Disagree a little	44.38	21
Disagree strongly	32.52	50
Total	37.15	144

QLACSComposite_1 * BFI2.

QLACSComposite_1

Is compassionate and has a soft heart.	Mean	N
Disagree strongly	25.74	4
Disagree a little	43.41	9
Agree a little	39.36	22
Agree strongly	39.76	109
Total	37.10	144

QLACSComposite_1 * BFI3R

QLACSComposite_1

Tends to be disorganized	Mean	N
Agree strongly	41.08	20
Agree a little	42.72	23
Disagree a little	38.27	23
Disagree strongly	34.81	78
Total	37.47	144

QLACSComposite_1 * BFI4.

QLACSComposite_1

Worries a lot.	Mean	N
Disagree strongly	28.24	46
Disagree a little	38.68	25
Agree a little	39.70	40
Agree strongly	46.27	33
Total	37.47	144

QLACSComposite_1 * BFI5.

QLACSComposite_1

Is fascinated by art, music, or literature.	Mean	N
Disagree strongly	31.79	15
Disagree a little	43.44	15
Agree a little	38.77	57
Agree strongly	35.18	57
Total	37.24	144

QLACSComposite_1 * BFI6.

QLACSComposite_1

Is dominant and acts as a leader.	Mean	N
Disagree strongly	39.06	14
Disagree a little	42.80	24
Agree a little	36.83	41
Agree strongly	35.04	65
Total	37.24	144

QLACSComposite_1 * BFI7R.

QLACSComposite_1

Is sometimes rude to others.	Mean	N
Agree strongly	37.56	19
Agree a little	40.98	16
Disagree a little	40.23	26
Disagree strongly	34.25	83
Total	37.35	144

QLACSComposite_1 * BFI8R

QLACSComposite_1

Has difficulty getting started on tasks	Mean	N
Agree strongly	37.21	17
Agree a little	44.47	30
Disagree a little	40.18	31
Disagree strongly	33.30	66
Total	37.48	144

QLACSComposite_1 * BFI9.

QLACSComposite_1

Tends to feel depressed, blue.	Mean	N
Disagree strongly	28.00	61
Disagree a little	36.83	21
Agree a little	45.16	41
Agree strongly	49.22	21
Total	37.30	144

QLACSComposite_1 * BFI10R

QLACSComposite_1

Has little interest in abstract ideas	Mean	N
Agree strongly	37.14	22
Agree a little	37.99	40
Disagree a little	40.22	49
Disagree strongly	33.68	33
Total	36.86	144

QLACSComposite_1 * BFI11

QLACSComposite_1

Is full of energy.	Mean	N
Disagree strongly	48.58	9
Disagree a little	43.05	21
Agree a little	36.08	49
Agree strongly	34.26	65
Total	37.11	144

QLACSComposite_1 * BFI12

QLACSComposite_1

Assumes the best about people	Mean	N
Disagree strongly	56.69	1
Disagree a little	40.96	13
Agree a little	35.96	36
Agree strongly	38.22	94
Total	37.11	144

QLACSComposite_1 * BFI 13.

QLACSComposite_1

Is reliable and can always be counted on.	Mean	N
Disagree a little	41.62	6
Agree a little	38.14	27
Agree strongly	36.42	111
Total	37.01	144

QLACSComposite_1 * BFI 14R

QLACSComposite_1

Is emotionally stable, not easily upset	Mean	N
Agree strongly	30.69	55
Agree a little	39.38	51
Disagree a little	42.84	24
Disagree strongly	46.92	14
Total	37.24	144

QLACSComposite_1 * BFI15

QLACSComposite_1

Is original, comes up with new ideas	Mean	N
Disagree strongly	46.49	2
Disagree a little	45.27	17
Agree a little	38.84	51
Agree strongly	34.35	74
Total	37.14	144

[DataSet1] I:\Dump\MSc\LCU MSc Study Final update 10 June 2023(MeanGrp).sav

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
QLACSComposite_1 *CSS1	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * CSS2	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * CSS3	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * CSS4	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * CSS5	144	100.0%	0	0.0%	144	100.0%

QLACSComposite_1 * CSS1.

QLACSComposite_1

I feel I'm not as good as others because I have cancer (shame and accusation).	Mean	N
Never	31.21	91
A few times	43.90	21
Sometimes	46.53	23
Often	61.35	5
Always	59.74	4
Total	37.30	144

QLACSComposite_1 * CSS2.

QLACSComposite_1

I'm very careful whom I tell I have cancer (shame and accusation).	Mean	N
Never	27.48	22
A few times	39.41	10
Sometimes	41.56	17
Often	42.88	21
Always	37.45	74
Total	37.30	144

QLACSComposite_1 * CSS3.

QLACSComposite_1

I was hurt how people reacted to learning I have cancer (social isolation).	Mean	N
Never	33.10	109
A few times	48.45	11
Sometimes	51.47	17
Often	48.64	5
Always	54.00	2
Total	37.30	144

QLACSComposite_1 * CSS4.

QLACSComposite_1

People I care about stopped calling after learning that I have cancer (social isolation).	Mean	N
Never	34.57	121
A few times	55.57	10
Sometimes	45.49	7
Often	45.33	3
Always	58.67	3
Total	37.30	144

QLACSComposite_1 * CSS5.

QLACSComposite_1

Some people act as though it is my fault that I have cancer (Discrimination).	Mean	N
Never	35.60	124
A few times	48.58	15
Sometimes	45.34	2
Often	47.99	2
Always	40.00	1
Total	37.30	144

[DataSet1] I:\Dump\MSc\LCU MSc Study Final update 10 June 2023(MeanGrp).sav

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
QLACSComposite_1 * BRCS1	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BRCS2	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BRCS3	144	100.0%	0	0.0%	144	100.0%
QLACSComposite_1 * BRCS4	144	100.0%	0	0.0%	144	100.0%

QLACSComposite_1 * BRCS1

QLACSComposite_1

I look for creative ways to alter difficult situations	Mean	N
Does not describe me	44.31	16
Describe me	41.79	59
Describe me very well	32.19	69
Total	37.43	144

QLACSComposite_1 * BRCS1

QLACSComposite_1

Regardless of what happens to me I believe I can control my reactions to It	Mean	N
Does not describe me at all	41.80	5
Does not describe me	46.48	18
Describe me	42.06	54
Describe me very well	31.03	67
Total	37.43	144

QLACSComposite_1 * BRCS1

QLACSComposite_1

I believe that I can grow in positive ways by dealing with difficult situations	Mean	N
Does not describe me at all	45.33	3
Does not describe me	52.29	14
Describe me	40.22	56
Describe me very well	32.12	71
Total	37.43	144

QLACSComposite_1 * BRCS1

QLACSComposite_1

I actively look for ways to replace the losses I encounter in life.	Mean	N
Does not describe me at all	28.56	3
Does not describe me	45.67	18
Describe me	38.64	64
Describe me very well	33.86	59
Total	37.30	144

```
MEANS TABLES=QLACSComposite_1 BY CancerType
/CELLS MEAN COUNT.
```

Means

```
[DataSet1] I:\Dump\MSc\LCU MSc Study Final update 10 June
2023(MeanGrp).sav
```

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
QLACSComposite_1 * Cancer Type	144	100.0%	0	0.0%	144	100.0%

Report

QLACSComposite_1

Cancer Type	Mean	N
Breast cancer	40.09	48
Cervical cancer	33.96	21
Prostate cancer	34.89	13
Others	33.78	62
Total	37.48	144

```
FILE='I:\LCU MSc Study composite scores 17 June 2023.sav'.
DATASET NAME DataSet1 WINDOW=FRONT. CORRELATIONS
  /VARIABLES=QoL_1 BRCS_sum Stigma_1 Openness_1 Consci_1
Extraversion_1 Agreeableness_1 Neuroticism_1
/PRINT=TWOTAIL NOSIG
/STATISTICS DESCRIPTIVES
/MISSING=PAIRWISE.
```

Correlations

```
[DataSet1] I:\LCU MSc Study composite scores 17 June
2023.sav
```

Descriptive Statistics

	Mean	Std. Deviation	N
QoL_1	36.01	15.597	144
BRCS_sum	13.29	2.286	144
Stigma_1	4.47	3.063	144
Openness_1	9.14	1.642	144
Consci_1	9.88	1.848	144
Extraversion_1	8.85	1.981	144
Agreeableness_1	10.41	1.635	144
Neuroticism	6.57	2.421	144

Correlations

		QoL_1	BRCS_sum	Stigma_1	Openness_1	Consci_1	Extraversion_1	Agreeableness_1	Neuroticism
QoL_1	Pearson Correlation	1	-.383**	.507**	-.131	-.238**	-.265**	-.116	.588**
	Sig. (2-tailed)		.000	.000	.118	.004	.001	.165	.000
	N	144	144	144	144	144	144	144	144
BRCS	Pearson Correlation	-.383**	1	-.035	.229**	.059	.116	.119	-.455**
	Sig. (2-tailed)	.000		.675	.006	.482	.165	.156	.000
	N	144	144	144	144	144	144	144	144
Stigma	Pearson Correlation	.507**	-.035	1	-.093	-.070	-.157	-.006	.369**
	Sig. (2-tailed)	.000	.675		.270	.404	.061	.947	.000
	N	144	144	144	144	144	144	144	144
Openness_1	Pearson Correlation	-.131	.229**	-.093	1	.182*	.246**	.132	-.236**
	Sig. (2-tailed)	.118	.006	.270		.029	.003	.116	.004
	N	144	144	144	144	144	144	144	144
Consci_1	Pearson Correlation	-.238**	.059	-.070	.182*	1	.051	.466**	-.141
	Sig. (2-tailed)	.004	.482	.404	.029		.540	.000	.091
	N	144	144	144	144	144	144	144	144
Extraversion_1	Pearson Correlation	-.265**	.116	-.157	.246**	.051	1	.063	-.198*
	Sig. (2-tailed)	.001	.165	.061	.003	.540		.453	.017
	N	144	144	144	144	144	144	144	144
Agreeableness_1	Pearson Correlation	-.116	.119	-.006	.132	.466**	.063	1	-.198*
	Sig. (2-tailed)	.165	.156	.947	.116	.000	.453		.017
	N	144	144	144	144	144	144	144	144
Neuroticism	Pearson Correlation	.588**	-.455**	.369**	-.236**	-.141	-.198*	-.198*	1
	Sig. (2-tailed)	.000	.000	.000	.004	.091	.017	.017	
	N	144	144	144	144	144	144	144	144

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Regression

```
[DataSet1] I:\LCU MSc Study composite scores 17 June
2023.sav
```

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Neuroticism, Consci_1, Extraversion_1, Openness_1, Agreeableness_1 [b]	.	Enter

a. Dependent Variable: QoL_1

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	d. Error of the Estimate
1	.635[a]	.403	382	12.264

a. Predictors: (Constant), Neuroticism, Consci_1, Extraversion_1, Openness_1, Agreeableness_1

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	14030.962	5	2806.192	18.657	.000[b]
	Residual	20756.697	138	150.411		
	Total	34787.660	143			

a. Dependent Variable: QoL_1

b. Predictors: (Constant), Neuroticism, Consci_1, Extraversion_1, Openness_1, Agreeableness_1

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	26.013	10.805		2.408	.017
Openness_1	.642	.665	.068	.966	.336
Consci_1 1	-1.735	.634	-.206	-2.739	.007
Extraversion_1	-1.310	.540	-.166	-2.426	.017
Agreeableness_1	.877	.717	.092	1.222	.224
Neuroticism	3.611	.448	.560	8.067	.000

a. Dependent Variable: QoL_1

```
DATASET ACTIVATE DataSet1. FILTER OFF.
USE ALL. EXECUTE.
UNIANOVA QoL_1 BY Stg2Md Res2Md
/METHOD=SSTYPE(3)
/INTERCEPT=INCLUDE
/PLOT=PROFILE(Stg2Md*Res2Md Res2Md*Stg2Md)
/EMMEANS=TABLES(OVERALL)
/EMMEANS=TABLES(Stg2Md*Res2Md)
/PRINT=DESCRIPTIVE
/CRITERIA=ALPHA(.05)
/DESIGN=Stg2Md Res2Md Stg2Md*Res2Md.
```

Univariate Analysis of Variance

```
[DataSet1] I:\LCU MSc Study composite scores 17 June
2023.sav
```

Between-Subjects Factors

		Value Label	N
Stg2Md	1	Low stigma (</=4 Median)	89
	2	High stigma (>4 Median)	55
Res2Md	1	Low resilience (=<13 Median)	77
	2	High resilience (>13 Median)	67

Descriptive Statistics

Dependent Variable: QoL_1

Stg2Md	Res2Md	Mean	Std. Deviation	N
Low stigma (</=4 Median)	Low resilience (=<13 Median)	33.94	12.122	44
	High resilience (>13 Median)	25.72	11.487	45
	Total	29.78	12.444	89
High stigma (>4 Median)	Low resilience (=<13 Median)	49.03	15.154	33
	High resilience (>13 Median)	41.67	13.903	22
	Total	46.09	14.982	55
Total	Low resilience (=<13 Median)	40.40	15.373	77
	High resilience (>13 Median)	30.96	14.370	67
	Total	36.01	15.597	144

Tests of Between-Subjects Effects

Dependent Variable: QoL_1

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	11256.206[a]	3	3752.069	22.323	.000
Intercept	187282.554	1	187282.554	1114.234	.000
Stg2Md	7987.113	1	7987.113	47.519	.000
Res2Md	2009.500	1	2009.500	11.955	.001
Stg2Md * Res2Md	6.259	1	6.259	.037	.847
Error	23531.454	140	168.082		
Total	221494.319	144			
Corrected Total	34787.660	143			

a. R Squared = .324 (Adjusted R Squared = .309)

Estimated Marginal Means

1. **Grand Mean**

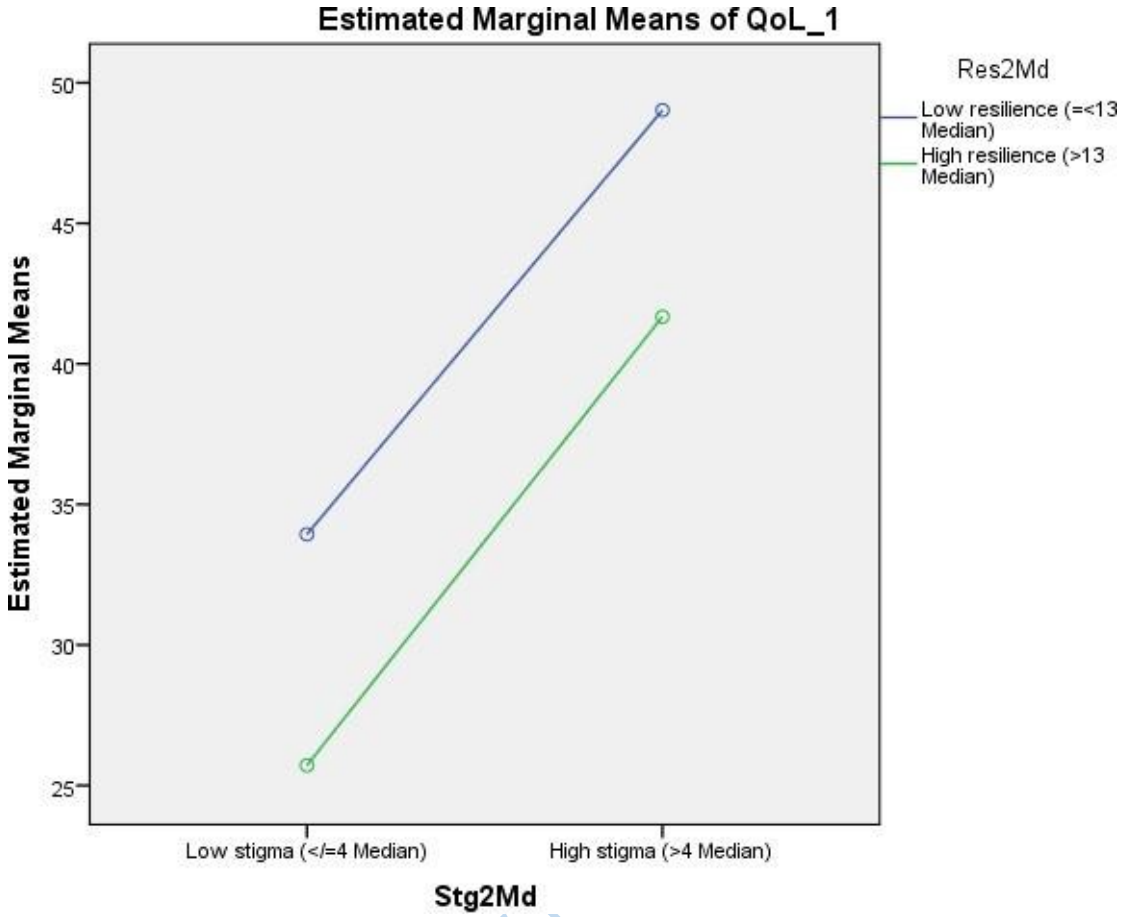
Dependent Variable: QoL_1

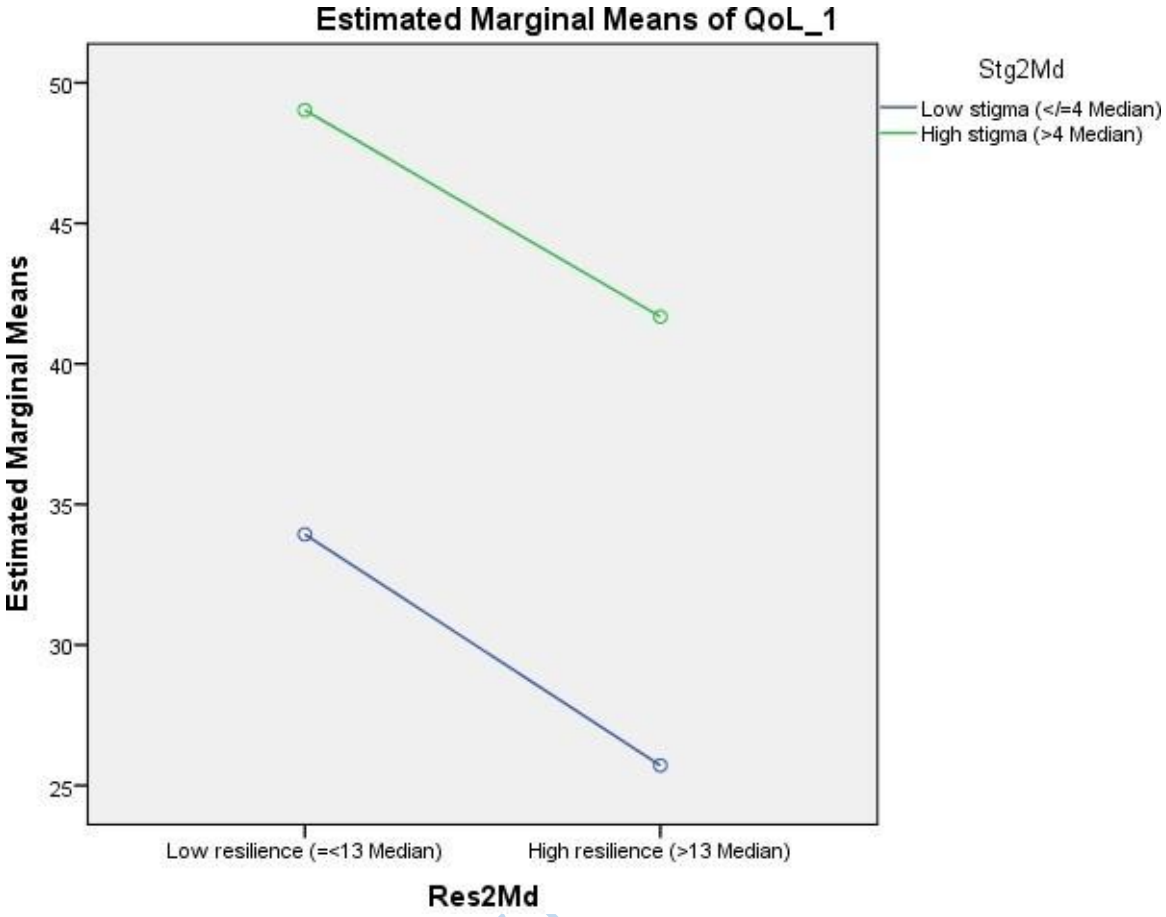
Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
37.589	1.126	35.362	39.815

2. **Stg2Md * Res2Md**

Dependent Variable: QoL_1

Stg2Md	Res2Md	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Low stigma (</=4 Median)	Low resilience (=<13 Median)	33.937	1.954	30.073	37.801
	High resilience (>13 Median)	25.715	1.933	21.894	29.536
High stigma (>4 Median)	Low resilience (=<13 Median)	49.027	2.257	44.565	53.489
	High resilience (>13 Median)	41.675	2.764	36.210	47.139






```
UNIANOVA QoL_1 BY BRCS_Cat CancerType
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/INTERCEPT=INCLUDE
/PLOT=PROFILE(BRCS_Cat*CancerType CancerType*BRCS_Cat)
/EMMEANS=TABLES(OVERALL)
/EMMEANS=TABLES(BRCS_Cat*CancerType)
/PRINT=DESCRIPTIVE
/CRITERIA=ALPHA(.05)
/DESIGN=BRCS_Cat CancerType BRCS_Cat*CancerType.
```


Univariate Analysis of Variance

```
[DataSet1] I:\LCU MSc Study composite scores 17 June
2023.sav
```

Between-Subjects Factors

		Value Label	N
BRCS_Cat	1	Low resilient coping (4-13)	77
	2	High resilient coping (>13)	67
Cancer Type	1	Breast cancer	48
	2	Cervical cancer	21
	3	Prostate cancer	13
	4	Others	62

Descriptive Statistics

Dependent Variable: QoL_1

BRCS_Cat	Cancer Type	Mean	Std. Deviation	N
Low resilient coping (4-13)	Breast cancer	46.89	16.515	21
	Cervical cancer	38.77	16.322	13
	Prostate cancer	35.66	12.462	7
	Others	38.13	14.259	36
	Total	40.40	15.373	77
High resilient coping (>13)	Breast cancer	34.80	16.596	27
	Cervical cancer	26.14	10.724	8
	Prostate cancer	33.99	14.830	6
	Others	27.74	12.089	26
	Total	30.96	14.370	67
Total	Breast cancer	40.09	17.468	48
	Cervical cancer	33.96	15.479	21
	Prostate cancer	34.89	13.040	13
	Others	33.78	14.258	62
	Total	36.01	15.597	144

Tests of Between-Subjects Effects

Dependent Variable: QoL_1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5367.752[a]	7	766.822	3.545	.002
Intercept	120177.729	1	120177.729	555.548	.000
BRCS_Cat	2041.963	1	2041.963	9.439	.003
CancerType	1929.651	3	643.217	2.973	.034
BRCS_Cat * CancerType	304.414	3	101.471	.469	.704
Error	29419.908	136	216.323		
Total	221494.319	144			
Corrected Total	34787.660	143			

a. R Squared = .154 (Adjusted R Squared = .111)

Estimated Marginal Means

1. **Grand Mean**

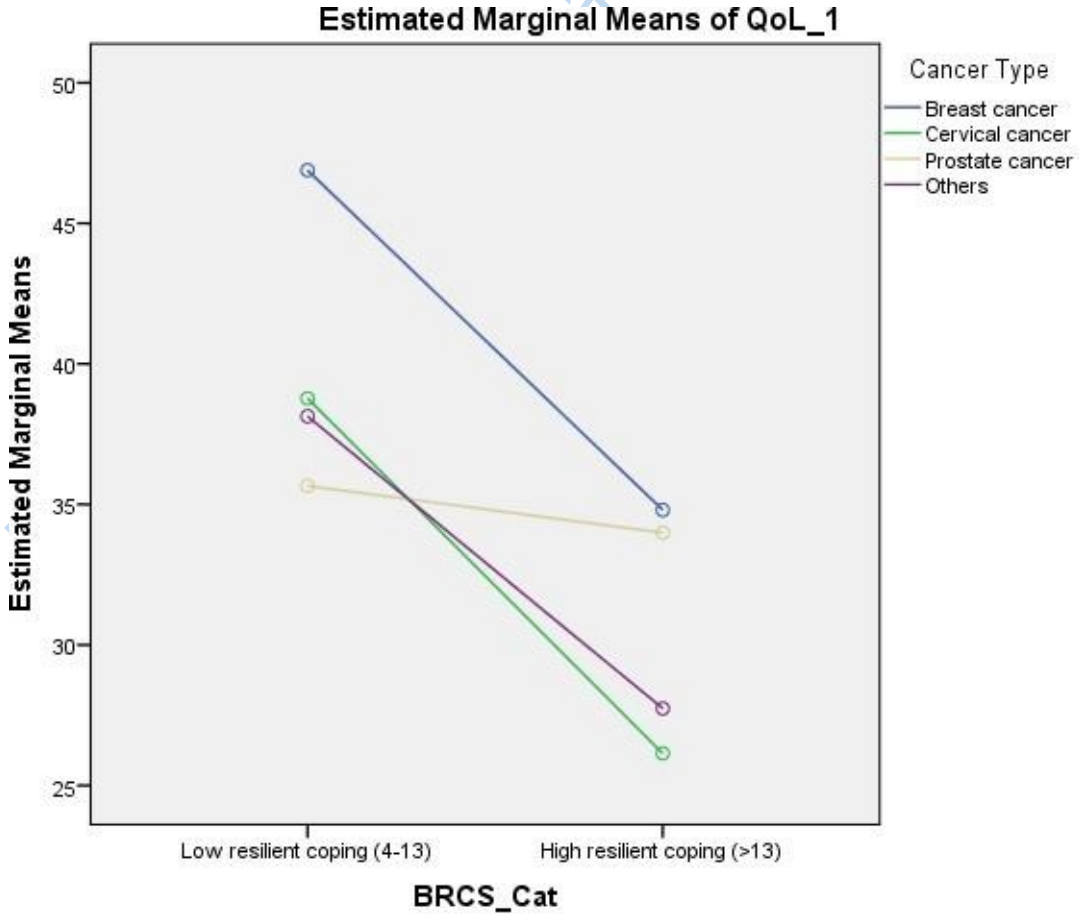
Dependent Variable: QoL_1

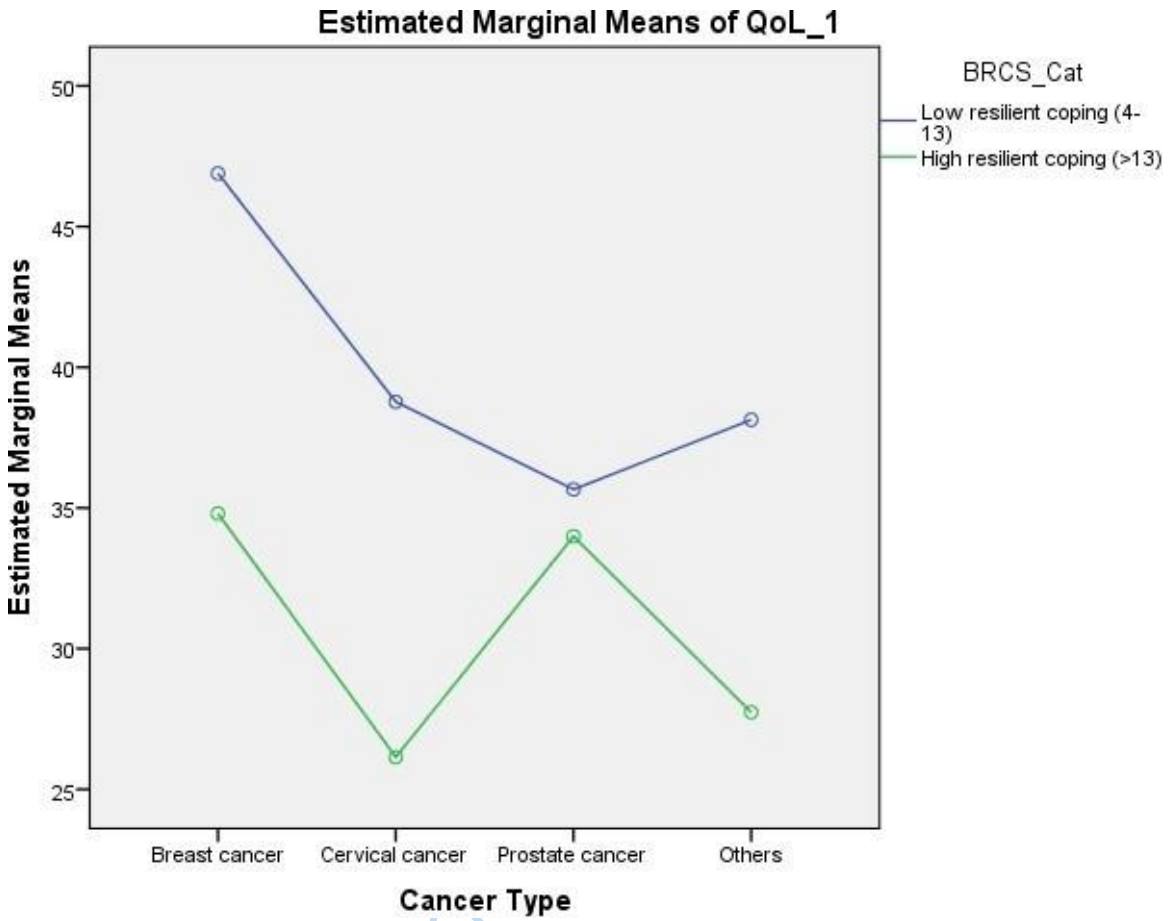
Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
35.267	1.496	32.308	38.225

2. BRCS_Cat * Cancer Type

Dependent Variable: QoL_1

BRCS_Cat Type	Cancer	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Low BRCS (4-13)	Breast cancer	46.888	3.210	40.541	53.235
	Cervical cancer	38.774	4.079	30.707	46.841
	Prostate cancer	35.659	5.559	24.666	46.653
	Others	38.134	2.451	33.286	42.981
High BRCS (>13)	Breast cancer	34.802	2.831	29.205	40.400
	Cervical cancer	26.143	5.200	15.859	36.426
	Prostate cancer	33.992	6.004	22.118	45.867
	Others	27.741	2.884	22.037	33.445





Bio-data

A. Personal Data

1. **Full Name**: Elizabeth Oluwatoyin AKIN-ODANYE
   (27, Ilupeju Street, Olopoewa, Eleyele, Ibadan/ toyin_akinodanye@yahoo.co.uk / 08069576894)

2. **Date and Place of Birth**: 20th August, 1973, Ibadan

3. **Nationality:** Nigerian

4. **Marital Status:** Married

B. Educational Background

1. Educational Institutions Attended with Dates and Qualification:

i. Primary Education:

Mowoe Primary School, Warri, 1985, Primary School Leaving Certificate

ii. Secondary Education:

University Secondary School, Ekpoma, 1991, SSCE

iii. Higher Educational Institutions Attended with Dates & Qualification

University of Ibadan	2008-2012	PhD	Education (Clinical Psychology Emphasis)
University of Ibadan	2005-2007	M.Ed	Counselling Psychology
Ondo State University, Ado-Ekiti	1992-1997	B.Ed	Guidance and Counselling

C. Awards and Fellowships:

Research Training Award, Africa Behavioral Research (ABeR) Center Training Program, 2018

Research Training Academy Travel Award, National Cancer Institute/International Psycho-Oncology Society, 2018

The Dorcas Cancer Foundation Research Grant Award No: TDCF-RSC-2018001, 2018

International Cancer Technology Transfer (ICRETT) UICC Fellowship 2017

African Scientific Peer-Review Publication and Grant Writing Workshop Award, NCI/NIH/CRDF, 2015

Training of Trainers (TOT) workshop on: Tobacco Control, Research and Leadership, University of Ibadan/American Cancer Society (UIACS), 2013

University of Ibadan Postgraduate School, Teaching and Research Assistantship (TRA), 2010-2012

D. Work Experience with Dates

Clinical Psychologist, University College Hospital, Ibadan, 2015– date

E. Membership of Academic Professional Bodies

Counselling Association of Nigeria (CASSON)

Nigerian Psychological Association (NPA)

International Psycho-Oncology Society (IPOS)

Psycho-Oncology Society of Nigeria (POSON)

F. Publications

1. Thesis/Dissertation

Akin-Odanye, E. O. Effects of cognitive restructuring and existential psychotherapy on the reduction of psychological distress in cancer patients in Southwest Nigeria. PhD Dissertation, University of Ibadan, 2012

Akin-Odanye, E. O. HIV/AIDS related knowledge, attitude and practice of road transport workers in Ibadan. M.Ed Thesis, University of Ibadan, 2007

2. Papers Accepted for Publication:

Akin-Odanye, E. O., Adesanya, B. J. *The Big-5 personality traits and personal characteristics as predictors of cancer patients' quality of life*. **African Journal for the Psychological Study of Social Issues.** 26, no. 3, 2023. 1-15, https://ajpssi.org/index.php/ajpssi

Kaninjing, E., Lopez, I.A., Wankie, C., Akin Odanye, E. O., Ndip, R. N., Dokurugu,Y. M., Tendongfor, N., Amissah, F., Means, S.W., Paul C., Sauls, D. L., & Vilme, H. *The academic and social impact of COVID-19 among college students: Perspectives from the United States of America, Cameroon, Ghana, and Nigeria.* **International Journal of Higher Education.** 11, no. 3, 2022. doi:10.5430/ijhe.v11n3p1

Akin-Odanye E. O., Asuzu C. C., Brown B. J. *Information needs of paediatric haematology and oncology patients.* **Nigerian Journal of Family Practice**. 12, no. 2, 2021. 27-35.

Ezenwankwo, E. F., Ogbodo, V. E., Alom, G. O., Nwadilibe, I. B., Ofodum, C. M., Nwankwo, C. A., Okigbo, C. C., Omeje, C. A., Onyebuchi, S. J., Oladoyimbo, C. A., Ezeani, A., Akin-Odanye, E. O., & Ogunsanya, M. *Behavioural oncology research in Africa: Lessons from the last two decades and key considerations moving forward*. **European Journal of Cancer Care**, 2021. e13545. https://doi.org/10.1111/ecc.13545

Akin-Odanye, E. O., & Husman, A. J. *Impact of stigma and stigma-focused interventions on screening and treatment outcomes in cancer patients.* **Ecancer**, 15, 2021. 1308 https://doi.org/10.3332/ecancer.2021.1308

Akin-Odanye, E. O., Kaninjing, E., Ndip, R. N., Warren, C. L., Asuzu, C. C., Lopez, I., Muiruri, C., & Vilme H. *Psychosocial impact of covid-19 on students at institutions of higher learning.* **European Journal of Education Studies**, 8, no. 6, 2021. 114- 127

Akin-Odanye, E. O., Ogo, C. N., Sulaiman, F. A., Suleiman, L., Ogunsanya, M. E., & Odedina, F. T. *Examining the influence of illness perception and financial toxicity on the quality of life of prostate cancer patients.* **African Journal of Urology.** 27, no. 72, 2021. https://doi.org/10.1186/s12301-021-00173-7

Asuzu, C., & Akin-Odanye, E. *Effect of a training workshop on oncology clinicians' psychosocial care delivery self-efficacy and perceived barrier in Nigeria.* **Int J Cancer Clin Res.** 7, no. 2, 2020. 133 DOI: 10.23937/2378-3419/1410133

Asuzu, C. C., Akin-Odanye, E. O., Asuzu, M. C., and Holland J. *A socio-cultural study of traditional healers' role in African health care.* **Infectious Agents and Cancer**. 14, 2019. 15 https://doi.org/10.1186/s13027-019-0232-y

Akin-Odanye, E. O. *Prevalence and management of child sexual abuse cases presented at Nigerian hospitals: A systematic review*. **J Health Soc Sci.** 3, no. 2, 2018. 109-124

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G. Major Conferences Attended with Dates

Psycho-oncology: A case for inclusion in the Nigeria National Cancer Control Plan. International Cancer Week in Nigeria, Abuja, Nigeria, 2023

Psychosocial assessment in psycho-Oncology. 12th Psycho-Oncology Society of Nigeria National Scientific Conference and Workshop, Benin City, Nigeria, 2023

Implementation science research in psycho-oncology. 11th Psycho-Oncology Society of Nigeria National Scientific Conference and Workshop, Ibadan, Nigeria, 2022

Parental distress on a pediatric hematology and oncology ward – A retrospective study. 20th International Psycho-Oncology Society Congress, Hong Kong, 2018

Family supportive care for cancer clients: Cultural influence. African Organization for Research and Training in Cancer (AORTIC) Conference, Kigali, Rwanda, 2017

Lung cancer related knowledge and smoking behaviour of road transport workers. 18th International Psycho-Oncology Society Congress, Dublin, Ireland, 2016

Breast cancer-related knowledge, attitude and screening intentions among female in-school adolescents and young adults in Ibadan. African Organization for Research and Training in Cancer (AORTIC) Conference, Marrakech, Morocco, 2015

The pattern of emotional concerns among cancer patients receiving radiotherapy treatment in the University College Hospital, Ibadan. 17th World Congress of Psycho-Oncology and Psychosocial Academy and the 12th Annual Conference of the American Psychosocial Oncology Society, Washington, DC, USA., 2015

Burden of caregiving and coping styles among caregivers of cancer patients. AORTIC Conference, Durban, South Africa, 2013

Impact of the diagnosis of a life threatening illness on purpose in life: implication for practice" Joint Meeting of the COSA's 39th Annual Scientific Meeting and IPOS 14th World Congress, Brisbane, Australia, 2012.

Assessing Nigerian women's awareness of breast cancer and practice of breast self examination and mammogram screening. 6th World Conference on Breast Cancer, Hamilton, Ontario Canada, 2011.

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The University Compliance Certification

This is to certify that the thesis by Elizabeth Oluwatoyin AKIN-ODANYE LCU/PG/003085 in the Department of Psychology, Faculty of Management and Social Sciences, Lead City University, Ibadan is in full compliance with the approved university format and style.

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Signature Date