

Review Paper

A Literature Review of Health and Mental Well-being Indicators and Its Assessment in Sub-Saharan Africa (2014-2022)



Jumoke Iyabode Oladele^{1*}, Tharina Guse², Henry O Owolabi³

1. Department of Social Sciences Education, Faculty of Education, University of Ilorin, Ilorin, Nigeria.

2. Department of Psychology, Faculty of Education, University of Pretoria, Pretoria, South Africa.

3. Department of Adult and Primary Education Studies, Faculty of Education, University of Ilorin, Ilorin, Nigeria.



Citation Oladele JI, Guse T, Owolabi HO. A Literature Review of Health and Mental Well-being Indicators and Its Assessment in Sub-Saharan Africa (2014-2022). *Journal of Research & Health*. 2024; 14(2):125-138. <http://dx.doi.org/10.32598/JRH.14.2.2333.1>

doi: <http://dx.doi.org/10.32598/JRH.14.2.2333.1>



ABSTRACT

Background: Multiple factors shape health and mental well-being (MWB). These factors are considered indicators for a holistic assessment of the well-being construct. Analyzing existing literature on indicators related to health and MWB is necessary to support a comprehensive evaluation in the sub-Saharan African context to assess and improve the population's health and MWB.

Methods: This study is a literature review conducted by adapting the POWER framework while leveraging the Web of Science (WoS) database, complemented with random Google-led searches. Leveraging the POWER framework, this paper reviewed related literature on mental health and well-being (HWB) to provide a framework for action.

Results: Going through the planning, writing, and reflection phases, of the POWER framework, the WoS database search produced 22 pieces of literature published in South Africa from 2014 to 2022 and 5 pieces of literature published in Nigeria from 2019 to 2022 with 26 manuscripts across higher institutions in South Africa and eight manuscripts with various organizations. The study revealed abilities to realize potential, cope with the normal stresses of life, work productively and fruitfully, and meaningful community engagement as some of the crucial mental health indicators. The reviewed literature revealed that MWB as a multi-phased construct is fast gaining attention in sub-Saharan African contexts.

Conclusion: This study concluded that mental HWB assessment has multiple indicators being largely deployed linearly using Western-developed or validated assessment instruments. Therefore, an adaptive health and MWB assessment with a more accurate assessment capacity should be developed as a transdisciplinary illness prevention intervention.

Keywords: Transdisciplinary science, Health, Mental well-being (MWB) indicators, Mental well-being assessment, Sub-Saharan Africa

Article info:

Received: 16 Jul 2023

Accepted: 30 Sep 2023

Publish: 01 Mar 2024

* Corresponding Author:

Jumoke Iyabode Oladele, PhD.

Address: Department of Social Sciences Education, Faculty of Education, University of Ilorin, Nigeria.

Phone: +234 (806) 0226110

E-mail: oladele.ji@unilorin.edu.ng

Introduction

Being healthy connotes a state of physical, mental, and social well-being; and not merely the absence of illness. As such, health comprises more than the absence of illness and is a complete state of mental, physical, and human well-being. Mental health is conceptualized as a state of well-being, in which the individual realizes their abilities, can cope with the normal stresses of life, work productively and fruitfully, and contribute to their community [1]. A paradigm shift has occurred in health management strategies of illness treatment to health promotion and illness prevention [2]. Sustaining this shift necessitates health-oriented rather than illness-oriented services, which have proved rather more difficult. Efforts to generate an illness science have been very successful, with shared taxonomies to identify types of illness, and established and validated interventions to treat and manage these identified illnesses. Also, clinical guidelines and quality standards are available to increase efficiency and equity. This position is relevant as optimal mental health enables people to realize their potential, cope with the normal stresses of life, work productively, and contribute to their communities [1]. Key objectives of the mental health action plan 2013-2030 by the [World Health Organization \(WHO\)](#) focused on strengthening effective leadership and governance for mental health, providing comprehensive, integrated, and responsive mental health and social care services in community-based settings, and implementing strategies for promotion and prevention in mental health [3]. Furthermore, strengthening information systems is required for mental health and well-being (HWB) research. The plan also highlights the importance of protecting and promoting human rights and includes a central role in providing community-based care and support.

The vision of the action plan is a world in which mental health is valued, promoted, and protected while ensuring culturally appropriate health and social care in a timely way. Taking this action helps promote recovery for attaining the highest possible level of health in society and at work, free from stigmatization and discrimination [4]. While previous healthcare interventions for depression, anxiety, and stress which are key determinants of mental HWB focused predominantly on psycho-pharmacological medication, contemporary approaches have utilized strategies to promote psychological well-being [5, 6]. The report also shows that medication can have varying side effects resulting in possible addiction and toxicity of the human system [7]. Exercise is also a cost-effective health promotion strategy [8]. Therefore, health promo-

tion methods are necessary to improve mental HWB at a much reduced financial and physiological cost. Appropriate and well-researched indicators can be used to monitor the mental health state non-medicinally for various populations which has been explored in developed countries [9-11]. To achieve accurate measurement and enhancement of population mental health where a dearth of quality mental health services is experienced, it is crucial to record indicators that encompass the entire range of disease severity [11]. It is against this background that this review was conducted on health and mental well-being indicators and their assessment in Sub-Saharan Africa.

HWB is the foundation of a sound and prosperous society with a positive relationship to happiness. HWB was described as an integral, multi-aspected, and functional notion premised on innate functions of nature and individual consideration of the good things of life and external functions, which are the extent to which potentials are realized and societal leverages to ascertain the quality of life [12]. Two substantial aspects have been distinguished in conceptualizing HWB, which are objective and subjective well-being. The objective aspect of well-being may be described as external functions, which are influenced by such factors as the level and stability of income, the conditions of residence, the opportunity of having education, the quality of the social and natural environment, safety and security, and the opportunity to realize social and civil rights and needs while the subjective aspect of well-being is characterized by the innate functions driven by individual experiences, such as respect and self-respect, confidence, satisfaction, harmony, harmonious physiological and psycho-emotional state, awareness of the purport of life and the person's meaning and significance in the social and political systems and the universe, the feeling of love, affection, friendship, necessity, the person's place, implementation of the person's calling [12]. A co-dependent relationship was described between objective and subjective well-being.

Well-being has been frequently studied in positive psychology, framed by two major theoretical approaches, hedonic and eudaimonic [13]. The hedonic perspective asserts that happiness is determined by pleasurable situations and driven by self-evaluations of worth measured through specific life domains (e.g. education, job, and marriage- cognitive components) and emotional state (experiencing a preponderance of positive affect over negative affect). The eudaimonic perspective views well-being as the ultimate purpose of human existence, reached through achieving one's highest needs leading to self-realization irrespective of external stimuli. Much

literature has focused on the overlap between hedonic and eudaimonic perspectives [14-16]. A safe practice is to carefully integrate both perspectives to understand mental well-being (MWB) and sides only with empirical proof.

The millennium has recorded a great increase in mental health research. MWB also has a social phase which speaks to life and work as impacting health outcomes [17]. Economic opportunities are construed as upstream social determinants that act as “fundamental causes” and typically impact health while living conditions are regarded as downstream social determinants. People’s social affiliations influence their health outcomes in myriad ways. This stance is further supported by [18], who stressed religious affiliation as the most dominant social affiliation defined by their physical community driven by a sense of connectedness that impacts people’s health status. As such, social affiliation is a strong determinant of healthy practices that support the mental health of a population strengthened by the ethics of community over autonomy in African contexts.

The concept of social determinants is broadened to include demographic characteristics believed to also affect health and wellbeing and drive many deep-rooted world health inequalities and stressors [17]. How the built environment and environmental degradation can affect and enhance the society’s well-being was examined and insight and guidance were provided for designing, creating, or providing environments that improve well-being [19, 20]. A study concluded that extreme weather-related incidents can affect MWB by triggering mechanisms akin to traumatic stress [21]. Therefore, the assessment of mental health should be conducted as the combination of objective and subjective well-being, ascertained through a variant of determinants to reliably establish how many people have reached a particular factor using appropriate indicators in evaluating MWB.

A significant shift has been made in approaching mental health from psychological diseases and related health issues focusing on anxiety, depression, stress, anger, and fear to a positive psychology standpoint which beams light on affection, compassion, and forgiveness while emphasizing the contextual, meta-theoretical and meta-disciplinary perspectives [22, 23]. This shift is fueled by the viewing of mental health as consisting not merely of the absence of illness or disorder but also positive indicators of well-being [22, 24]. Positive psychology as the science of what is needed for a good life values subjective experiences, such as contentment and satisfaction (in the past), flow and happiness (in the present),

and hope and optimism (for the future), as indicators of MWB [25]. It is also applicable at the individual (with a focus on positive traits) and group (with a focus on civility) levels [2].

Positive characteristics, such as hope, self-efficacy, flow, self-esteem, optimism, courage, gratitude, and the promotion of positive development have been highlighted as the tenets of positive psychology [22]. As such, positive psychology researches the emotions, strengths, processes, conditions, and relationships that foster optimal functioning and flourishing in people, groups, and institutions. Three waves of positive psychology were summarized, starting with the era of positive human functioning and global applicability of Western research results (first wave) through the era when context, culture, and negative facets of human life became germane to understanding the nature, and dynamics of well-being (second wave) and now to the need for a relational ontology which extrays properties of the construct of well-being as well as related sub-constructs, the relations between them and reality mediation through contextualization, interconnectedness while building transdisciplinary solutions to complexities [23, 24, 26]. The need for an Africa(n) centred positive psychology concerning well-being was also emphasized for cultural and social relevance and responsiveness [24]. The importance of developing intervention programs that are culturally suitable, widely accepted, and potentially effective in the specific context of rural, low-literacy, socioeconomically disadvantaged, and highly collectivistic communities in sub-Saharan Africa was further stressed [27]. The reason for conducting this type of study is to review health and mental well-being indicators and their assessment in Sub-Saharan Africa to adequately inform an African context-specific research on a non-illness intervention to ensure mental health.

Empirical studies on mental health assessment

Mental health as a component of general health and well-being has been widely researched and evaluated over the last two decades. An empirical study revealed the need to reorient mental illness to health services around promoting well-being [2]. Also, positive psychology constructs (e.g. hope, self-worth, satisfaction with life) and the relationship between these constructs concerning mental health and academic achievement of students in Portugal were examined [22]. The study’s results revealed hope and life satisfaction as the strongest predictors of students’ academic achievement and mental health. Social determinants of mental health, which include social, economic, and environmental fac-

tors were also examined [28]. Furthermore, the need for a life course approach to understanding and tackling mental and physical health inequalities with local context interventions was stressed to enhance knowledge of the interacting forces that shape individual and collective levels of mental health and well-being. As such, an individual's mental health is shaped by various social, economic, and physical environments operating at different stages of life [29].

Similarly, [17] examined social determinants to understand how the circumstances in which people live and work shape their health outcomes. Empirical evidence supports how social determinants of unemployment, precarious employment, and employment conditions impact mental health outcomes within specific populations [5, 30]. The components of positive psychology, effective coping strategies, self-compassion, courage, gratitude, character strengths, positive emotions, positive interpersonal processes, and high-quality connections were identified as significant factors in mental health during COVID-19 [31]. Similarly, [13] examined the correlation between virtues and character strengths, well-being, and academic achievement. The well-being score is positive and significantly correlated with all virtues and most character strengths and academic achievement.

Existing MWB-centered research was also examined. Positive outcomes on MWB and exercise participation during the COVID-19 pandemic were recorded with adult residents of the Niger Delta Nigeria [32]. The relationship between substance use and psychosocial factors as determinants of MWB among adolescent high school students in Nigeria was studied [33]. A significant correlation was established between oral health and mental health, focusing on suicidal ideation/attempts in southwestern Nigeria [34]. A cross-sectional multi-countries study from low and middle-income countries was conducted on coping strategies among healthcare workers during the COVID-19 pandemic with implications on mental health [35]. Most respondents identified the application of positive psychology as an effective coping strategy during the COVID-19 pandemic, while digital psychological and mental health support interventions were recommended to support teams and protect MWB [36].

The need to integrate positive and negative well-being indicators into mental health assessment for a broader functional coverage was seen as a necessity [22]. This need was strengthened by examining psychological aspects of well-being which consists of the development

of individual potential or self-actualization and engagement in meaningful activities with interest in qualities, such as the pursuit of excellence, self-realization, and feelings of engagement [13]. Also, an experiential approach to the conceptualization of MWB assessment points to a bottom-top approach to problem-solving [24]. Wealth, status, health, activity limitation, race, and age are significantly associated with happiness across the gender division favoring men. Similarly, a sustainable financial stance was poised as a crucial predictor of happiness while achieving intrinsic life goals by youths was also explored as a background characteristic predicting well-being, as studies in South Africa [24]. The authors further stressed the need for contextual relevance, which should emerge from a community-based perspective. This need should also be considered cognizant in mental HWB assessment while examining and learning from existing assessment tools.

A study of factors contributing to student well-being by [37] revealed the learning environment and support structures as two major themes interlinked. They together ensured the fulfillment of undergraduates' needs and well-being. This result is a clear departure from the amplified emphasis on academic outcomes frequently attributed, which disregards the holistic nature of university education and the importance of the subjective well-being experiences of university students. A study by [38] used the ICANOTE electronic health record, a commercial mental and behavioral health assessment tool to determine the presence of specific disorders, their nature and severity, and complement clinical diagnosis. WHO produced the 5-item WHO well-being index (WHO-5) to assess subjective well-being reported by [39] as questionnaires used to assess subjective psychological well-being consisting of 5 simple and non-invasive questions on a six-point scale graduated from all time (5) to never (0), which focuses on the respondent's subjective well-being. The instrument has been validated for use with different samples and is regarded as adequate as a screening tool for depression. The WHO-5 was successfully deployed as a screening tool for depression in a population of doctors and nurses in Nigeria and concluded as feasible for use in very busy settings due to its brevity and ease of administration [40]. Similarly, a cross-sectional multinational study was conducted using nurses who worked during the COVID-19 pandemic in Spain, Chile, and Norway using WHO-5. The results showed that the scale was psychometrically sound or measuring nurses' well-being during a pandemic [41]. Also, the scale was validated for use in epistemological studies and clinical research related to well-being in Chinese populations as a valid and reliable instrument

with a good model fit [42]. Furthermore, [43] validated the WHO-5 scale for depressive symptoms in infertile patients revealing the prevalence of depression and poor well in this population. Worthy of note is the validation of the well-being 5 using item response theory as a modern and flexible measurement paradigm for an adaptive measurement of well-being. The scale was developed to maximize efficiency and optimize user experience during individual assessment [44]. The simulation results indicated that the average survey taker can expect a reduction in several items administered during the computer adaptive testing process by almost 50%. Also, the increased efficiency was of considerable value due to the time saved during the administration of the survey and the potential improvement of user experience, which in turn can help secure the success of a population-based well-being improvement program. Other studies are on teachers' well-being by [45] (Hong Kong), [46–48] (New Zealand), and [49] (United Kingdom). As such, the instrument has been used widely as an outcome measure of MWB, but commonly through Western-centred research. Emerging themes in African well-being research, such as spirituality, relationships/social bonds, and emotional stability were reported [23].

The WHO assessment instrument for mental health systems (WHOAIMS) is also a tool to collect essential information on the mental health system regionally and primarily targeted at low- and middle-income countries. WHO-AIMS 2.2 consists of 6 domains, 28 facets, and 156 items to cover the key aspects of mental health systems. WHO-AIMS 2.2 was to establish a baseline on the mental health system at the time of the study, at Makueni County in Kenya [50]. Similarly, [51] employed WHO-AIMS to assess Uganda's mental health care system which exposed an outdated and offensive mental health legislation. A situational analysis of child and adolescent mental health services in Ghana, Uganda, South Africa, and Zambia was conducted by [52], revealing that child and adolescent mental health (CAMH)-related legislation, policies, services, programmes, and human resources are scarce and stressed the need to include anti-stigma initiatives and greater investment in child and adolescent mental health (CAMH). As such, the instrument was useful in collecting information to improve mental health systems and provides a baseline for monitoring change. Although, the reviewed studies are African-centered but none of these were conducted in Nigeria.

Also widely used is the mental health continuum, which is a self-assessed questionnaire with items that indicate individuals' current level of psychological functioning.

The scale employs positive emotional, psychological, and social well-being measures with 40 and 15 items with a 7-point response format that assesses subjective well-being representing the long and short forms respectively [53]. Both forms of the instrument have been used in research among various samples, such as [54] with a Polish sample; [55] used in the Italian context; [56] in an adult mental health setting; [27], using a rural Ghanaian sample both on establishing the validity of the scale through various factor analytic procedures concluding it has been beneficial from contextually relevant positive psychological interventions and may also buffer against psychopathology predominantly with relevance for the western population. The short form of mental health continuum used in an exploratory study with Angolan university students, in embracing MWB considering diverse African contexts [13]. They aimed to understand the relationships between virtues, character strengths, subjective well-being, and academic achievement among Angolan university students. The study revealed higher levels of psychological well-being and lower levels of social well-being among participants. Furthermore, the global mental health assessment tool-primary care version is a linear computerized clinical assessment tool developed to assess and identify various mental health problems [57]. These empirical efforts point to the growing interest in African mental HWB research. It reveals that there is a heavy reliance on Western-developed mental health assessment tools. Also, all the existing tools are deployed either as paper-pencil or linear computerized forms. The adaptive forms are scarcely available. These are not without implications for accuracy in assessment which is a gap begging to be filled in literature.

The problem

Relatively few people worldwide have access to quality mental health services [58]. In low and middle-income countries, more than 75% of people with mental, neurological, and substance use disorders receive no treatment for their condition at all [59]. This report shows that close to 1 billion people live with a mental disorder, 3 million die every year from the harmful use of alcohol, and one person dies every 40 s by suicide. These issues are compounded by stigma, discrimination, punitive legislation, and human rights abuses that are still widespread. Also, the COVID-19 pandemic has unarguably caught the world off-guard, with most nations being inadequately prepared to meet the challenges of this rapidly spreading virus, necessitating measures, such as social distancing and lockdowns with cascading effects on both health and the economy [60–64].

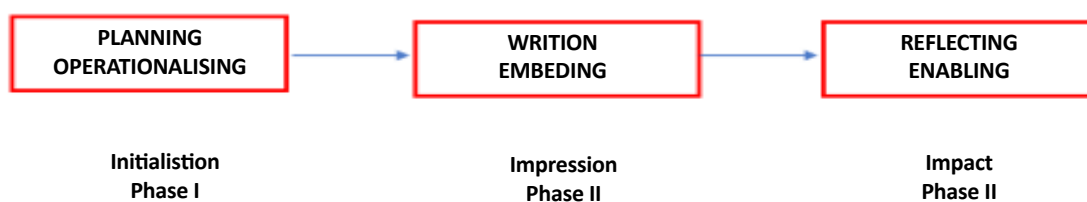


Figure 1. The POWER framework



Nigeria has eight psychiatric hospitals to serve a population of over 150 million, eight psychiatric nursing schools, and twelve medical schools, with all mental health services provided only at these institutions. These facilities are concentrated in the southern urban areas with a few in the north and no services are available in rural areas [65, 66]. The burden of mental health disorders is very high, with limited access to available and affordable mental health services [67]. A similar situation exists in South Africa with no national mental health plan, as planning for service delivery is the responsibility of provincial governments. Of the nine provinces, only one has a separate strategic plan for mental health, and the remaining eight provinces have mental health plans integrated within the general health plan [4]. Another study identified a lack of properly trained staff and organizational capacity as barriers to mental health care in South Africa [68]. MWB is a largely neglected area of public health and necessitates concerted efforts between relevant stakeholders [66, 67, 69]. Also, adolescents in sub-Saharan Africa were reported to be highly exposed to stressors and adverse childhood and family circumstances [34]. Some resulting stressors were the fear of contracting the virus, economic hardship and job loss, social isolation and abrupt disturbances to daily life, schooling, and working with untold pressure on individuals resulting in high levels of generalized anxiety, depressive symptoms, psychological distress, sleep disorders and post-traumatic stress disorders with a widespread deterioration of public mental health [31, 32, 35]. This situation necessitates an urgent situational evaluation and interventions to ensure a progressive learning curve on students' well-being with a focus on the aspect of mental health, being rated as important to lifelong student success as their academic achievement [35, 70].

A major critique of well-being research in Africa is the use of Western assessment tools without determining their ecological validity [71]. To lay the foundation for a way forward towards generating ideas on African-centred positive psychology, it is required to engage with the questions scholars have raised on the roots of African

psychology [24]. Furthermore, since conceptualizing well-being has become an arduous task in recent well-being research in Africa, more consensus on health and MWB is required. This challenge was reported partly due to the tendency to treat this construct as unidimensional rather than considering its multi-faceted nature. This issue will form the next research directions for African mental health and well-being.

Methods

This study is a literature review of health and mental well-being indicators and their assessment in Sub-Saharan Africa. The planning, operationalizing, writing, embedding, and reflecting (POWER) framework was adapted to create a historical inquiry through literature. The framework guides the creation and assessment of literature review papers, helping to address the challenge of assessing the value added by such review papers progressively. This three-phase framework was deployed to review the literature to gain a requisite understanding of mental HWB [72]. Figure 1 shows the POWER framework.

Literature review framework adapted from [72]

The original framework consisting of planning, operationalizing, writing, embedding, and reflecting named the first phase of involvement, but this was modified as the initialization phase (I). In this phase, the lead author conducted random internet searches in planning and operationalizing the concept of mental health and well-being. This phase was performed by identifying relevant information using electronic databases, reference lists, direct internet searches, and grey literature on health and well-being. Using the keyword of "MWB", this phase was deemed necessary to adequately inform the author on the construct and streamline contents from a broader worldview. The initialization phase yielded an outline that informed the article's structure consisting of a brief introduction to prepare the reader's mind in a streamlined manner. This literature review touched on issues relevant

to health and MWB, a concise problem statement, a theoretical model to ensure proper perspectival positioning of thoughts, and empirical studies on mental health assessment aimed at examining efforts made in the fields for ease of gap identification. This structure informed the direction for the impression phase, which yielded the main write-up phase (II). Adhering to the mapped-out structure, consulted manuscripts were retrieved from online sources through the [Web of Science \(WoS\)](#) with the coverage of the fields, social sciences, life sciences, and clinical medicine citation index and emerging sources citation, current content- social and behavioral sciences, open access, category- psychology, social issues, social sciences, country. The obtained resources from [WoS](#) were supported by materials from random searches from [Google](#) and carefully embedded into the write-up. This add-on was deemed necessary to avoid monopolizing readings and thoughts to aid broad applicability leading to the impact phase (III). At this phase, reflections were performed on the write-up by the authors to evaluate the impact rendered as the framework for action while taking cognizance of impending limitations. Using this framework, a progressive literature search from the [WoS](#) was conducted in August 2022 to identify manuscripts on mental HWB as the major keyword.

Results

Figures 2, 3 and 4 show the results of the literature using the search strings of quotation marks on the subject of “MWB” for concepts with English as the language criterion and filters, such as year, source, institutional affiliation, and subject area, with country-specific results (South Africa and Nigeria, respectively).

As shown in [Figure 2](#), the search produced 22 pieces of literature published in South Africa from 2014 to 2022 and 5 pieces of literature published in Nigeria from 2019 to 2022. Based on the [WOS](#) database, this result showed that intellectual, mental health and well-being efforts commenced earlier in South Africa.

As shown in [Figure 3](#), filtering the search by affiliation resulted in 26 manuscripts across higher institutions in South Africa and eight manuscripts with various organizations. This result showed that mental health is predominantly treated within academics in South Africa but by various stakeholders in Nigeria.

As shown in [Figure 4](#), mental health, and well-being surface in the areas of health, environment, arts and hu-

SOUTH AFRICA



NIGERIA

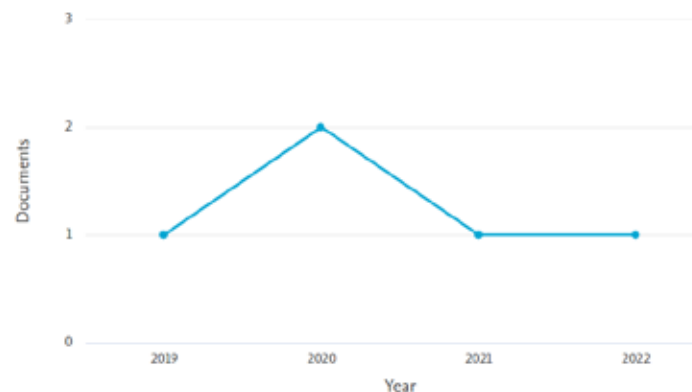


Figure 2. Doc per year

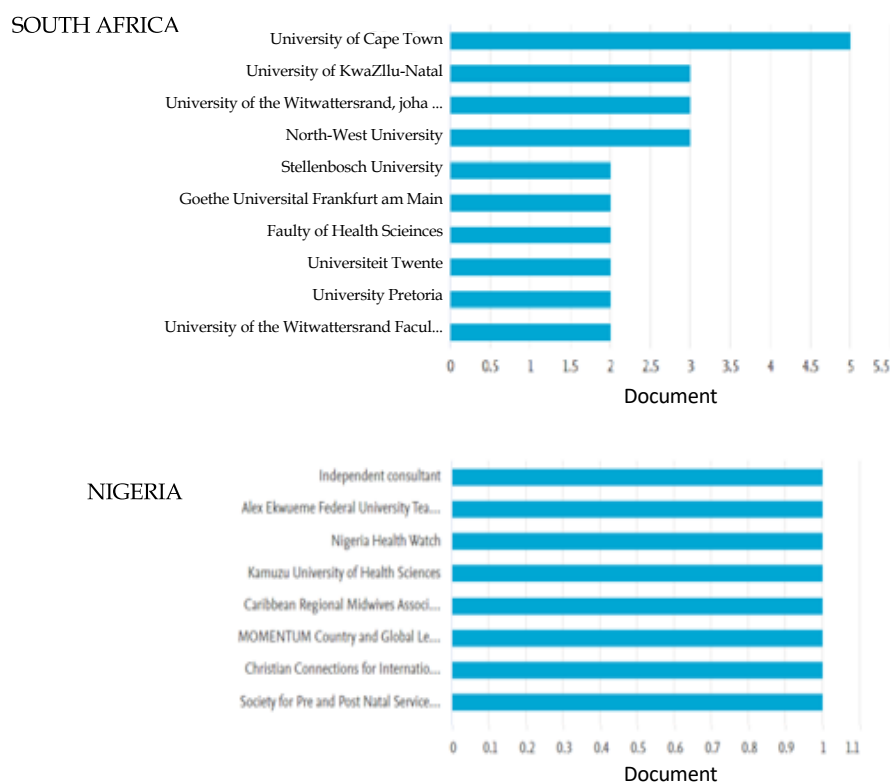


Figure 3. Doc by affiliation



manities, agriculture, economics, nursing, psychology, and social sciences in South Africa. Similarly, Nigeria’s subject areas are social science, multidisciplinary, health, environment, and biochemistry. This result showed that mental HWB is relevant in various subject areas and can be regarded as cross-cutting subjects.

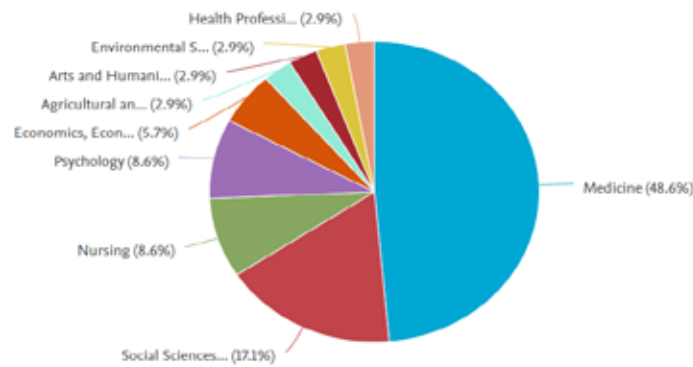
Discussion

This study was conducted to review the literature on health and MWB indicators to aid a holistic assessment in the sub-Saharan African context. The reviewed literature established health and MWB as an integral, multi-faceted concept inclusive of objective and subjective components. Both perspectives are crucial for situating MWB assessment [12]. It was further stressed that happiness is a determinant of health and MWB which can be approached either hedonically and eudaimonically, and resultantly, the quality of life driven by the “now happenings” [13]. This result is consistent with a study revealing that social determinants impact living conditions and shape people’s mental health [17]. Further empirical evidence supports how social determinants of unemployment, precarious employment, and employment conditions impact mental health outcomes within specific populations [5]. These submissions connote that

a wide net is required for a holistic perspective of the concept, considering that about two decades of research have brought to limelight an array of socioeconomic determinants, and environmental and religious aspects [17-21, 30].

The literature review also revealed that mental health is conceptualized as a state of well-being in which the individual realizes their abilities, can cope with the normal stresses of life, works productively and fruitfully, and contributes to their community [1]. This result is consistent with the positive psychology-centered study where the components of meaning, coping, self-compassion, courage, gratitude, character strengths, positive emotions, positive interpersonal processes, and high-quality connections were significant factors in mental health during COVID-19 [31]. Recent trends also show a significant shift to viewing MWB as a psychological disease requiring psychological interventions while considering positive indicators to improve mental states of well-being [22, 24, 36]. This is consistent with the submission on moving from the illness approach taken care of by drug use to health reorientation to promote well-being [2]. Also, the need to ensure culturally appropriate mental health and social care in a timely way was emphasized to attain the highest possible level of health in society and

South Africa



Nigeria

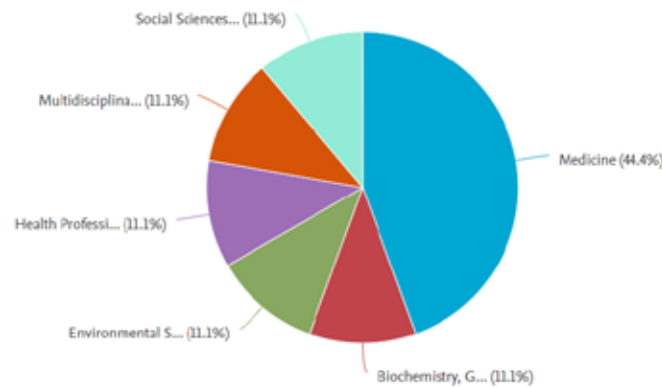


Figure 4. Doc by subject area



at work, free from stigmatization and discrimination [4]. This result is consistent with a submission that elaborated on the need for culturally appropriate, highly acceptable, and potentially effective intervention programs in the rural, low-literate, socioeconomically disadvantaged, highly collectivistic context of sub-Saharan Africa [27]. The result of HWB which is premised on innate functions of nature and individual consideration of the good things of life and external functions consists of the extent to which potentials are realized and societal leverages to ascertain the quality of life [12]. The objective (external) and subjective (internal) well-being were clearly distinguished as integral to conceptualizing mental well-being MWB [12]; and frequently studied in positive psychology [13], framed into hedonic (happiness and emotional stability) and eudaimonic (self-realization) perspectives [14-16]. Therefore, the indicators within the tenets of positive psychology were hope, self-efficacy, flow, self-esteem, optimism, courage, gratitude, and the promotion of positive development. This issue showed that positive psychology is concerned with the emotions, strengths, processes, conditions, and relationships that foster optimal functioning and good interpersonal relationships in individuals' spheres of influence [22]. MWB also has social indications related to life and work as impacting

health outcomes delineated as upstream (economic opportunities) and downstream (living conditions) social determinants [17]. Another mental health indicator is religious affiliation, which is regarded as the most dominant social affiliation that impacts people's health status strengthened by the ethics of community over autonomy in African contexts [18]. As such, religion is a crucial aspect of the African context. This result is consistent with the submission that religion gives people something to believe in, provides a sense of structure, and typically offers a group of people to connect with over similar beliefs which significantly impacts mental health [73-75]. Another indicator as revealed by the review of the literature was the built environment and environmental degradation which can affect and enhance society's well-being. This result is consistent with a result that provided insight and guidance to design, create, or provide environments that improve well-being [20].

Empirical reviews revealed that researchers in the West produce available instruments to assess mental HWB for a meaningful understanding, development, and interpretation of instrumentation research to aid improved mental health outcomes applicable to a different population in Africa. Also, the need for a comprehensive and co-

ordinated response to mental health requires partnership with multiple public sectors, such as health, education, employment, judicial, housing, social and other relevant sectors, as well as the private sector, as appropriate to the country's situation [50]. This approach should be adopted at the African regional level to consider region-specific situations. No blueprint action plan fits all countries that are at varying developmental stages. Therefore, effective implementation of the global mental health action plan requires transdisciplinary networks consisting of academic and research institutions, educational ministries/agencies, and the network of WHO collaborating centres for mental health, international agencies, such as the World Bank and United Nations development agencies, regional agencies, health and social determinants of health and other related networks, within Africa. Others are civil society organizations, including organizations of persons with mental disorders and psychosocial disabilities, service-user and other similar associations and organizations, family member and career associations, mental health and other related nongovernmental organizations, community-based organizations, human rights-based organizations, faith-based organizations, development and mental health networks and associations of health care professionals and service providers.

The identified groups' roles often overlap and can include multiple actions across governance, health and social care services, promotion, and prevention of mental health, information, and commissioned evidence-based research. Country-based assessments of the needs and capacity of different partners are essential to clarify the roles and actions of key stakeholder groups. This position points to the role of transdisciplinary sustainability science, characterized by reflexivity and applicability, on a meta-level regarded as a novel approach to MWB research [76]. While well-being research has grown exponentially in the last two decades, student well-being research at the tertiary level [77, 78], is still an emerging field in Africa [37]. This issue identified gaps form a strong basis for further research in this direction.

Conclusion

This study concluded that happiness, emotional stability, potential/self-realization, socio-economic stability, effective social interactions and community engagement, environmental safety, and meaningful religious involvement amidst coping with the normal stress of life were indicators of health and MWB with a need for cultural appropriateness. The scales to assess MWB should take cognizance of these indicators and deploy them adaptively owing to the estimation accuracy, which is an area

for research exploration in Africa. Also, it is required to understand the construct of mental HWB through the African context approached transdisciplinary for a holistic understanding of the construct and accurate assessment of the MWB of the teeming population as a non-illness health intervention.

Limitations

Multi-phased constructs are embedded in a broader context of the situation, knowledge, and learning spheres. However, fields of vision are limited to the research team's experiences, knowledge, and worldviews. The transdisciplinary science of sustainability has been leveraged as an approach to circumvent this limitation for tackling complex adaptive mental HWB systems [79] through the lens of the involved researchers and participants. Beyond this sphere is the unknown, including future persistent uncertainty [80]; that is, what is unknown is unknown, such as future shocks. The boundary acknowledges that project resources also bound research in time and space, requiring strategic thinking about realistic spheres of influence and how contained research projects can leave a wider positive legacy.

Ethical Considerations

Compliance with ethical guidelines

This study does not involve human participants as authors interacted with WoS database to retrieve relevant manuscripts to review literature and put them up for publishing for proper documentation. However, this review is the initiation of a dual-site study that will eventually involve human ethics approval by the University of Ilorin, Nigeria, and the University of Pretoria, South Africa Ethical Committees (after reviewing consent forms and other participant information and subject to being conducted as stipulated on the application). Also, correct publication of information, reporting of studies, and citation/references with 80 articles were ensured.

Funding

This publication was made possible (in part) by a grant from the Carnegie Corporation of New York/Future Africa Institute, University of Pretoria, South Africa (Code: Grant No.: G-20-57628). The authors are responsible for the statements and views expressed.

Authors' contributions

Conceptualization, methodology, data collection, data analysis and writing the initial draft: Jumoke Iyabode Oladele; Review, editing and supervision: Henry O Owolabi and Guse Tharina; Investigation: Henry O Owolabi.

Conflict of interest

The authors declared no conflict of interest.

Acknowledgments

The authors gratefully acknowledges support from the [Future Africa Research Leadership Fellowship \(FAR-LeaF\)](#) Programme at the [University of Pretoria](#) and the [University of Ilorin](#) through which the grant is deployed.

References

- [1] World Health Organization. Global action plan for the prevention and control of noncommunicable diseases 2013-2020. Geneva: World Health Organization; 2013. [\[Link\]](#)
- [2] Slade M. Mental illness and well-being: The central importance of positive psychology and recovery approaches. *BMC Health Services Research*. 2010; 10:26. [\[DOI:10.1186/1472-6963-10-26\]](#) [\[PMID\]](#)
- [3] Saxena S, Funk M, Chisholm D. World health assembly adopts comprehensive mental health action plan 2013-2020. *The Lancet*. 2013; 381(9882):1970-1. [\[DOI:10.1016/S0140-6736\(13\)61139-3\]](#) [\[PMID\]](#)
- [4] WHO. WHO-AIMS report on mental health system in South Africa. Geneva: WHO ; 2007. [\[Link\]](#)
- [5] Han S, Lee HS: Social capital and depression: Does household context matter? *Asia Pacific Journal of Public Health*. 2015; 27(2):NP2008-18. [\[DOI:10.1177/1010539513496140\]](#) [\[PMID\]](#)
- [6] Van Der Meer L, Wunderink C. Contemporary approaches in mental health rehabilitation. *Epidemiology and Psychiatric Sciences*. 2019; 28(1):9-14. [\[DOI:10.1017/S2045796018000343\]](#) [\[PMID\]](#)
- [7] Coleman JJ, Pontefract SK. Adverse drug reactions. *Clinical Medicine*. 2016; 16(5):481-5. [\[DOI:10.7861/clinmedicine.16-5-481\]](#) [\[PMID\]](#)
- [8] Zayed KN, Ahmed MD, Van Niekerk RL, Ho WKY. The mediating role of exercise behaviour on satisfaction with life, mental well-being and BMI among university employees. *Cogent Psychology*. 2018, 5(1):1430716. [\[DOI:10.1080/23311908.2018.1430716\]](#)
- [9] Parkinson J. Establishing a core set of national, sustainable mental health indicators for adults in Scotland: Final report. Glasgow: NHS Health Scotland; 2007. [\[Link\]](#)
- [10] Indicator Registry. Psychological health [Internet]. 2023 [Updated 18 February 2024]. Available from: [\[Link\]](#)
- [11] Tannenbaum C, Lexchin J, Tamblyn R, Romans S. Indicators for measuring mental health: Towards better surveillance. *Healthcare Policy*. 2009, 5(2):e177. [\[DOI:10.12927/hcpol.2013.21180\]](#)
- [12] Alartartseva E, Barysheva G. Well-being: Subjective and objective aspects. *Procedia - Social and Behavioral Sciences*. 2015; 166:36-42. [\[DOI:10.1016/j.sbspro.2014.12.479\]](#)
- [13] da Silva R, Rocha AM, Francisco D. Virtues and character strengths, subjective well-being and academic achievement: An exploratory study with Angolan University students. In: Schutte L, Guse T, Wissing MP, editors. *Embracing well-being in diverse African contexts: Research perspectives. Cross-cultural advancements in positive psychology*. Cham: Springer. [\[DOI:10.1007/978-3-030-85924-4_12\]](#)
- [14] Nordbakke S, Schwanen T: Well-being and mobility: A theoretical framework and literature review focusing on older people. *Mobilities*. 201; 9(1):104-29. [\[DOI:10.1080/17450101.2013.784542\]](#)
- [15] Farid T, Iqbal S, Basahal AS, Khattak A, Khan MK, Salam MA. Doing good and feeling good: " Relationship between authentic leadership with followers' work engagement: The mediating role of hedonic and eudaimonic wellbeing. *Frontiers in Public Health*. 2022; 10:1018599. [\[DOI:10.3389/fpubh.2022.1018599\]](#) [\[PMID\]](#)
- [16] Reinecke L, Kreling RJ. The longitudinal influence of hedonic and eudaimonic entertainment preferences on psychological resilience and wellbeing. *Frontiers in Communication*. 2022; 7:991458. [\[DOI:10.3389/fcomm.2022.991458\]](#)
- [17] Alegria M, NeMoyer A, Falgàs Baguè I, Wang Y, Alvarez K. Social determinants of mental health: Where we are and where we need to go. *Current Psychiatry Reports*. 2018; 20(11):95. [\[DOI:10.1007/s11920-018-0969-9\]](#) [\[PMID\]](#)
- [18] Mpofu E, Machina E. Socially influenced health norms: Their construction and enactment in African culture settings. In: Schutte L, Guse T, Wissing MP, editors. *Embracing well-being in diverse African contexts: Research perspectives. Cross-cultural advancements in positive psychology*. Cham: Springer. [\[DOI:10.1007/978-3-030-85924-4_3\]](#)
- [19] Janahi H, Raman S, Zapata-Lancaster G. Understanding the impact of the residential built environment design on inhabitants' wellbeing. Paper presented at: ARCC Conference Repository. 25 September 2018.
- [20] Okoji OO, Oladele J, Olawuni B. Environmental degradation in Niger Delta Nigeria: Implications on the well-being of the host communities. *The African Resources Development Journal*. 2014; 4(1):32-41. [\[Link\]](#)
- [21] Cianconi P, Betrò S, Janiri L. The impact of climate change on mental health: A systematic descriptive review. *Frontiers in Psychiatry*. 2020; 11:74. [\[DOI:10.3389/fpsy.2020.00074\]](#) [\[PMID\]](#)

- [22] Marques SC, Pais-Ribeiro JL, Lopez SJ. The role of positive psychology constructs in predicting mental health and academic achievement in children and adolescents: A two-year longitudinal study. *Journal of Happiness Studies*. 2011; 12(6):1049-62. [DOI:10.1007/s10902-010-9244-4]
- [23] Wissing MP, Schutte L, Liversage C. Embracing well-being in diverse contexts: The third wave of positive psychology and African imprint. In: Schutte L, Guse T, Wissing MP, editors. *Embracing well-being in diverse African contexts: Research perspectives*. Cross-cultural advancements in positive psychology. Cham: Springer; 2022. [DOI:10.1007/978-3-030-85924-4_1]
- [24] Wilson Fadji A, Khumalo IP, Zulu NT. Well-Being in Africa: Towards an Africa(n) centred positive psychology. In: Schutte L, Guse T, Wissing MP, editors. *Embracing well-being in diverse African contexts: Research perspectives*. Cham: Springer International Publishing; 2022. [DOI:10.1007/978-3-030-85924-4_2]
- [25] Peterson C, Park N. Meaning and positive psychology. *International Journal of Existential Psychology and Psychotherapy*. 2014; 5(1):2-8. [Link]
- [26] Oladele JI, Ndlovu M, Ayanwale MA. Computer adaptive-based learning and assessment for enhancing STEM Education in Africa: A fourth industrial revolution possibility. In: Chirinda B, Luneta K, Uworwabaye A, editors. *Mathematics education in Africa*. Cham: Springer International Publishing; 2022. [DOI:10.1007/978-3-031-13927-7_8]
- [27] Appiah R. Context matters: Sociocultural considerations in the design and implementation of community-based positive psychology interventions in sub-Saharan Africa. *Culture & Psychology*. 2022, 28(4):613-39. [DOI:10.1177/1354067X221118916]
- [28] Bonner, A. *Social determinants of health: An interdisciplinary approach to social inequality and wellbeing*. Bristol: Policy Press; 2018. [Link]
- [29] Allen J, Balfour R, Bell R, Marmot M. Social determinants of mental health. *International Review of Psychiatry*. 2014, 26(4):392-407. [DOI:10.3109/09540261.2014.928270] [PMID]
- [30] Reibling N, Beckfield J, Huijts T, Schmidt-Catran A, Thomson KH, Wendt C. Depressed during the depression: Has the economic crisis affected mental health inequalities in Europe? Findings from the European Social Survey (2014) special module on the determinants of health. *European Journal of Public Health*. 2017; 27(suppl_1):47-54. [DOI:10.1093/eurpub/ckw225] [PMID]
- [31] Waters L, Algoe SB, Dutton J, Emmons R, Fredrickson BL, Heaphy E, et al. Positive psychology in a pandemic: Buffering, bolstering, and building mental health. *The Journal of Positive Psychology*. 2022, 17(3):303-23. [DOI:10.1080/17439760.2021.1871945]
- [32] Eric NO, Oghenebrorien AE, Onogimesike AT, Suoke OP. Mental wellbeing and exercise participation during covid-19 pandemic among adult residents of Nigeria's Niger delta. *International Journal of Human Movement and Sports Sciences*. 2020; 8(6):534-42. [DOI:10.13189/saj.2020.080628]
- [33] Obadeji A, Kumolalo BF, Oluwole LO, Ajiboye AS, Dada MU, Ebeyi RC. Substance use among adolescent high school students in Nigeria and its relationship with psychosocial factors. *Journal of Research in Health Sciences*. 2020; 20(2):e00480. [DOI:10.34172/jrhs.2020.15] [PMID]
- [34] Folayan MO, Tantawi ME, Oginni O, Oziegbe E, Mapayi B, Arowolo O, et al. Oral health practices and oral hygiene status as indicators of suicidal ideation among adolescents in South-west Nigeria. *Plos One*. 2021; 16(2):e0247073. [DOI:10.1371/journal.pone.0247073] [PMID]
- [35] Htay MNN, Marzo RR, Bahari R, AlRifai A, Kamberi F, El-Abasiri RA, et al. How healthcare workers are coping with mental health challenges during COVID-19 pandemic? - A cross-sectional multi-countries study. *Clinical Epidemiology and Global Health*. 2021; 11:100759. [DOI:10.1016/j.cegh.2021.100759] [PMID]
- [36] van Agteren J, Iasiello M, Lo L, Bartholomaeus J, Kopsaftis Z, Carey M, et al. A systematic review and meta-analysis of psychological interventions to improve mental wellbeing. *Nature Human Behaviour*. 2021; 5(5):631-652. [DOI:10.1038/s41562-021-01093-w] [PMID]
- [37] Bernard ME, Ellis A, Terjesen M. Rational-emotive behavioral approaches to childhood disorders: History, theory, practice and research. In: Ellis A, Bernard ME, editors. *Rational emotive behavioral approaches to childhood disorders*. Boston: Springer; 2006. [DOI:10.1007/0-387-26375-6_1]
- [38] Menja CW. *Improving therapeutic communication in a psychiatric mental health outpatient clinic* [PhD dissertation]. Arizona: The University of Arizona; 2023. [Link]
- [39] Topp CW, Østergaard SD, Søndergaard S, Bech P. The WHO-5 Well-Being Index: A systematic review of the literature. *Psychotherapy and Psychosomatics*. 2015; 84(3):167-76. [DOI:10.1159/000376585] [PMID]
- [40] Seb-Akahomen OJ, Okogbenin EO, Obagaye OM, Erohubie PO, Aweh BE. The 5-Item WHO Well-Being Index as a screening tool for depression in a population of doctors and nurses in Nigeria during the covid-19 pandemic. *Open Journal of Depression*. 2021; 10(2):43-53. [DOI:10.4236/ojd.2021.102004]
- [41] Lara-Cabrera ML, Betancort M, Muñoz-Rubilar A, Rodriguez-Novo N, Bjerkeset O, De Las Cuevas C. Psychometric properties of the WHO-5 well-being index among nurses during the COVID-19 pandemic: A cross-sectional study in three countries. *International Journal of Environmental Research and Public Health*. 2022; 19(16):10106. [DOI:10.3390/ijerph191610106] [PMID]
- [42] Fung SF, Kong CYW, Liu YM, Huang Q, Xiong Z, Jiang Z, et al. Validity and psychometric evaluation of the Chinese version of the 5-Item WHO Well-Being Index. *Frontiers in Public Health*. 2022; 10:872436. [DOI:10.3389/fpubh.2022.872436] [PMID]
- [43] Omani-Samani R, Maroufizadeh S, Almasi-Hashiani A, Sepidarkish M, Amini P. The WHO-5 well-being index: A validation study in people with infertility. *Iranian Journal of Public Health*. 2019; 48(11):2058-64. [PMID]
- [44] Kraatz M, Sears LE, Coberley CR, Pope JE. Adaptive measurement of well-being: Maximizing efficiency and optimizing user experience during individual assessment. *Population Health Management*. 2016; 19(4):284-90. [DOI:10.1089/pop.2015.0101] [PMID]
- [45] Lau SSS, Shum ENY, Man JOT, Cheung ETH, Amoah PA, Leung AYM, et al. Teachers' well-being and associated factors during the covid-19 pandemic: A cross-sectional study in Hong Kong, China. *International Journal of Environmental Research and Public Health*. 2022; 19(22):14661. [DOI:10.3390/ijerph192214661] [PMID]

- [46] Every-Palmer S, Jenkins M, Gendall P, Hoek J, Beaglehole B, Bell C. Psychological distress, anxiety, family violence, suicidality, and wellbeing in New Zealand during the COVID-19 lockdown: A cross-sectional study. *PLoS One*. 202; 15(11):e0241658. [DOI:10.1371/journal.pone.0241658] [PMID]
- [47] Smallwood N, Karimi L, Bismark M, Putland M, Johnson D, Dharmage SC, et al. High levels of psychosocial distress among Australian frontline healthcare workers during the COVID-19 pandemic: A cross-sectional survey. *General Psychiatry*. 2021; 34(5):e100577. [DOI:10.1136/gpsych-2021-100577] [PMID]
- [48] Bell C, Williman J, Beaglehole B, Stanley J, Jenkins M, Gendall P, et al. Challenges facing essential workers: A cross-sectional survey of the subjective mental health and well-being of New Zealand healthcare and 'other' essential workers during the COVID-19 lockdown. *BMJ Open*. 2021; 11(7):e048107. [DOI:10.1136/bmjopen-2020-048107] [PMID]
- [49] Spiro N, Perkins R, Kaye S, Tymoszuk U, Mason-Bertrand A, Cossette I, et al. The effects of covid-19 lockdown 1.0 on working patterns, income, and wellbeing among performing arts professionals in the United Kingdom (April-June 2020). *Frontiers in Psychology*. 2021; 11:594086. [DOI:10.3389/fpsyg.2020.594086] [PMID]
- [50] Mutiso VN, Musyimi CW, Gitonga I, Tele A, Pervez R, Rebello TJ, et al. Using the WHO-AIMS to inform development of mental health systems: The case study of Makeni County, Kenya. *BMC Health Services Research*. 2020; 20(1):51. [DOI:10.1186/s12913-020-4906-3] [PMID]
- [51] Kigozi F, Ssebunnya J, Kizza D, Cooper S, Ndyabangi S; Mental Health and Poverty Project. An overview of Uganda's mental health care system: Results from an assessment using the world health organization's assessment instrument for mental health systems (WHO-AIMS). *International Journal of Mental Health Systems*. 2010; 4(1):1. [DOI:10.1186/1752-4458-4-1] [PMID]
- [52] Kleintjes S, Lund C, Flisher A. A situational analysis of child and adolescent mental health services in Ghana, Uganda, South Africa and Zambia. *African Journal of Psychiatry*. 2010; 13(2):132-9. [DOI:10.4314/ajpsy.v13i2.54360]
- [53] Keyes CL. The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*. 2002; 43(2):207-22. [DOI:10.2307/3090197] [PMID]
- [54] Karaś D, Ciecuch J, Keyes CLM. The Polish adaptation of the Mental Health Continuum-Short Form (MHC-SF). *Personality and Individual Differences*. 2014; 69:104-9. [DOI:10.1016/j.paid.2014.05.011]
- [55] Petrillo G, Capone V, Caso D, Keyes CLM. The Mental Health Continuum-Short Form (MHC-SF) as a measure of well-being in the Italian context. *Social Indicators Research*. 2015; 121(1):291-312. [DOI:10.1007/s11205-014-0629-3]
- [56] Franken K, Lamers SMA, Ten Klooster PM, Bohlmeijer ET, Westerhof GJ. Validation of the Mental Health Continuum-Short Form and the dual continua model of well-being and psychopathology in an adult mental health setting. *Journal of Clinical Psychology*. 2018; 74(12):2187-202. [DOI:10.1002/jclp.22659] [PMID]
- [57] Sharma VK, Lepping P, Cummins AG, Copeland JR, Parhee R, Mottram P. The global mental health assessment tool-primary care version (GMHAT/PC). Development, Reliability and Validity. *World Psychiatry*. 2004; 3(2):115-9. [PMID]
- [58] Brunier A, Drysdale C. COVID-19 disrupting mental health services in most countries, WHO survey. Geneva: World Health Organization; 2020. [Link]
- [59] Keynejad RC, Dua T, Barbui C, Thornicroft G. WHO Mental Health Gap Action Programme (mhGAP) intervention guide: A systematic review of evidence from low and middle-income countries. *Evidence-Based Mental Health*. 2018; 21(1):30-4. [DOI:10.1136/eb-2017-102750] [PMID]
- [60] Álvarez-Iglesias A, Garman E, Lund C. Effects of COVID-19 on the economy and mental health of young people in South Africa: opportunities for strengthening social protection programmes by integrating mental health. *South African Journal of Psychology*. 2021; 51(2):199-204. [DOI:10.1177/00812463211015348]
- [61] Mashige KP, Osuagwu UL, Ulagathan S, Ekpenyong BN, Abu EK, Goson PC, et al. Economic, health and physical impacts of COVID-19 pandemic in Sub-Saharan African regions: A cross sectional survey. *Risk Management and Healthcare Policy*. 2021; 4799-807. [DOI:10.2147/RMHP.S324554] [PMID]
- [62] Pauline OI. Health is wealth: Newspaper coverage of the economic impact of COVID-19 in Nigeria. *Library Philosophy and Practice*. 2021; 1-28. [Link]
- [63] Olanrewaju JS, Nwozor A, Abdulrahman AA. Politicizing the Pandemic: COVID-19 and its impact on the Nigerian economy. *Pertanika Journal of Social Sciences & Humanities*. 2022; 30(4):1513-31. [DOI:10.47836/pjssh.30.4.04]
- [64] Stylianou T, Ntelas K. Impact of COVID-19 pandemic on mental health and socioeconomic aspects in Greece. *International Journal of Environmental Research and Public Health*. 2023; 20(3):1843. [DOI:10.3390/ijerph20031843] [PMID]
- [65] Jack-Ide IO, Uys L. Barriers to mental health services utilization in the Niger Delta region of Nigeria: Service users' perspectives. *The Pan African Medical Journal*. 2013; 14:159. [DOI:10.11604/pamj.2013.14.159.1970] [PMID]
- [66] WHO, AIMS. WHO-AIMS report on mental health system in Nigeria. Nigeria: Ministry of Health; 2006. [Link]
- [67] Wada YH, Rajwani L, Anyam E, Karikari E, Njikizana M, Srour L, et al. Mental health in Nigeria: A neglected issue in public health. *Public Health in Practice*. 2021; 2:100166. [DOI:10.1016/j.puhip.2021.100166] [PMID]
- [68] Schierenbeck I, Johansson P, Andersson L, van Rooyen D. Barriers to accessing and receiving mental health care in Eastern Cape, South Africa. *Health and Human Rights*. 2013; 15(2):110-23. [PMID]
- [69] Olugbile O, Zachariah M, Coker O, Kuyinu O, Isichei B. Provision of mental health services in Nigeria. *International Psychiatry*. 2008; 5(2):32-4. [PMID]
- [70] Plakhotnik MS, Volkova NV, Jiang C, Yahiaoui D, Pfeiffer G, McKay K, et al. The perceived impact of COVID-19 on student well-being and the mediating role of the university support: Evidence from France, Germany, Russia, and the UK. *Frontiers in Psychology*. 2021; 12:642689. [DOI:10.3389/fpsyg.2021.642689] [PMID]
- [71] Wilson Fadji A, Meiring L, Wissing MP. Understanding well-being in the Ghanaian context: Linkages between lay conceptions of well-being and measures of hedonic and eudaimonic well-being. *Applied Research in Quality of Life*. 2021; 16(2):649-77. [DOI:10.1007/s11482-019-09777-2]

- [72] Rana S, Sakshi, Singh J. Presenting the POWER framework of conducting literature review. In: Rana S, Saksh, Singh J, editors. Exploring the latest trends in management literature. Leeds: Emerald Publishing Limited; 2022. [DOI:10.1108/S2754-586520220000001001]
- [73] Greenstein L. The mental health benefits of religion & spirituality. Virginia: National Alliance on Mental Illness; 2016. [Link]
- [74] Lucchetti G, Koenig HG, Lucchetti ALG. Spirituality, religiousness, and mental health: A review of the current scientific evidence. World Journal of Clinical Cases. 2021; 9(26):7620-31. [DOI:10.12998/wjcc.v9.i26.7620] [PMID]
- [75] Levin J. Religion and mental health: Theory and research. International Journal of Applied Psychoanalytic Studies. 2010; 7(2):102-15. [DOI:10.1002/aps.240]
- [76] Spangenberg JH. Sustainability science: A review, an analysis and some empirical lessons. Environmental Conservation. 2011; 38(3):275-87. [DOI:10.1017/S0376892911000270]
- [77] Baik C, Larcombe W, Brooker A. How universities can enhance student mental wellbeing: The student perspective. Higher Education Research & Development. 2019; 38(4):674-87. [DOI:10.1080/07294360.2019.1576596]
- [78] Slack HR, Priestley M. Online learning and assessment during the Covid-19 pandemic: Exploring the impact on undergraduate student well-being. Assessment & Evaluation in Higher Education 2023; 48(3):333-49. [DOI:10.1080/02602938.2022.2076804]
- [79] Madni AM. Transdisciplinary system science: Implications for healthcare and other problems of global significance. Transdisciplinary Journal of Engineering & Science. 2010; 1. [DOI:10.22545/2010/0008]
- [80] Mitchell C, Cordell D, Fam D. Beginning at the end: The outcome spaces framework to guide purposive transdisciplinary research. Futures. 2015; 65:86-96. [DOI:10.1016/j.futures.2014.10.007]