

How important is well-being to human capital? Integrating new measures of subjective well-being among African youth into national analyses and policy guidance

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Background

Sub-Saharan Africa (SSA) continues to experience a rapid population growth: the population increased from 183 million in 1950 to 863 million in 2010, and is projected to increase to 1,753 million in 2050 (1). By 2030, youth will constitute more than 50% of the population in most countries in Africa, representing a rapid expansion in the population of working age adults per child (1). This population transformation is often referred to as the demographic dividend or bonus (2-4), as it represents a window of opportunities for countries to increase economic output due to the increase population of working age adults and also save money on health care and other social services, among other benefits.

The ongoing debate on the demographic dividend in Africa is rife with skepticism about Africa's ability to reap the potential economic benefits of the demographic dividend. Land, labor and capital are essential components of production and these are largely available in Africa, but for Africa to benefit the demographic dividend, additional investments in strong institutional settings and appropriate laws, policies and regulations rule of law are imperative (3, 4). Economists have devoted significant are paying attention to understanding how quality of labor, particularly, the level of education, quality of training, and the wellbeing of the workforce impact economic development, raising attention to the concept of human capital (5).

Human capital has a central role in the economic success of nations and individuals (5). It is defined as the knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being (5). It consists of several attributes including the individually possessed knowledge and skill, which confer a range of personal, economic and social benefits, as well as attributes such as the physical, emotional and

mental health of individuals. Human wellbeing is vital for the realization of human capabilities. Human well-being comprises of economic well-being (e.g. access to basic needs, security from unemployment), social wellbeing (e.g. enjoyment of civil liberties, equality of opportunities), physical wellbeing (e.g. relative freedom from crime, enjoyment of a clean environment) and mental wellbeing (e.g. happiness, satisfaction with life, and sense of purpose). Consistent with the broader conceptualization of health, human wellbeing is more than the sum of its individual level components since it relates to individual and societal preferences regarding equality of opportunities, civil liberties, distribution of resources and opportunities for further learning. The relationship between human capital and wellbeing is reciprocal, thus underscoring the need for sustainable investments in human capital.

The vast literature on the demographic dividend in Africa has largely focused on the economic components of development. A lot of attention has devoted to developing macro-level (i.e. country) indicators of human wellbeing, and existing indicators can be broadly classified into three categories: (1) economic wellbeing (e.g. Gross Domestic Product, GDP (6), Genuine Progress Indicator, GPI (7); the index of economic wellbeing (8)); (2) Social wellbeing (e.g. United Nations Human Development Index, UNHDI (9); Index of Social Health, ISH (10); GINI index of inequality (11)); (3) composite indicators (e.g. Index of Sustainable Economic Welfare (12)). However, the data to support computation of these indices are not widely available in Africa. There is comparatively less attention to the micro-level measures of human wellbeing, yet human capital is defined by individually possessed knowledge and skills(5). Studies of human capital have also focused on defining and measuring explicit knowledge and cognitive skills, and there is minimal attention to the physical, emotional and mental aspects of human capital. This paper seeks to address the importance of mental wellbeing to human capital. More

specifically, it focuses on individual mental health, to highlight the relationship between mental wellbeing and human capital as a central component to realizing the potential benefits of the demographic dividend in Africa.

Mental health of youth in Africa

Epidemiology of mental health problems among youth in Africa

Mental health is conceptualized as a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (13). Among children and adolescents, mental wellbeing also includes developmental aspects including a positive identity development, building social relationships, and the aptitude to learn and to acquire an education, in order to participate actively in society (13). Mental health problems are a leading cause of disease burden worldwide (14, 15). In 2010, mental health problems accounted for 183.9 million (7.4%) Disability-Adjusted Life Years (DALYs) worldwide. The largest proportion of DALYs caused by mental health problems was attributed to depressive disorders (40.5%), followed by anxiety disorders (14.6%), drug use disorders (10.9%), and alcohol use disorders (9.6%) (15). Suicide, defined as deaths caused by intentional, self-inflicted poisoning or injury (16), was the 18th leading cause of DALYs worldwide (15), and has emerged as a significant cause of disability in Africa, especially among males (14, 17, 18). The co-morbidity of neurocognitive disorders and substance use disorders is common, and mental health problems impact distribution patterns of other disease conditions e.g. cancer (13).

There is a paucity of data on the mental health and wellbeing of youth in Africa, as the majority of research has been conducted in high-income countries. Available data on mental

health, collected through WHO's Project ATLAS (19) in low-income and middle-income countries, are woefully inadequate (20, 21), and this creates challenges in developing culturally appropriate and cost-effective strategies to respond to mental health needs and priorities of youth in Africa. The few available data are primarily from studies conducted in specific populations such as AIDS orphans, children and youth living with HIV, and children and youth impacted by war. The special needs of these vulnerable populations limit generalization of these findings. Nonetheless, the few studies conducted among the general youth populations suggest the burden of mental disorders is substantial. For example, a systematic review of community-based studies conducted among children and adolescents in six sub-Saharan African countries found that 1 in 7 children were assessed as having significant psychological difficulties while 1 in 10 were diagnosed with a psychiatric disorder (17). The most prevalent mental health problems documented in this systematic review were emotional problems (e.g. depression and anxiety), behavioral disorders (e.g. conduct disorder, disruptive and reactive behavior), and post-traumatic stress disorder (17). Studies have also documented significantly high rates of perinatal mental disorders among young women in Africa (22). Information, evidence and research are critical ingredients for appropriate mental health policy, planning and evaluation (13). As such, there is a great need to ascertain the prevalence and determinants of mental health problems among youth in Africa.

Assessing the mental health of youth in Africa

The paucity of locally validated measures for the mental wellbeing of youth in Africa raises questions about the quality of few available data, since the reliability and validity of frequently used measures is not well established (23). None of the measures that have been used extensively to assess the mental health of youth in Africa were specifically developed for African youth; few

studies have attempted to adapt these measures to the local settings of use, and the psychometric properties of these measures are rarely examined prior to their use. This is a characteristic of the most commonly utilized measures of psychological distress: the General Health questionnaire (GHQ) (24), the Patient Health Questionnaire (PHQ) (25), the Beck Depression Index (BDI) (26), the Brief Symptom Inventory (BSI) (27), the Symptom Check List (SCL-90-R) (28), the Short Mood and Feeling Questionnaire (SMFQ) (29), the Child Behavior Checklist (CBCL) (30), and the Kessler-10 (K-10) (31). Moreover, the majority of these measures were developed and validated in adult populations: they do not incorporate developmental aspects of adolescent psychological wellbeing. While many symptoms of depression may be universal, mental illness constructs are likely to be burdened with ethnocentric conceptualization. In fact, ethnographic and epidemiologic data suggest that the presentation of mental health disorders varies substantially across cultures, potentially rendering existing measures incompatible with local concepts of distress (32-37). For example, the experience of sadness or depressed mood may not even be a core presenting feature of affective disturbance in some cultural contexts (37-39), and some conditions require traditional corrective therapies, rather than the clinical psychiatric treatment typically provided within western models of mental health. Therefore, the extent to which these instruments can reliably and/or validly assess psychological distress among youth in Africa is unclear, as the presentation of mental health problems varies between cultures (40-45), and the literal translation of existing depression instruments may not be sufficient to ensure reliable and/or valid assessments.

The impact of mental health problems among youth

Mental well-being is fundamental to good quality of life. Happiness and psychological wellbeing are important to development of human capital. The World Health Organization

(WHO) report on child and adolescent mental health indicates that adolescents with positive mental states (e.g. happy, confident) are more likely to possess problem-solving skills, social competence and a sense of purpose, and these assets help them rebound from any setbacks that might occur, thrive in the face of poor circumstances, and avoid risk-taking behavior (46). On the other hand, negative mental states such as psychological distress and neuropsychiatric disorders are associated with various negative health and developmental outcomes. Mental health problems have been associated with it has been associated with risky behaviors such as early sexual debut, multiple sex partners and increased incidence of unprotected sex among youths' exposure to HIV(47-53). Among youth living with HIV, mental health problems pose a serious public health concern due to the risk of non-adherence to antiretroviral therapy (ART) (54-56) leading to ART drug resistance (57) as well as condomless sex that could lead to secondary transmission of HIV (50, 58-60). In addition, people with mental disorders have disproportionately higher rates (40% to 60%) of disability and mortality (13). For example, persons with major depression and schizophrenia have a 40% to 60% greater chance of dying prematurely than the general population due to poor health seeking behaviors and suicide (13). Mental health problems also increase the risk of negative obstetric outcomes, including preterm labor, obstetric complications, and pregnancy symptoms (61) and negative child health outcomes including delayed psycho-social development, low birth weight, reduced breast-feeding, hampered growth, severe malnutrition, increased episodes of diarrhea and lower compliance with immunization schedules (61).

Implications of mental health problems among youth

Mental health impacts four domains that are critical to reaping the benefits of the demographic dividend: health, social and political participation, education, and finances. Mental

health problems limit the development of human capital through their constraints on the cognitive abilities to pursue knowledge and skills. The stigma associated with mental health problems also creates additional challenges to the development of human capabilities by limiting the opportunities of persons with mental health problems to develop and exercise knowledge and skills, and also participate in the formal work force.

Mental health problems frequently lead individuals and families into poverty, and increase the risk of homelessness and inappropriate incarceration (13, 62), all of which exacerbates their marginalization and vulnerability. The patterning of the HIV epidemic within key youth populations (e.g. sexual and gender minority youth, homeless and incarcerated youth, youth involved in sex work, and youth who inject drugs) further underscores the role of mental health problems in structuring youth's vulnerability to HIV. Mental health problems increase youth's exposure to HIV through HIV risk behaviors such as early sexual debut, high numbers of sexual partners, low condom use, transactional sex, needle sharing, and drug/alcohol use (47-53, 62-65). They also increase the risk of HIV transmission among HIV-infected youth (50, 58-60).

The life course implications for mental health problems further underscore the importance of addressing mental health disorders among youth. In particular, onset of mental health problems in early adolescence is associated with later adolescence or adulthood mental health problems (66-68). Moreover, maternal mental health problems have detrimental impacts of children's wellbeing well beyond childhood, and these include negative effects on the child's psychological development, intellectual competence, psychosocial functioning, as well as increased rates of psychiatric morbidity (61).

The economic and social consequences of mental health problems are significant. According to recent estimates, the lost economic output attributable to mental health problems will account to US\$ 16.3 million between 2011 and 2030, and these losses will be directly attributable to the health impact of mental health problems (13). It's important to note that the relationship between human capital and mental wellbeing is reciprocal, thereby underscoring the need for sustainable investments in human capital. For example, education is negatively associated with mental health problems (69-71). Low educational attainment is also associated with low income, residence in deprived neighborhoods, and lesser social capital; all these factors are associated with greater likelihood for mental health problems among adults and children (72-77).

The stigma and discrimination associated with mental health problems also constrain youth's capabilities by limiting their opportunities to acquire knowledge and skills and to social and political processes. Persons with mental health problems often have their human rights violated, and denied their education, economic, social, cultural, political, civil, health, and reproductive rights. In addition, they may also be subject to unhygienic and inhuman living conditions, physical and sexual abuse, neglect, and harmful and degrading treatment practices in health facilities (13). The marginalization and social exclusion of persons with mental health disorders not only constrains their opportunities to develop their capabilities, it also impedes their participation in developing their communities and nations.

Causes of mental health problems

Adolescence is a period of heightened vulnerability to mental health problems: up to 50% of mental health problems in adults begin before the age of 14 years (78-80). In 2010, the

highest proportion of total DALYs occur among people aged 10 – 29 years (15). Globally, the six leading causes of DALYs among young people (aged 10 – 24) were neuropsychiatric disorders (including substance misuse), unintentional injuries, infectious and parasitic diseases, maternal conditions, diseases of the sense organs, and respiratory diseases, and neuropsychiatric disorders (i.e. unipolar depressive disorders, schizophrenia, bipolar disorder, panic disorder, alcohol use disorder and suicide) (18) were the main cause of YLDs in all regions, including Africa. A comprehensive review of the causes of mental health problems among youth in Africa is beyond the scope of this paper. This section briefly describes the key issues and considerations for mental health problems among youth in Africa.

Youth, generally defined as persons aged 12 – 24 consist of two diverse sub-populations i.e. adolescents (ages 10 – 19) and young adults (ages 18 – 24). While there is overlap between these sub-populations, each has varied needs, opportunities and risks, which are largely engendered by the developmental and lifecourse needs as well as their broad social contexts. Several theories provide a useful framework for understanding the varied factors that impact youth's mental health and wellbeing including Bronfenbrenner's Bioecological Systems Theory (81), the Social Stress Theory (82-84), and the theory of syndemic production. The Bioecological Systems Theory (BST) proposes that individuals are continually impacted by four successive and interconnected levels of influence (i.e. microsystem, mesosystem, exosystem, and macrosystem) over their life course, and biological diatheses and ecological stressors may act directly or synergistically to increase an individual's risk for mental health problems. This theory is complemented by Social Stress Theory (SST), which posits that one's disadvantaged position in the social hierarchy leads to more stressful conditions and fewer resources to counteract these stressors, resulting in greater risk for mental health disorders. Lastly, the theory of syndemic

production posits that that for some marginalized groups (e.g. youth), there is a syndemic process of interacting physical and psychosocial challenges (e.g. HIV, substance use, depression, violence) that cause poor health outcomes within these populations (85, 86).

Consistent with the Bronfenbrenner's BST, the microsystem comprises of complex relations between the developing person and the environments in the immediate settings containing the person. *Micro-system factors* can be decomposed into intra-personal and interpersonal factors. Intrapersonal risk factors include: biological or cognitive factors that contribute toward certain abnormal states or conditions including genetic factors, inherited traits, neurological anomalies, and chronic diseases e.g. HIV) (87), while Intrapersonal resilience factors include high self-esteem, positive self-image, positive coping strategies, spirituality/religiosity, hopefulness, positive future expectations and participation in support or advocacy networks (46, 62). Interpersonal risk factors (e.g. victimization, family conflict, bullying, family/peer rejection, social isolation, orphan hood, bereavement, childhood maltreatment, household poverty, and housing instability). Adolescence is a peak time for traumatic injuries, which in turn, increase the risk of MHDs and HIV-risk behaviors among youth (88, 89), and several mental health problems including depression, conduct disorder and PTSD have been associated with traumatic brain injury (88, 89). Interpersonal resilience factors include family and peer support, positive role models in the community, family connectedness, family acceptance, positive relationships with parents, parental supervision and communication. The *mesosystem* is a set of micro-systems that constitute an individual's developmental niche within a given period of development; these are difficult to quantify as they do not function independently. The *exosystem* comprises of those contexts that do not directly involve the developing person, but nonetheless impact the youth's development and behavior, and these

generally include: school, health centers, community centers, and the neighborhood. School bullying, neighborhood disorder and safety, neighborhood poverty, the absence of caring adults, disease burden with the community, negative experiences with service providers, and access to youth friendly health services have been associated with youth's mental health and wellbeing. In Africa, war and civil unrest have emerged an important risk factor for youth's mental health. Wars not only kill and injure soldiers and civilians alike; they also destroy infrastructure and social structures, thus destroying the foundation on which the demographic transition can be of benefit to the economy. Exo-system resilience factors include caring adults including teachers, case managers, program facilitators and health providers; access to comprehensive youth-friendly social services with trained providers; non-discriminatory and anti-bullying policies in schools, homeless shelters and detention facilities; and child-protection policies. Additionally, community structures such as churches, youth centers and health facilities often provide safe environments along with opportunities for youth to develop their capabilities. Lastly, the *macro-system* is the super ordinate ecological level of human development, involving culture, macro-institutions and public policy. Macro-system risk factors include stigma, discrimination, social and economic marginalization, criminalizing of youth behaviors, disenfranchising public policies, and lack of youth opportunities for social participation. At the macro-level, protective factors include macro-policies such as social transfers, gender equity policies, anti-bullying legislation, and minorities' integration.

Combined, these theories provide an organizing theoretical framework for understanding the relationships between youth and their environments, including the mechanism underlying these relationships. Depending on the local context, certain individuals and groups in society may be placed at a significantly higher risk of experiencing mental health problems (13). Both

the BST and SST enable examination of youth within their social contexts, thereby allowing identification of contextually relevant cultural and developmental risk and protective factors, and the theory of syndemic production is particularly useful for understanding why some youth populations (e.g. sexual and gender minority youth, youth who inject drug, detained or incarcerated youth, runaway and homeless youth and youth involved in sex work) have higher rates of mental health problems relative to comparable youth populations (62).

Addressing the mental health and wellbeing of youth

Systematic data on mental health prevention and treatment services as well as policies in Africa are not easily accessible since majority of countries do not collect these data. The World Health Organization Assessment Instrument for Mental Health Systems (WHO-AIMS) seeks to bridge this data gap in low and middle income countries by providing a tool aimed that assess key components of their health systems, in order to generate information that could strengthen service delivery and strengthen mental health policy (90, 91). The input and process indicators collected in each country include: the policy and legislative framework, mental health services, mental health in primary care, human resources, public information and links to other sectors, and monitoring and research. Data from the 2009 WHO-AIMS survey of 42 countries of which seven were located in Africa (92) indicated that only 29% countries in the Africa had a mental health plan or policy (compared to 25% of countries in South East Asia); 43% of the African countries have a mental health legislation i.e. specific provisions that are primarily related to mental health (compared to 88% in Europe, 71% in the Eastern Mediterranean, and 50% in the Americas), but none of the African countries had a disaster preparedness plan for mental health (compared to 63% in Americas and 75% in Western Pacific). In addition, per capita expenditure on mental health in Africa was very low (median: \$0.01 per capita) in comparison other regions:

European countries (median: \$0.90 per capita), South East Asia and Western Pacific (median: \$0.14 per capita), Americas (median: \$0.24 per capita), and Eastern Mediterranean (median: \$0.23 per capita). Overall, these data suggest that investments in mental health services and policies are lagging way behind that current and project needs for mental health in the region, and this may derail the ability of countries to meet the holistic demands of the expanding youth population.

Moving forward

The WHO Mental Health Action Plan (13) projects of a vision of a world in which mental health is valued, promoted and protected, mental disorders are prevented and persons affected by these disorders are able to exercise the full range of human rights and to access high quality, culturally-appropriate health and social care in a timely way to promote recovery, in order to attain the highest possible level of health and participate fully in society and at work, free from stigmatization and discrimination. The WHO Mental Health Action Plan (13) seeks to: (1) strengthen effective leadership and governance for mental health; (2) provide comprehensive, integrated and responsive mental health and social care services in community-based settings; (3) implement strategies for promotion and prevention in mental health; and (4) to strengthen information systems, evidence and research for mental health. The major barriers to understanding the mental wellbeing of youth in Africa are the lack of data and locally validated measures. The following section describes the available opportunities, approaches and initiatives to remedy the data and measurement challenges in Africa.

Integrating measures of mental wellbeing into national surveys and policies

As mentioned earlier, the paucity of mental health data and lack of locally validated measures of mental health and wellbeing for youth in Africa create significant challenges to expanding the evidence-base for youth mental health in Africa. As such, there is an urgent need to address these limitations. Below are recommendations on how to remedy these challenges.

Strengthening data collecting systems: The majority of countries in Africa do not have a *system for collecting and reporting* even basic mental health information, and where these systems exist, they are neither comprehensive nor appropriate for mental health planning, impeded accountability and an inability to monitor changes resulting from mental health reforms (92, 93). As emphasized in the recent WHO *Mental Health Action Plan (13)*, strengthening mental health policy, planning and evaluation in low- and middle-income countries requires quality data, generated through research and evidence-based practice.

The varied WHO initiatives on mental health including the Atlas project and AIMS project provide a solid foundation for developing mental health information systems in Africa. These data sources would greatly benefit from inputs from ongoing periodic surveys in Africa, including Demographic and Health Surveys (94) and INDEPTH Network Africa center HDSS (95), along with supplementation with data collected through the routine health information system. Indeed, valuable opportunities to exist to draw on existing data, such as reports submitted to treaty-monitoring bodies by governments and nongovernmental e.g. WHO's Global Health Observatory (96). Given the diversity in youth sub-populations, data should be disaggregated by key demographic indicators (e.g. age, sex, in-school vs. out of school, and locality i.e. urban vs. rural), to reflect the diverse needs of these subpopulations, and identify highly vulnerable key populations. Combined, these data would provide a much more holistic picture of mental health needs, resources and gaps, and facilitate monitoring of mental health programmatic and policy

initiatives. In addition, the disaggregation of data enables targeted interventions approaches, which are necessary in contexts with limited resources.

Identifying a core set of locally appropriate indicators of mental wellbeing: Locally valid indicators of mental health and wellbeing are essential to data quality as they standardize data collection, facilitate cross-population comparisons to provide appropriate guidance, training and technical support to local and international stakeholders. Standardized indicators also enable identification and monitoring of health inequities, particularly among vulnerable populations. Mental health and wellbeing is a continuum of experiences that includes both positive and negative affective states. Happiness and life satisfaction are the most frequently used indicators of positive affect, and have been associated with several elements related to the development of human capital (97-99). Mental health problems represent the negative affective states. Both ends of the spectrum are important as they tap into different but interrelated domain.

However, indicators of negative affect may be more informative about youth because these measures are less susceptible to individual and social variations within local contexts, compared to measures of positive affect such as happiness and life satisfaction. Additionally, measures of negative affect bear directly on important aspects of human development that impact economic success, and are objectively responsive to programmatic and policy interventions, making them more suitable for evaluation. However, in identifying relevant indicators, there is need to pay attention to the broader sex and gender differences that may influence the relevance of various indicators. DALYs varied by age and sex, with the highest proportion of total DALYs occurring in people aged 10–29 years (15). Regarding sex, rates of suicide are almost twice as high among males compared to females, while females are overly burdened by depressive disorders (14). These age and sex/gender differences in disease burden

are important considerations in choosing the most appropriate indicators for mental wellbeing. There is a need for conduct consultative meeting with all stakeholders to build consensus on most appropriate indicators for the mental wellbeing of youth in Africa.

Validating local measure of mental wellbeing: The lack of culturally relevant assessment tools greatly hinders current efforts to understand the nature, prevalence, and risk/protective factors for mental health and wellbeing among youth in Africa (13). Ethnographic and epidemiologic data suggest that the presentation of these disorders varies substantially across cultures, potentially rendering existing measures incompatible with local concepts of distress (35-37, 41, 43, 44). The challenges associated with the reliability and/or validity of mental health assessment instruments for youth in Africa underscore the need for concerted efforts to adapt and validate existing measures to local contexts, and/or develop locally measures, where existing measures are deemed inappropriate. Currently, there are several ongoing to develop locally measures of mental health (43, 100). However, these measures have been developed primarily for key vulnerable populations (e.g. youth affected by war and adolescents living with HIV). As such, their psychometric properties cannot be generalized to other youth populations, without additional adaptation and validation. The methodologies utilized in these initiatives offer evidence-based strategies for developing and/or adapting mental health measures to local settings, and should be utilized by other initiatives, to ensure consistency in quality of mental health assessment measures.

Conclusion

Mental health problems impact the development of human capabilities, which are critical to reaping the benefits of the demographic dividend. The early stages of life present a particularly

important opportunity to promote mental health and prevent mental disorders, as up to 50% of mental disorders in adults begin before the age of 14 years. Lack of data and validated measures of mental wellbeing constrain efforts to identify, plan and scale up mental health prevention and treatment services, and to develop relevant policies and guidelines. To address these challenges, we recommend utilizing on-going household surveys to accumulate population level data on the mental health of youth, and to develop/standardize data the on-going data collection at points of care (e.g. hospitals, medical outreaches) to supplement or support household data, and facilitate identification of key populations. With regard to measurement, we recommend incorporating indicators of positive and negative affect, although emphasis should be placed on indicators of negative affect, which have lesser individual and social variance and therefore more objective, and bear directly on elements of human capital development, making them much more suitable for monitoring programmatic and policy interventions. Further, we also recommend support to document and disseminate best practices for programs and policies that explicitly address the mental health needs by youth, particularly programs utilizing multidisciplinary and/or multi-sectoral approaches.

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