ODI Report

Mental health and psychosocial well-being among adolescents in Tanzania

Findings from a mixed-methods baseline study

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Contents

Display items

Tables

Figures

Acronyms/Glossary

ADHD	National Adolescent Health and Development (Strategy)
AFSRHS	Adolescent-Friendly Sexual and Reproductive Health Services
CBO	community-based organisation
COSTECH	Tanzania Commission for Science and Technology
CSO	civil society organisation
FBO	faith-based organisation
FCS	family case study
FGD	focus group discussion
FY	financial year
GSHS	2014 Global School-Based Student Health Survey
HDI	Human Development Index
ICT	information and communications technology
IDI	in-depth interview
IEC	information, education and communication
IGT	intergenerational trio
IPV	interparental violence
KII	key informant interview
LMICs	low- and middle-income countries
MEL	monitoring, evaluation and learning
mhGAP	Mental Health Gap Action Plan (WHO-led)
MHLS	Mental Health Literacy Scale
MHPK	Mental Health-Promoting Knowledge (Scale)
MHPSS	mental health and psychosocial support
MoHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
NatHREC	National Health Research Ethics Review Committee
NIMR	National Institute for Medical Research
NGO	non-governmental organisation
PORALG	President's Office ¬– Regional Administration and Local Government
PWB	psychological well-being
SDG	Sustainable Development Goal

SDQ	Strengths and Difficulties Questionnaire
SES	socioeconomic status
SRH	sexual and reproductive health
STI	sexually transmitted infection
TTCIH	Tanzanian Training Centre for International Health
TV	television
VMMC	voluntary Male Medical Circumcision
WHO	World Health Organization

Executive summary

This mixed-methods study is part of a project funded by Fondation Botnar to address the mental health needs and psychosocial well-being of adolescents in two very different country contexts, Tanzania and Viet Nam.[1] The summary below outlines the content of the Tanzanian report, core findings and recommendations.

Study aims

This ODI Report is focused on identifying the key drivers of mental ill-health and psychosocial well-being among two subgroups of adolescents (those aged 11–15 years and those aged 16–19 years) in two cities (Morogoro and Mwanza City) in Tanzania.

Subsequent aims of the project are:

- To co-create (with adolescents, teachers and local authorities) and test a range of approaches (digital and non-digital) to support adolescents' mental health and well-being.
- To review and adapt potential approaches based on the monitoring, evaluation and learning (MEL) system, the baseline and endline studies, and ongoing feedback loops.
- To document the effectiveness of both digital and non-digital solutions in addressing adolescents' mental health problems.

In Tanzania – where more than two-thirds of the population are children, adolescents or young adults (aged 0–24) – individuals facing mental health challenges do not receive adequate care. There is poor understanding of mental health and mental illness, while mental health disorders and symptoms are not recognised and remain largely untreated. Traditional healing practices prevail and access to high-quality professional support is limited.

Chapter 2: Methodology

We collected data from adolescents attending primary and secondary schools in both urban study sites.[2] The quantitative survey with 401 adolescents provided a baseline profile to better understand mental health status, literacy and service access, and to inform evaluation of the impact of digital and non-digital interventions. The survey included two key measures of mental health and psychosocial well-being: the Strengths and Difficulties Questionnaire (SDQ, a measure of emotional and behavioural difficulties) and the WHO-5 index (a measure of subjective psychological well-being). The qualitative component included in-depth interviews, focus group discussions, family case studies / intergenerational trios, as well as key informant interviews. Several students who participated in the quantitative survey were selected for the in-depth interviews.

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1 The project consists of six phases: (1) inception; (2) mixed-methods baseline data collection; (3) co-creation/ design of solutions; (4) implementation of solutions; (5) mixed-methods endline data collection; and (6) sharing, dissemination and research uptake. Starting in May 2020, the project will run for a total of 36 months.

2 Mhovu Primary School and SUA Secondary School in Morogoro; and Nyamagana Primary School and Magu Secondary School in Mwanza.

Chapter 3: Overview of mental health policy and services in Tanzania

The lead ministry on health policy is the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) (formerly the Ministry of Health and Social Welfare). Mental healthcare in Tanzania is predominantly government-funded, and is underbudgeted. According to the World Health Organization (WHO) (2017), the government's total expenditure on mental health (as a proportion of total government health expenditure) was just 4%.

While some national health policies address adolescents' needs, these are focused more on HIV, sexual and reproductive health (SRH) or harmful substances than on mental health. Policies on digital health or information and communications technology (ICT) (such as the 2019–2024 Digital Health Strategy) deal with the ICT needs of youths as a means to addressing social inequalities, but they do not link clearly to mental health or psychosocial well-being.

Study respondents described some mental health services available locally, including schools providing counselling services and local clinics providing mental health support through clinical psychiatrists or psychiatric nurses. Local government provides some referral services, and non-governmental organisations and community-based organisations provide some assistance, although not directly dealing with mental health needs.

Chapter 4: Adolescents' mental health and psychosocial well-being status and knowledge

The baseline qualitative research suggests limited understanding (among adolescents and adults in their family and the wider community) of what constitutes mental health and psychosocial well-being, such that people with mental health problems are stigmatised (some young people were more likely to attribute mental health problems to drug use, while adults associated mental ill-health with witchcraft).

In our survey, 70% of respondents reported being knowledgeable about the causes of mental ill-health, and 56% said they would recognise signs of poor mental health. But when probed, emotional literacy appears lacking: 35% believed that 'a mental illness is not a real medical illness', while 68% perceive mental illness as a sign of personal weakness. Nearly half (48%) were unwilling to make friends with someone with a mental illness. Only socioeconomic differences emerged as statistically significant correlates of emotional literacy, with respondents from better-off households showing higher literacy.

For the survey, we coded both the SDQ and WHO-5 such that higher scores indicate a lower risk of mental ill-health. For our survey respondents, the average SDQ score was 47% of the highest possible score, while the average WHO-5 score was 74.5% of the highest possible score. To complement these continuous measures, we categorised the bottom quartile of the SDQ distribution as consisting of students 'at risk' of mental health issues, and the top quartile of the WHO-5 distribution as consisting of students with relatively good psychosocial well-being. We also used the WHO-5 measure to screen for depression; following accepted standards, we designated individuals scoring 50% or less as being at risk of depression.

Slightly more respondents in the qualitative component (adolescents and adults) indicated that adolescent girls were more likely to experience mental health issues than boys, although our survey data did not show statistically

significant differences in our main mental health measures.[3]

School level was the only statistically significant socio-demographic correlate of the SDQ score or of being in the high-risk category. The average score of primary school respondents was 46% of the best possible outcome, compared with 49% for secondary school respondents. We categorised nearly one-third (32.3%) of primary students as at risk of mental ill-health compared with 14.1% of secondary students.

The qualitative research indicates that people perceive mental health challenges as increasing. Reasons include youths being more likely to engage in 'illicit behaviour', poverty, lack of resources to continue studying, or the government's war on drugs. As noted, negative perceptions among community members towards mental health are related to beliefs around witchcraft or curses. According to key informants, these beliefs about people with mental health problems being 'cursed' largely explain why individuals do not feel confident sharing mental health problems or challenges openly, or seeking help for mental ill-health.

Chapter 5: Protective factors for mental health and drivers of mental ill-health

Adolescent study respondents reported a range of factors as driving positive mental health. These include:

- having a positive perception of oneself
- living with both parents in the same household
- having their basic needs met (being able to afford food, healthcare and school materials were mentioned frequently)
- being able to attend school and learn in a positive classroom environment
- having time to play and do other leisure activities such as watch television (TV), sing, or read
- having friendships (most adolescents reported at least one close or special friend)
- having a positive role model(s) (85% of survey respondents reported having a role model, which was positively associated with psychosocial well-being)
- having aspirations for the future (most commonly staying in education up to university level, and getting a good job).

Most survey respondents felt they could rely on one or two people. The number of social support relationships was significantly associated with being male, attending secondary school and higher socioeconomic status (SES). The number of people one could rely on was positively associated with psychosocial well-being. Conversely, respondents with no connections were more likely to be at risk of mental health issues: 40%, compared with 22% of those with at least one supportive relationship.

Adolescent respondents also cited the factors that contribute to or drive mental ill-health. These include:

- having a negative perception of oneself (some adolescent girls described not being heard, not being able to contribute to decisions, or feeling ignored as causing them distress or sadness)
- not having enough time to do the activities they want to, or to rest
- not having enough money to take part in certain leisure activities (or parental disapproval of such activities)
- lack of friends/social networks, leading to isolation.

3 The only exception was that a higher share of boys than girls were in the top quartile of the WHO-5 index but this difference was only marginally statistically significant (relative risk, 1.46; X^2=3.581, df=1, p<0.01).

Respondents from all categories (adolescents, parents/caregivers and key informants) reported that unhappy/unstable family dynamics were a major stressor in adolescents' lives. Adolescents' family situations were linked to a number of interrelated drivers of mental ill-health:

- not living with one or both parents (for example, the survey showed that while 37% of children living with both parents reported having gone hungry in the past year, the figure was 63% for single parent or other household formations)
- lack of communication between parents and adolescents and lack of parental care, leading to feelings of neglect
- experiencing violence or abuse within the home
- having a parent (typically the father) that abuses alcohol or drugs, which increases the risk of violence.

In our survey, about a quarter (26%) of respondents reported having experienced physical or emotional violence or other maltreatment (such as being denied food) at home within the past year. Experiencing violence is strongly negatively correlated with the WHO-5 score and with a higher SDQ score, and positively associated with being in the WHO-5 at-risk category.

The survey also found strong correlations between witnessing violence and being at risk of depression according to the WHO-5, as well as being in the SDQ high-risk category. A quarter of adolescents reported having witnessed their father commit an act of violence against their mother at least once, while 23% had witnessed another relative hit or beat their mother.

Poverty was also cited as a major driver of mental ill-health among adolescents in the qualitative work, with both adolescents and adults reporting that lack of food and other unmet basic needs (including sanitary pads for girls) caused adolescents to feel worried and sad, and to compare themselves negatively with those from families who could afford these things.

Unemployment and unstable/irregular or precarious employment among parents or caregivers also had negative impacts on adolescents' mental health. The survey found a clear association between psychosocial well-being and SES, with poorer respondents exhibiting lower psychosocial well-being than their wealthier peers, but no clear associations between SES and being at risk of mental ill-health.

Adolescents cited academic pressure (notably fear of failing exams) as another driver of stress and anxiety. This was felt more keenly by students whose parents were unable to afford additional private tuition classes outside school hours. Some adolescents (but mostly older boys) mentioned corporal punishment by teachers (such as being beaten with a stick) as a cause of mental distress, although this was not apparent in the quantitative data. The survey indicates that 64% of students had experienced corporal punishment, and 70% another type of physical punishment (e.g. being forced to run).

Gendered social norms were cited as an important driver of mental ill-health in the qualitative work, particularly for girls. Adolescent boys and girls alike identified girls' greater burden of unpaid care and domestic work responsibilities as detrimental. Norms around son preference also affected girls' mental health, as they were often less likely to be prioritised for education. In qualitative interviews, some adolescents also raised feeling pressure to engage in early sexual encounters, causing mental distress.

Chapter 6: Mental health-seeking behaviours coping strategies and the influence of technology

Awareness and knowledge of services and support

Most adolescents indicated that they do not usually receive information about mental health, from any source. Both adolescents and adults had limited awareness of formal mental health services. The survey showed that knowledge of sources of information is positively correlated with being male, living in Mwanza, being Muslim, secondary school attendance, higher SES, having a role model and having someone on whom they can rely. It is also linked with mental health outcomes; it is positively correlated with psychosocial well-being and inversely with being in both the SDQ and WHO-5 at-risk categories.

Experiences of accessing formal or informal services

Most respondents in the qualitative research had no first-hand experience of accessing mental health services, although adolescents had some limited experience of accessing such services in schools. Adolescents and key informants both indicated limited demand for formal mental health services, partly due to lack of awareness of symptoms but also due to stigma. Some adolescents reported not having approached formal services because their parents/caregivers considered their mental health issues to be driven by 'demons' or 'witchcraft', and so opted to use traditional healers for consultations or treatment.

The survey measured attitudes toward seeking professional psychological help among all survey respondents. Among secondary students, the average score was 23% of the maximum, with higher levels indicating more stigma. Holding stigmatising attitudes is positively associated with being in both the SDQ and WHO-5 at-risk categories.

Coping strategies and behaviour

The survey showed that 65% of respondents used a positive coping mechanism when dealing with a difficulty while 54% used a negative mechanism. Boys and girls were equally likely to use a positive coping mechanism, although boys were more likely than girls to adopt a negative mechanism (56% and 51% respectively).

In the qualitative work too, respondents reported various *positive coping strategies*. These included socialising and engaging in recreational and leisure activities to distract them from feelings of distress. Younger adolescents were more likely to engage in 'play' (as distinct from playing games on a phone, for instance), often with friends. Older adolescents mentioned sitting down quietly and trying to calm down as a way to cope with feelings of sadness or anger. Most young adolescents (boys and girls) reported speaking to a relative (especially their mother), who would listen and offer comfort.

Most adolescents had at least one or two peers – a friend from school or the neighbourhood – with whom they could share their feelings and concerns. Some reported being able to approach supportive teachers to deal with their mental health issues. Others reported that turning to religion could help adolescents find inner strength to deal with problems.

Negative coping strategies in the qualitative component included keeping a problem to oneself, or self-isolation (some adolescents, particularly girls, said they cut themselves off from others, especially family members). Some

adolescents shared (not necessarily from personal experience) that individuals can turn to harmful substances (cigarettes, alcohol or marijuana) to cope with mental health challenges.

The qualitative component identified that adolescents sometimes bully others as a way of dealing with feelings of anger or to avenge their own experiences of being bullied. The survey showed that 27% of respondents reported having bullied someone at school, boys more so than girls (30.5% compared with 23%). Adolescents who reported bullying someone were more likely to perform worse on the SDQ and to be in the at-risk category for that measure.

Technology use

Perhaps the most striking finding is respondents' lack of access to the internet and technology – most adolescents (63%) had not used a computer (or laptop), tablet or the internet in the past year. Of those who had, most used it less than once a month. Use of a mobile phone with internet access (smartphone) was relatively more common: 53% of respondents had had some access in the past year, with almost a fifth (19%) reporting daily usage. Among adolescents who reported not having their own phone but having occasional access to someone else's, it typically belonged to a parent, older sibling or other caregiver. The qualitative data found that adolescents' use of social media was generally low.

SES is associated with statistically significant differences in computer usage and internet access. Just over a third (36%) of respondents from the highest socioeconomic quartile reported having never used a computer in the past year, compared with 78% of those from the lowest quartile. In terms of gender, differences are only statistically significant for use of the internet: 70% of girls had never used the internet in the past year, compared with 56% of boys.

Adolescent boys and girls both mentioned that digital technologies can enable them to learn about different health topics, including mental health. Some mentioned that they use digital technologies when they feel sad or stressed. Others perceived the internet as a more 'open' and 'honest' space to get information and talk about mental health (compared with face-to-face interactions) because it offers privacy, allowing them to feel more 'confident' to talk about problems.

Most respondents (adolescents and adults) suggested that a combined approach – using digital and face-to-face methods – should be used to deliver mental health support services. Parents and caregivers also generally approved of adolescents' use of computers as they could increase their children's employment prospects.

Overall impacts of coping factors and technology access on mental health outcomes

The study quantitatively explores the joint impact of all variables (socio-demographic factors, drivers of mental ill-health, protective factors, coping mechanisms/help-seeking behaviours and access to technology) on our key mental health indicators. Overall, it explains around 30% of variation in the SDQ and WHO-5 scores.

Having knowledge of mental health is associated with half the likelihood of being in the high-risk SDQ category, while holding positive attitudes towards mental health is associated with a 70% reduced risk.

Engaging in distraction as a coping mechanism is associated with a much greater likelihood

(9 times) of being in the top quartile of the WHO-5 distribution. Respondents with knowledge of how to seek information about mental illness are twice as likely to be in the top quartile of the WHO-5 while those with access to an internet-capable device are 1.9 times as likely.

Two factors that most influence risk of depression among adolescents (according to the WHO-5 measure) are: being subject to physical violence from parents, and poverty (as measured by having experienced hunger in the previous year). Protective factors include positive attitudes towards accessing psychological help and access to a digital device (both associated with a 60% lower risk).

The relatively low impact of the socio-demographic variables on SDQ and WHO-5 outcomes suggest that they do not principally determine mental health issues and psychosocial well-being. This suggests that the intervention need not devote undue attention to targeting at-risk groups based on these characteristics (with the partial exception of poverty).

Chapter 7: Recommendations

Governments, development partners and civil society organisations or groups working on adolescent mental health in Tanzania should consider the following:

Integrate adolescent mental health into policy frameworks

- Develop new policies and regulations that explicitly address adolescents' mental health and psychosocial support needs. MoHCDGEC should ensure an integrated and coordinated approach to policy and programme implementation, establishing linkages between the Preventive Services Division, the Gender Development Division, the Children Development Unit and the Community Development Division.
- Issue clear guidance and mandates to all relevant agencies on policy implementation to ensure that adolescents' mental health needs are addressed in their respective policies and interventions.

Provide sufficient budget allocations

- The MoHCDGEC, the National Council for Mental Health and other ministries responsible for youth affairs will need sufficient budget allocations for targeted investments in services and other resources to meet adolescents' mental health and psychosocial support needs. It is worth nothing that the Abuja Declaration (2001) recommended at least 15% of national budgets go to health.
- Additional funding is needed to pay for more mental health professionals, and community and school-based counsellors, with tailored training to ensure that these professionals are equipped to support adolescents' mental health.
- As schools play a key role in adolescent mental health (promotion, prevention and care), they should receive more funding to develop strategies to prevent and identify mental health disorders among children and adolescents.
- Budget allocations should also tackle the broader drivers of adolescent mental ill-health, principally poverty and experiences of violence within or beyond the home.
- Ensure sufficient investment in appropriate physical infrastructure (e.g. equipped hospitals and health clinics, a capable and qualified workforce, up-to-date data and information systems) to provide adequate and specialised care for adolescents experiencing mental ill-health.

Use digital technologies effectively to support adolescents' mental health and psychosocial well-being

- Government and development partners should pilot digital or 'blended' solutions (a combination of digital and face-to-face approaches) to address adolescents' mental health needs. Content should be codeveloped by adolescents along with teachers, mental health and technology experts, and solutions tailored to the needs of adolescents in different contexts (urban, rural, semi-urban, etc.).
- Local governments, working with development partners, should make online information available for adolescents through mobile phones or computers, with adequate safeguards to protect children from addictive behaviours or inappropriate social media.
- Programme content and materials should help participants explore what constitutes mental ill-health, the drivers and risk factors, and facilitate discussions about stigma, social norms and other context-specific factors that can challenge mental health.
- Adolescents need strategies to help them prevent and cope with mental ill-health, along with information about services they can access when experiencing distress, or when symptoms become sufficiently severe to require professional support.

Improve mental health services and human resources

- There is an urgent need to improve the quality of mental healthcare service providers (including nurses, doctors, other healthcare workers, counsellors, social workers, psychiatrists and psychologists). There should be a training package on how best to support adolescents with the most common mental health disorders.
- The content and modalities of training programmes should directly reflect Tanzanian realities. They should be co-developed by mental health professionals with experience of working with adolescents, and those who will use the training (including mental healthcare workers and community organisations offering mental health support to youths).
- Teachers are often the 'first responders' for adolescents experiencing mental health challenges, so need more training in how to provide support. Schools should have dedicated (trained) psychologists and counsellors, with adequate infrastructure for them to provide services in confidence (for example, counselling centres).
- Organisations should pilot different models of support through schools (different kinds of counsellors, staff delivering after-school clubs, collaboration with local health clinics or hospitals, etc.).

Increase awareness of mental health and support services for adolescents, including among those most at risk

- Local government, schools and service providers should prioritise adolescents who are most at risk of mental ill-health: adolescents from poor households; those who live in unstable family situations; those who face challenges at school (linked to poverty or violence, for example); and those who face stigma, for whatever reason.
- Government, community leaders, health workers and other stakeholders should work together to raise awareness of mental ill-health, its drivers and symptoms, and the support services available, and to break down stigma. Awareness-raising should target adolescents, their parents/caregivers, support networks (teachers, care workers, after-school

club staff, etc.) and the wider community. It should also highlight the role of discriminatory gendered norms and their impact on adolescent boys' and girls' mental health.

Invest in skills development for parents, teachers and adolescents

- Support parents, caregivers and teachers to identify mental ill-health symptoms and develop strategies to build their confidence to discuss mental health with adolescents.
- Provide adolescents (through the curriculum or in extra-curricular sessions) with information and strategies to prevent or cope with mental ill-health.

Improve coordination among stakeholders

- Local government needs to promote coordination on mental health issues among key stakeholders working with adolescents. There should be effective mechanisms to link parents/ caregivers of adolescents experiencing mental ill-health to the services that can provide support. As parents/caregivers typically go to traditional healers if their adolescent child displays symptoms of mental ill-health, authorities (national and district level) need to strengthen collaboration between traditional healers and formal service providers.

1 Introduction

In 2016, around 1 in 6 people globally (15%–20% of the total population) had one or more mental or substance use disorders (Dattani et al., 2018). Mental ill-health and psychosocial problems often start during adolescence, with common mental disorders – anxiety and depression – being the most prevalent psychiatric illnesses among adolescents and young people worldwide (WHO, 2020). Studies (Patel et al., 2007; WHO, 2016; Samuels, Jones and Gupta, 2018) show that suicide rates among young people are increasing, often as a result of undiagnosed and untreated mental ill-health and psychosocial distress. Indeed, suicide is the third leading cause of death among 15–19-year-olds (WHO, 2021).

There has been some progress in global attention to mental health: Sustainable Development Goal (SDG) 3 now includes some targets related to mental health (Medium, n.d.); discussions around mental health were at the forefront of the World Health Assembly 74 in 2021, spurred on by the Covid-19 pandemic; the WHO-led Mental Health Gap Action Plan (mhGAP) (WHO, n.d.) has played an important role in supporting the scale-up of national services for mental, neurological and substance use disorders, especially in low- and middle-income countries (LMICs); and many non-governmental organisations (NGOs) and civil society organisations (CSOs) (including those led by youth and using digital approaches)[4] are now working on mental health issues, including in LMICs.

Despite this progress, mental health remains neglected at global an, especially in LMICs, and while Covid-19 may be making in-roads in shifting this pattern, mental health is not seen as a priority in many contexts. Less than 2% of national health budgets globally are spent on mental health (WHO, 2020) and this drops to less than 1% for LMICs (the WHO suggests 5% as a minimum allocation). This shortfall in mental health spending results in gaps/shortages of trained personnel, services being concentrated in a few (often urban) areas, and funding favouring mental health hospitals at the expense of community-based and/or other support or preventive services. Similarly, most funding is directed towards severe mental disorders (such as schizophrenia and bipolar disorders, which are more easily observable and measurable) than common mental health disorders and less severe forms of mental ill-health. The latter, despite being much more common, often go unreported and untreated because they are more difficult to diagnose, less visible, and people are unwilling to come forward because of associated stigma (Weiss et al., 2012; van Ginneken et al., 2013; Kutcher et al., 2016).

Where mental health services do exist in LMICs, they are often inaccessible to those most in need, due to resource constraints and cultural norms (Patel et al., 2007; 2011; Rathod et al., 2017; Kutcher et al., 2017; Alloh et al., 2018). People living in LMICs disproportionately experience poverty, gender inequality, impacts from climate change-related events, and inadequate access to good physical health, literacy and housing, which can augment mental health difficulties (Mathias et al., 2018; Kutcher et al., 2016; Weiss et al., 2012). Yet, despite increased attention to adolescent mental health in recent years, adolescents with mental health conditions in LMIC contexts experience worse quality of care compared with that experienced

4 Summaries of some of these approaches can be found in Rost et al. (2020) and Ananthakrishnan et al. (2020).

by other age groups. This is because adolescents are often less-experienced users of mental health services, with inadequate mental health literacy, including literacy about quality of care (Quinlan-Davidson et al., 2021). Similarly, available services and programming are often both age and gender blind, as they are not tailored to the needs of adolescents, nor do they adequately reflect how gender norms are replicated by health systems (Percival et al., 2018).

Within this context, the overall aim of this project funded by Fondation Botnar is to address mental health needs and support the broader well-being of adolescents in urban settings in Tanzania and Viet Nam. These two countries were selected because they represent different LMIC contexts. While the purpose is not necessarily to compare the mental health environments (in terms of drivers of mental ill-health, mental health provision, etc.), the different levels of economic and technological development both across and within the two countries, as well as the different kinds of health systems and status of mental health provision, make them interesting cases to explore. Additionally, differences in underlying structures, including cultural contexts and the social and gender norms that influence behaviour, the poverty and livelihood dynamics, as well as the political systems, all exert diverse and context-specific effects on adolescent mental health and broader well-being.

The specific objectives of the overall study include the following.

1. Identifying drivers of mental ill-health among mid-adolescents (11–15 years) and older adolescents (16–19 years) in two cities in Tanzania (Morogoro and Mwanza City) and Viet Nam (Vinh City and Nha Trang), also taking into account underlying social norms that may be driving mental distress.
2. Co-creating/designing – with adolescents, teachers and local authorities – and testing digital and non-digital approaches or solutions, for use in the classroom, the community and/or in relevant local government units to support adolescents' mental health and overall well-being.
3. Reviewing and adapting the approaches or solutions through learning acquired via a monitoring, evaluation and learning (MEL) system, the mixed-methods baseline and endline studies and ongoing feedback loops.
4. Documenting the effectiveness of the non-digital and technology-based solutions tested by the project for addressing mental health problems.

The project consists of six phases: (1) inception; (2) mixed-methods baseline data collection; (3) co-creation/design of solutions; (4) implementation of solutions; (5) mixed-methods endline data collection; and (6) sharing, dissemination and research uptake. Starting in May 2020, the project will run for a total of 36 months.

As part of the inception phase, a set of literature reviews helped to situate and hone the overall design of the project, providing guidance to both the mixed-methods baseline and endline primary collection approach as well as to the design of the digital and non-digital solutions to be co-created with adolescents and others. These literature reviews also identified knowledge gaps to which the study aims to contribute.[5] Key findings from these literature reviews include the following.

5 The outputs of the literature review can be found on the project webpage at https://odi.org/en/about/our-work/addressing-the-mental-health-needs-of-adolescents-in-tanzania-and-viet-nam-through-the-co-creation-of-digital-and-non-digital-solutions/

- Despite a range of tools and programming focusing on mental health in LMICs, few approaches target adolescents and children (Ananthakrishnan et al., 2020).
- While digital interventions to address mental ill-health are becoming ever more popular, these can exacerbate digital divides; in-person, face-to-face interventions remain important, while blended (digital and non-digital) approaches are the ideal (Rost et al., 2020).
- With few exceptions, tools and scales for measuring mental health have not been adapted and validated fully in Tanzania and Viet Nam, rendering it critical to account for context specificities (Ananthakrishnan et al., 2020).
- There is limited literature on the co-creation of mental health approaches with school children in LMICs and the two study countries (e.g. Kutcher et al., 2019).

This report presents findings from the mixed-methods baseline study in Tanzania, where the 2014 Global School-Based Student Health Survey (GSHS) among 3,793 students aged 13–17 years (across 50 schools) reported that 7% of students felt lonely most of the time or always, and 6% felt so worried that they could not sleep at night (CDC and WHO, 2014). Some 14% of students had seriously considered attempting suicide, 9.5% had planned how they would do it and 11.5% had actually attempted suicide. Approximately 10% of students had no close friends. Several challenges limit rapid access to effective care for young people experiencing mental health symptoms, including poor mental health literacy, high levels of stigma, problematic insurance coverage for mental disorders, lack of psychotropic drugs and weak capacity at the community level to address and access mental healthcare (Ambikile and Iseselo, 2017; Kutcher et al., 2016; 2019). Furthermore, as in most countries in sub-Saharan Africa, Tanzania has limited mental health resources and services available to meet the population's mental healthcare needs. Few primary healthcare providers have received training in mental healthcare, and none have received training in youth mental healthcare (Kutcher et al., 2019). Psychiatric nurses provide most mental health services, with a ratio of 2/100,000, but again they have limited training in youth mental healthcare (ibid.). At the same time, most Tanzanians rely on traditional or alternative medicine, while mental illness is the second most common condition managed by practitioners of traditional medicine (Kutcher et al., 2017). Traditional healing is usually more accessible than formal health services, especially for people in rural areas, due to a lack of available and accessible mental healthcare professionals, poor transportation and acceptance of spiritual and/or supernatural causes for health problems (Kutcher et al., 2016). The extent to which youths adhere to traditional healing approaches to treat mental health issues in Tanzania is not known (ibid.).

This report is structured as follows. Chapter 2 describes our methodology and study sites. Section 3 gives an overview of the policy and mental health services environment in Tanzania. Chapter 4 discusses the mental health and psychosocial well-being status and knowledge of adolescents, while Chapter 5 focuses on the drivers of mental ill-health as well as protective factors. Chapter 6 outlines the mental health help-seeking behaviour of adolescents, including the positive and negative coping strategies they adopt, and their use of technology. Chapter 7 presents our conclusions and recommendations.

2 Description of study sites and methodology

This chapter gives an overview of the study sites (Section 2.1), our methodology (2.2), ethical issues we encountered and study limitations (2.3). Our discussion of methodology covers MEL, the design and implementation of the baseline survey, and qualitative data collection.

2.1 Study sites

We collected baseline data from adolescents aged 11–19 years attending primary and secondary schools in two regions, Mwanza and Morogoro, located on the southern part of Lake Victoria and on the eastern side of Tanzania, respectively. Mwanza is a metropolitan region while Morogoro is predominantly rural.[6] Each region houses 5%–6% of the country's population, with agriculture as a key livelihood source, as well as service provision and mining. Morogoro has a higher level of human development: in 2019, the Human Development Index (HDI) was 0.526 for Morogoro compared with 0.504 for Mwanza (Global Data Lab, 2021).

The sample was recruited through public schools, which most Tanzanian children attend (United Republic of Tanzania, 2019); the vast majority (90%) of the country's primary schools are public, as are 75% of secondary schools. Inequalities based on location (urban or rural areas), region and wealth are notable – for example, the primary completion rate is 77% in rural areas compared with 93% in urban areas, while secondary completion rates are 3% and 14% respectively. Gender disparities are also evident; girls are slightly more likely to complete primary school and less likely to complete secondary school than boys.[7] Recent increases in enrolment rates are linked to the fee-free education policy (for primary and secondary schools) and collaboration between government, private institutions, faith-based organisations (FBOs) and community-based organisations (CBOs) in provision of basic education BEST, 2020). See Annex 1 for a more detailed description of education and health services in Tanzania generally and in our study sites in particular.

2.2 Methodology

To contextualise the study within broader debates around adolescence, mental health and psychosocial support services, and digital technologies, the team commissioned five literature reviews to explore: (1) the effects of Covid-19 on adolescents' mental health in Tanzania and Viet Nam (Chakraborty and Samuels, 2021); (2) frameworks and tools to measure and evaluate mental health and psychosocial well-being (Ananthakrishnan et al., 2020); (3) non-digital interventions for adolescent mental health and psychosocial well-being (Ananthakrishnan et al., 2020); (4) digital approaches to adolescent mental health (Rost et al., 2020); and (5) drivers of and protective factors for mental health and psychosocial well-being among adolescents in both countries (Plank et al., 2021). Drawing on global literature as well as the literature on Tanzania, these reviews helped to identify existing gaps in the evidence base as well as how to frame the current study.

6 For details of the Tanzania education and health infrastructure in Morogoro and Mwanza, see Annex 1.

7 The UNESCO World Inequality Database on Education (n.d), the primary school completion rate in 2017 (among youth aged 15–24 years) was 86% for females and 80% for males; for secondary school, the 2015 completion rates (among adults aged 20–29 years) were 7% and 11% respectively.

The data collection followed a quasi-experimental design using quantitative and qualitative research methods. One purpose of the qualitative work was to validate and deepen our understanding of the quantitative findings; for this reason, we identified several students who participated in the quantitative survey for in-depth interviews, as described below. The methods align with the MEL component, which describes the changes to which the project aims to contribute, following a Theory of Change and a results framework (see Annex 2 for further details of the MEL approach).

2.2.1 Quantitative methodology

The quantitative survey aimed to construct a baseline profile to better understand mental health status, literacy and service access, and to inform evaluation of the impact of the digital and non-digital interventions on these constructs. The questionnaire was designed by consulting existing surveys on mental health. Our review sought to identify robust indicators of adolescent mental health and psychosocial well-being (Table 1), constructs aligned with the key study hypotheses (Table 2, see also the project results framework in Annex 2), and other indicators that previous research suggested were likely to influence mental health access and outcomes (Table 3). To measure key constructs, we sought to identify scales with well-established psychometric properties and, where possible, to include those that had been previously validated in Tanzania or East Africa. The survey was translated into Swahili with some modifications made to accommodate the unique properties of the language.[8] Annex 3 (Section A3.1) provides additional details of questionnaire design, while Annex 4 includes the full questionnaire.

Table 1 Indicators of adolescent health and psychosocial well-being

Scale	Construct	Resulting indicators
Strengths and Difficulties Questionnaire (SDQ)	Effective in screening for a range of child psychiatric disorders including oppositional disorders, hyperactivity disorders, depression, pervasive developmental disorders and some panic disorders (Goodman et al., 2000).	1. Average score normalised on a 0–100 range (can be interpreted as percentage of the worst possible score). 2. 'At risk' category to which we (arbitrarily) designate the top quartile of individuals with the lowest scores.
WHO-5 Well-Being Index	Measure of psychosocial well-being and screening instrument for depression (Topp et al., 2015).	1. Average score normalised on a 0–100 range (can be interpreted as percentage of best possible score). 2. 'High performing' category to which we (arbitrarily) designate the top quartile of individuals with the highest scores. 3. 'At risk of depression' to which we designate individuals with a score of ≤50% of the total (normalised) score, a widely used threshold (see Topp et al., 2015).

8 We reduced the Likert scale from five to four options because of difficulties in obtaining a valid translation for the category 'neither agree nor disagree' in Swahili. Dow et al. (2016) also report adopting a 4-point rather than 5-point response scale in their Swahili questionnaire for this same reason.

Scale	Construct	Resulting indicators
Self-efficacy	Self-report assessment of self-efficacy as it pertains to adaptation abilities and coping scales for both stressful events and daily activities (Schwarzer and Jerusalem, 1995).	Average score normalised on a 0–100 range (can be interpreted as percentage of best possible score).

Table 2 Key constructs, hypotheses and corresponding survey indicators

Construct	Hypothesis (by endline)	Measures
Mental health awareness	20% increase in adolescents' mental health literacy	Emotional Literacy Scale Knowledge of what is important for good mental health scale
Agency in coping with mental health challenges	20% increase in the reported confidence of adolescents in their ability to address mental health problems	Ways of coping with mental health challenges scale (Kidcope) Knowledge of where to seek information subscale of the Mental Health Literacy Scale (MHLS) (O'Connor & Casey, 2015)
Help-seeking behaviour	20% increase in the number of adolescents who use tech and non-tech solutions to address mental health issues, conditional on average levels of mental health	Attitudes Toward Seeking Professional Psychological Help scale Use of tech to seek health/mental health information indicators

Table 3 Other determinants of mental health included in survey questionnaire

Theme	Details
Socio-demographic	Characteristics of respondents and households
Education and health	Subjective reports of education performance and physical health
Social support	Family, friends and role models
Technology	Usage overall and in seeking health information
Violence and responses to violence	Violence by peers, parents and teachers
Engagement in risky or harmful behaviours	Alcohol, smoking, drugs, self-harm and violence
Sexual activity	Engagement in sexual activity, number of partners, engagement in unwanted sex and in sex while drunk

The questionnaire and psychometric scales were tested and refined after piloting of the survey (see Annex 3, Section A3.2, Table A1 for details).[9] The team concluded that the psychometric scales provided valid and reliable measures of the baseline mental health of the adolescent population in these schools. We obtained good reliable scales for the following indicators: emotional literacy, knowledge of what is important for good mental health, knowledge of where to seek information, SDQ, WHO-5, and self-efficacy. For some scales, to maximise construct validity and reliability, we only retained data for scale items that were loading as expected in the exploratory factor analysis and excluded those that would increase Cronbach's alpha if the item was deleted. This enabled us to construct measures that were most attuned to the context where the survey was administered, albeit at the expense of comparability with other studies conducted in Tanzania or elsewhere. For these scales, clinical thresholds established in other studies are unlikely to be valid in our data. For this reason, we use relative criteria to categorise some performers as being at risk of mental ill-health or, conversely, as reporting strong psychosocial well-being (see Table 1). Although the cut-off we use is arbitrary (i.e. observations above the 75th percentile of the distribution), we believe the approach is best suited to shed light on disparities within our surveyed population.

Two scales exhibited low reliability even after two rounds of improvement: ways of coping with mental health challenges (Kidcope), and Attitudes Toward Seeking Professional Psychological Help. The latter scale demonstrates much higher reliability for secondary than primary students, providing an acceptable measure for the older students,[10] whereas the available evidence suggests that the issues we encountered with Kidcope are shared more widely.[11] We posit that respondents may not have fully understood the items in these scales or have responded erratically owing to a limited understanding of mental health, in which case, we anticipate that their reliability will improve following the intervention.

Table 4 Schools and classes selected for the baseline survey by region

	Region	
	Morogoro	**Mwanza**
Rural	Mhovu Primary School **Classes**: Grades 6 & 7	Magu Secondary School **Classes**: Form 2
Urban/peri-urban	SUA Secondary School **Classes**: Forms 2, 3 & 4	Nyamagana Primary School **Classes**: Grades 6 & 7

9 Full details of the validity and reliability tests for scales in each pilot and baseline survey are available upon request.

10 Note these differences may indicate greater awareness of professional psychological health among secondary students. Where appropriate, we disaggregate this score by school level and report the results at the secondary level. Note that the distributions are extremely similar for primary and secondary students.

11 Antoniou and Drosos (2017: 62) state, 'As there are few available instruments that assess children's coping strategies, Kidcope is widely utilised, although there are varying results regarding its psychometric properties and factor structure. Several different factor structures have been proposed... It should be noted that even the studies with the same number of factors did not find the same factor structure... [It follows that] Kidcope's factor structure is not stable and may vary across diverse samples.'

The second stage involved randomly selecting two to three classrooms per school (see Table 4). All students in these classrooms on the day of data collection were asked to participate. The study intended to target grades 5 and 6 (primary level) and forms 2 and 3 (secondary level), but due to an insufficient number of students per class in some schools and to ongoing exams, students from grade 7 (primary) and form 4 (secondary) were included, for a total of eight classrooms across the two regions. The choice of the class level was influenced by students' ability to conceptualise the content and respond to the self-administered questionnaire, and their availability to participate in the intervention. We also aimed to capture primary–secondary age differences. The number of classes selected per school depended on the number of streams per class and number of students per stream needed to attain a required sample size with sufficient statistical power per school (95% confidence intervals and 5% standard error). A total of 405 students were invited to respond to the survey (200 in Mwanza and 205 in Morogoro), of whom 401 agreed to participate (a 99% response rate).

The survey was self-administered by the students through a paper-based questionnaire. This reduced the cost and time needed for data collection, as it permitted surveying many students in a relatively short time. The approach may also have reduced interviewer bias in responses to sensitive questions. A team member provided a brief introduction in each classroom setting out the background, rationale and objectives before asking students to respond to the questionnaire and reading questions aloud where helpful.

The survey team produced baseline levels for each key indicator for the sample and for relevant subgroups – e.g. by school level, region, gender, household SES, etc. (see Annex 5 for full details). In the main report, for ease of interpretation (and comparison across indicators), we typically depict each indicator as a percentage of the possible maximum (i.e. the score that would be attained if a person exhibited the highest possible outcome).[12] We analysed the statistical significance of between-group differences using Chi-square, Anova or independent t-tests depending on the nature of the variables being compared. We describe the results that are statistically significant, and also report non-significant results when relevant. Given our small sample size, we flag all results of at least 10% significance or lower.[13] In the text, we first focus on bivariate analysis – reporting the risk ratio and specific test score (X^2, *t*-value or *F*-value), the degree of freedom and the *p*-value. We undertook ordinary least squares and logistic multivariate regression analysis with robust standard error to analyse what factors emerged as significant predictors of mental health outcomes, after controlling for observable differences among students. Data preparation and most of the statistical analysis was conducted using Stata/SE 14.0 for Windows, while some scale validation, significance testing and complementary analysis used SPSS.

12 In this, we follow the example of Carnegie School of Education, Leeds Beckett University (2018), which used this method to depict the Emotional Literacy Scale.

13 It is a more common practice to only report results that are significant at 5% or lower, but we consider the reduced sample size makes this significance level too low for our study. Therefore, we chose to report results that are significant at least at the 10% level and provide the *p*-value so the reader can make their own judgement.

2.2.2 Qualitative methodology

Primary qualitative data collection was carried out in March 2021 by a team comprising members of the Tanzanian Training Centre for International Health (TTCIH) and the ODI team remotely. The local team piloted the data collection tools in Mwanza and Morogoro, which had been developed by all members of the study team. Tools were then further adapted. Researchers collected qualitative data in the same sites selected for the quantitative data collection.

Qualitative tools (see tables in Annex 7) included in-depth interviews (IDIs), focus group discussions (FGDs), family case studies (FCSs) and intergenerational trios (IGTs – where different generations of the same family are interviewed) and key informant interviews (KIIs). Two strategies were used to enrol adolescent participants in the study. First, purposive sampling was used to enrol adolescents disaggregated by age (mid-adolescence [11–14 years] and older adolescence [15–19 years]), gender (male and female), mental health status and academic performance, with the purpose of identifying students with diverse characteristics. These participants were recruited through enrolment lists with socio-demographic characteristics shared by school academic teachers and head teachers. Second, the team selected eight adolescents who participated in the baseline survey (four from each region) to take part in an IDI, based on their gender and a relatively high risk of mental health issues (based on the SDQ subscale that measured levels of internalising issues such as depression or anxiety). A total of 93 interactions (including all IDIs, FGDs, IGTs and KIIs) were conducted across the two study sites.

The qualitative tools explored the following areas: drivers of mental ill-health and psychosocial distress across different domains of adolescents' lives (in school, in the home, in interpersonal relationships); social and gendered norms that may affect mental well-being; demand and supply-side issues in relation to service access, quality and provision; and the kinds of technology that are available and used by students, including the challenges and opportunities that each presents.

With appropriate consent, all interviews were recorded, and then translated and transcribed. The study team jointly developed a coding structure based on key emerging themes in the data and key topics from our previous literature reviews. Interactions were translated from Swahili to English and transcribed by the research team who collected the data and who were already familiar with the answers of respondents. Translations and transcriptions were supervised by the qualitative lead of TTCIH and one more researcher to check quality and reliability of data. All interviews were then coded and entered into MAXQDA (data analysis software) by three research assistants. Data from the coded segments was summarised according to agreed themes and the analysis also explored differences emerging from different variables, including site/location, gender, education, religion, mental health problems and experiences, and household structure. The analysis was then written up in the agreed report format.

While coding the qualitative interviews, researchers aimed to record whether statements, opinions or perceptions shared by respondents were described by a majority, more than half, some, or just a few. In the report, we refer to 'most or the majority' when a statement corresponds to well over 50%, usually two-thirds of respondents or more. We use 'more than half' when a statement corresponds to over 50% of respondents. We use 'some' when a statement

corresponds to fewer than half of participants. We use 'few' when a statement corresponds to just three or four participants usually. Finally, when a statement was mentioned by only one or two respondents, the report states so explicitly.

2.3 Ethics protocol and study limitations

ODI has its own ethics review committee composed of internal and external members. This committee reviewed all data collection instruments and other protocols, and recommended adjustments as and when necessary. In-country clearance was then obtained from the National Health Research Ethics Review Committee (NatHREC) of the National Institute for Medical Research (NIMR). Research clearance and permit was obtained from the Tanzania Commission for Science and Technology (COSTECH). Approval to conduct this study was also sought from the President's Office – Regional Administration and Local Government (PORALG) authorities, as was an introductory letter that introduced the research teams to the appropriate local government authorities of Mwanza and Morogoro regions, and from the village/ward leaders and head teachers who helped identify study respondents in their respective catchment areas.

The adolescents who responded to the survey provided their written consent, acknowledging that their participation was completely voluntary and that they were free to stop at any point or to leave blank any questions they did not wish to answer (see text in Annex 4). Three students opted out during the consent process and one student opted to withdraw midway through the survey. Participants in the qualitative data collection provided their informed consent to take part and to be photographed, with name initials and random numbers used to protect respondents' identities. All parents were informed about the study and involvement of their children prior to the school visits. For respondents under the age of 18, the team first sought consent from parents and teachers acting as their guardians. The research teams were trained prior to the fieldwork and were regularly reminded to adhere to the safeguarding protocols. In case research participants were experiencing any distress, the team followed the safeguarding protocol procedure and were constantly supervised by the lead researcher to overcome any challenges.

A few limitations merit discussion. The first concerns survey representativeness. As explained above, we adopted a two-stage stratified cluster sampling design. Ensuring representative data at a regional level would require selecting diverse localities (urban, peri-urban and rural), schools and classrooms within each region. While we sought to maximise diversity in the selection of schools, the absence of a full sample frame meant we could not design a statistically representative sample. As a result, we cannot conclude that the findings are regionally representative and recommend presenting school-level results. Relatedly, the team had to select classrooms in which students were available to take the survey (e.g. classes not taking exams) and to recruit 123 students (31% of respondents) outside the selected classrooms to obtain the sample size needed. In other words, some adjustments needed to be made to the sampling strategy to accommodate realities in the study sites.

The second potential limitation concerns questionnaire sensitivity and potential response bias. Although the study team guided students on how to respond to the questionnaire and clarified any confusing words to aid accuracy, the answers received were accepted as final. For example, the team guided students especially on how to

respond to questions on a Likert scale (e.g. on emotional literacy, good mental health) and clarified unfamiliar terms to enable them to choose the correct answers applicable to their feelings and experiences. This was also the case for sensitive questions in the qualitative tools, such as those related to Covid-19, since the team could not probe sufficiently on this as it was a sensitive topic for the former government, and students and adults responded cautiously. The possibility of response bias arises since respondents had access to the full survey before responding to any one question, which might result in changing some of their responses to be able to skip the follow-up questions – for example, in the case of sensitive questions related to sexual activity among older adolescents. We found that including 'I prefer not to say' as a response may have increased the propensity to respond with more revealing answers to sensitive questions: significant numbers of students selected this option, which we inferred was a likely indication of engagement in the behaviour in question, as described in the analysis below.

The Covid-19 pandemic did not affect the ability of the team in Tanzania to conduct the survey or qualitative fieldwork since the government was not imposing any formal lockdown measures or other types of restriction during data collection. The team adhered to all government Covid-19 prevention measures, including the use of face masks, hand-sanitisers and social distancing during fieldwork. Nevertheless, pandemic conditions did necessitate some adjustments to the qualitative fieldwork. The number of FGD participants was limited to between five and eight, and to maintain physical distancing guidance. This distance between participants and researchers affected the quality of audio-recordings, which meant that some valuable quotes may have been lost during the transcription/translation process. We cannot quantify how Covid-19 affected participant responses, although some studies conducted as part of this project suggest significant mental health effects (see Chakraborty and Samuels, 2021; León-Himmelstine et al., 2021; Samuels et al., 2021).

A final limitation relates to the impact of exams and other potential sources of stress during data collection. Data was collected very close to exam time. High stress during exam periods could induce anxiety, which may have affected responses to the questionnaire and the qualitative interviews. It is possible that some students who agreed to participate in the survey might have responded without paying due attention to its content due to exam fatigue and time constraints; however, fewer than 10 students among the 401 participants skipped any questions, suggesting this was unlikely.

3 National-level policy and programming/ service environment

The Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) (previously the Ministry of Health and Social Welfare) is the leading ministry, department and agency for most health policy. As decentralisation continues across the country, PORALG is taking a greater role in coordinating the delivery of health services. For example, regional and local authorities were responsible for delivering 45% of the total health budget for the financial year (FY) 2018/19 (UNICEF, 2020). Despite budget reductions (see Chapter 7, for policy challenges and recommendations), the health sector is one of the largest sectors in Tanzania (with 6.7% of the total national budget), only behind infrastructure (16.4%) and education (13.6%) (ibid.).

Mental healthcare in Tanzania is predominantly government-funded. Specialist mental healthcare is delivered at district, regional and zonal outpatient clinics (average 0.5 million, 1.5 million and 6 million catchment populations, respectively), and regional and zonal inpatient units (approximately 20 beds each) (Mbatia and Jenkins, 2010; Kaaya, 2014; WHO, 2017). Functional mental health promotion and prevention programmes are either non-existent or not reported. The government, NGOs and other international organisations nevertheless undertake a variety of interventions to support adolescents' psychosocial well-being. They are marginally implemented in community and school settings through vertical initiatives or those which use a top-down approach (e.g. HIV and AIDS or reproductive health programmes, or those supporting orphans and vulnerable youth), with the aim of enhancing adolescents' coping and life skills, and promoting protective and supportive environments (WHO, 2017; BEST, 2020). The next section describes the policies introduced on mental health and the main central-level organisations involved. It then describes the service environment/programming and the main stakeholders working on mental health issues both at the national level and at our study sites.

3.1 Policies and ministries – national level

Annex 8 sets out key policies related to mental and psychosocial well-being and provides a brief narrative of their development and content. The main policies, developed during the early 2000s, recognise mental health as an essential component of comprehensive healthcare (see 2006 Policy Guidelines for Mental Health Care in Tanzania). Some of these policies also define the roles and responsibilities of mental health practitioners (e.g. the 2008 Mental Health Act). The care and provision of health services to adolescents receives more priority in overall health policies (e.g. the 2017 National Health Policy or the 2015–2020 Health Sector Strategic Plan) or in policies targeting the specific health needs of adolescents (e.g. the 2018–2022 National Adolescent Health and Development Strategy, the One Plan II, or the 2007 National Youth Development Policy). However, these policies focus more on other health needs of adolescents (such as HIV and AIDS, sexual and reproductive health (SRH), and consumption of harmful substances) than on mental health. Policies on digital health or information and communications technology (ICT) (such as the 2019–2024 Digital

Health Strategy or the 2016 ICT policy guidelines) address the ICT needs of youths as a means to addressing social inequalities, but they do not link clearly to mental health or psychosocial well-being.

A number of ministries/central government organisations have a remit for mental health (see Annex 8, Table A15), including the MoHCDGEC and the National Council for Mental Health. Other ministries responsible for youth affairs include the Ministry of Labour, Employment and Youth Development and the Ministry of Information, Culture, Youth and Sports.

3.2 Service environment/ programming and stakeholders

The Tanzanian health sector is centrally organised, with the MoHCDGEC monitoring and coordinating national health priorities and plans, and the regional and district hospitals implementing those priorities. The health sector is hierarchically organised into national, regional and district levels, and with health centres and dispensaries at the village level. Thus, there are 7 tertiary hospitals at the national level, 18 regional hospitals, 86 district hospitals, 541 health centres, and 4,904 dispensaries distributed across the country (Mwambingu et al., 2019). The following sub-sections provide an overview of the service environment and key stakeholders relevant to mental health, with a focus on adolescents when information is available.

3.2.1 Mental healthcare delivery/service environment – national level

Mental health specialist care is delivered in district, regional and zonal outpatient clinics, and regional and zonal inpatient units (Mbatia and Jenkins, 2010). The WHO (2017) reports a total of 278 mental health professionals in government and NGO facilities, and 0.52 mental health workers per 100,000 population. Psychiatrists and nurses are concentrated in the major urban centres, and a high proportion of psychiatric nurses have been redeployed to medical or surgical clinics. That means the specialist service for nearly all regions and districts is largely delivered by extremely overstretched psychiatric nurses.

The WHO (2017) also reports a total of two mental health hospitals in the country treating around 168,000 cases of severe mental health disorders, and five psychiatric units available in general hospitals. In practice, when national hospitals are excluded, in most regions there are only 20 beds for patients with mental health needs per 1.5 million population (ibid.). Here, we list the main service providers at the national level.

Mirembe National Mental Health Hospital: This is the only Tanzanian government mental health hospital. Located in Dodoma, it has 600 beds (accounting for approximately 70% of the total national bed capacity for the whole country, which is about 900). The hospital is allied to Isanga Correction Centre. This combined institution was established in 1926 as the main centre for treating mental health patients in the country. The facility has a total average of 600 inpatients with various mental illnesses, both acute and chronic. Average recovery time for patients is 6 weeks, after which time they are discharged to the community. Upon discharge, the hospital is responsible for ensuring continuity of care, and provides outpatient clinics on a daily basis. The outpatient clinic is responsible for preventing relapses by providing prescription re-fill and ongoing counselling sessions. Some patients improve significantly, while others do not. Reasons for poor improvement among

some patients include long distances to access care facilities, financial constraints, and disabling side effects following use of antipsychotics (Mwambingu et al., 2019).

Lutindi Mental Hospital: The Lutindi Mental Hospital of the Evangelical Lutheran Church of Tanzania, in Lutindi, is the only mission mental health hospital in the country, with 100 beds and additional occupational therapy activities. A basic mental healthcare unit is also available in Dar es Salaam at Muhimbili National Hospital, with 100 beds (ibid.).

Health centres: Mental health primary care services are delivered through health centres (average catchment population 10,000) and dispensaries, which are staffed by general nurses and clinical officers who have received basic training about mental disorders, diagnosis and treatment but have hitherto not received in-service training or supervision for mental healthcare (Mbatia and Jenkins, 2010). Primary healthcare doctors (who do not have a university degree, but are clinical officers with post-secondary education, trained for three years in identification and management of common medical and surgical conditions) are allowed to prescribe and/or to continue prescription of psychotherapeutic medicines (WHO, 2011). The Department of Health also authorises primary healthcare nurses to prescribe and/or to continue prescription of psychotherapeutic medicines, but with some restrictions. Official policy does not permit primary healthcare nurses to independently diagnose and treat mental disorders within the primary care system (ibid.).

3.2.2 Mental health services at site level and key stakeholders relevant to adolescents' mental health and psychosocial well-being

In this sub-section we provide a snapshot of mental health services that were mentioned by study respondents (especially key informants) as being available or that they know about in the study sites, especially for adolescents. Relatedly, we also list key stakeholders that were mentioned as key actors and policy influencers in relation to the mental health of adolescents in the study sites.

In terms of services available in the sites (see Annex 8 for more details), respondents included those directly focusing on mental health such as schools providing counselling services and local clinics providing mental health through key staff (e.g. clinical psychiatrists, nurses). In addition, other stakeholders such as local government departments provide referral services and coordinate among themselves to deal with cases of mental ill-health, including among adolescents. NGOs and CBOs, although not dealing with mental health directly, provide some kind of assistance when appropriate. For example, NGOs offering services to youths willing to recover from alcohol addictions did not offer mental health services, but staff mentioned that they tried to provide some counselling and to 'offer an ear' to patients when they faced mental health issues.

Table 5 shows the key actors and policy-makers at the study sites, their purpose, and the work they carry out in relation to adolescent mental health. This was obtained from both a review of secondary literature and from interviews with the Tanzania study team. These overlap both with Sub-section 3.2.1 (national-level service provision) and with what key informants mentioned (see Annex 9).

Table 5 Mapping of key actors and policy influencers relevant to mental health and psychosocial support (MHPSS) of adolescents in study/project locations

Institution	Role / purpose	Work relevant to adolescent MHPSS
Mwanza		
Local government authorities (Regional Administrative Secretary; District Administrative Secretary; Regional Medical Officer / District Medical Officer; Regional Education Officer; District Education Officer)	Manage and support education and health systems	Local governments often support and are responsible for paying salaries of staff (teachers and healthcare workers) and financially support the running of schools and health facilities. Local governments are essential for community mobilisation and for scale-up of community-based mental health programmes.
NGOs (e.g. Village of Hope, FEMINA HIP and Kivulini Foundation)	Gatekeepers and local resource provision	Training, capacity-building, gender and health education and promoting students' engagement in societal activities.
Hospitals (e.g. Sekou-Toure Regional Referral Hospital and Bugando Medical Centre)	Health service delivery	Provide psychiatry and mental health staff, medical supplies and infrastructure for treatment and referral of mentally ill persons.
Community (adolescents, parents and teachers)	Partners in implementation Definition of acceptability of the training curriculum Supplementation of resources	Communities are gatekeepers for the content of health education and for the role of non-health agents (especially teachers) in health service delivery. Adolescents are active participants in all aspects of the process at the school level. Communities supplement programme finance at the margins.
Morogoro		
Local government authorities (Regional Administrative Secretary; District Administrative Secretary; Regional Medical Officer / District Medical Officer; Regional Education Officer; District Education Officer)	Manage and support education and health systems	Local governments often support and are fund-holders for teachers and schools, and for health facilities and healthcare workers. Local governments are essential for community mobilisation and for scale-up of community-based mental health programmes.
NGOs (e.g. FEMINA HIP, Imara Trust and Free at Last Sober House)	Training and supervision, and local resource provision	Support secondary schools, empower women, improve living standards, youth involvement and participation in societal activities, and public health education and promotion.
Hospitals (e.g. Morogoro Regional Hospital, and respective district hospitals)	Health service delivery	Provide psychiatry and mental health staff, medical supplies and infrastructure for treatment and referral of mentally ill persons.
Community (adolescents, parents and teachers)	Partners in implementation Definition of acceptability of the training curriculum Supplementation of resources	Communities are gatekeepers for the content of health education and for the role of non-health agents (especially teachers) in health service delivery. Adolescents are active participants in all aspects of the process at the school level. Communities supplement programme finance at the margins.

Building on this mapping, we sought to distinguish primary and secondary stakeholders depending on whether the project was likely to engage with them, exploring the relationships between the stakeholders and the extent to which they will affect adolescent mental health and well-being. Annex 10 provides further details of this stakeholder analysis, which used Kumu, a systems and networks visualisation software.[14] One key finding is the centrality of the heads of schools in our study sites as key actors in implementing new interventions and activities, and in connecting and mobilising teachers and adolescents. Another finding is that other stakeholders (e.g. therapists, health centres, regional and district local officers) have very limited or no engagement with adolescent mental health. It remains to be seen whether the current study can influence this structure.

14 https://kumu.io

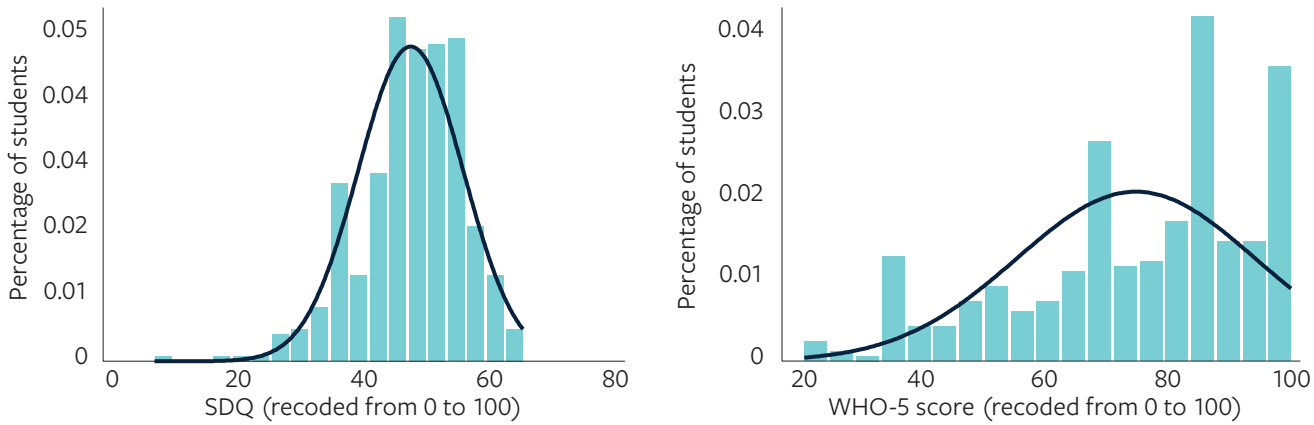
4 Mental health and psychosocial well-being status and knowledge/ awareness

This chapter seeks to establish what we know of the mental health and psychosocial well-being of adolescents at baseline, and their mental health literacy, including perceptions of adults and the community towards mental health. Our key comparable metrics – collected through our survey – are the SDQ (a measure of emotional and behavioural difficulties) and the WHO-5 (a measure of subjective psychosocial well-being) (see Annex 3 for more details). The chapter explores which students appear to be most at risk of experiencing mental health problems, contrasting differences in survey-based measures with the perceptions of adolescents and other informants. It then discusses perceptions of trends in the prevalence of mental health problems and how the respondents explained disparate trends, drawing on qualitative fieldwork. Finally, it examines community perceptions of and responses to mental health issues, highlighting a generalised lack of support.

4.1 Mental health indicators, knowledge and perceptions

We code both the SDQ and WHO-5 such that higher scores indicate a lower risk of mental ill-health. For our survey respondents, the average of the SDQ was 47% of the highest possible score, while the average of the WHO-5 was 74.5% of the highest possible score.[15] Neither of the data series are normally distributed: the SDQ exhibits higher peaks and a moderate positive skew, whereas the WHO-5 is highly positively skewed (Figure 1).[16]

Figure 1 Distribution of the SDQ and WHO-5 scales among survey responses



15 The 'raw' mean for the SDQ on the traditional scale of 1–3 (with higher scores indicating a propensity to mental ill-health) is 1.58 while the corresponding mean for the WHO-5 on the traditional scale of 1–6 (with higher scores indicating greater psychological well-being) is 4.47.

16 The SDQ scale has a negative skew of 0.774 and is leptokurtic (kurtosis = 4.350). The WHO-5 scale has a positive skew of 1.43 and minimal kurtosis (3.036). Statistical tests (Shapiro–Wilk and Skewness Kurtosis) confirm that neither scale is normally distributed.

The positive skew of both scales indicates a bias towards positive mental health outcomes in the sample, especially for the WHO-5, while the differences between the scales may partly reflect a wider set of possible responses to the WHO-5 (a 6-option rather than 3-option Likert scale). To complement these continuous measures, we categorise the bottom quartile of the SDQ distribution as consisting of students 'at risk' of mental health issues and the top quartile of the WHO-5 distribution as consisting of students exhibiting relatively high psychosocial well-being. We also use the WHO-5 measure as a screening instrument for depression; following accepted standards, we designate individuals scoring 50% or less on this measure as being at risk of depression.[17]

Asked what they understood by the term 'mental health', adolescent responses suggest *a general lack of understanding of what constitutes mental health*. Most adolescents did not even know the term 'mental health' or gave vague responses as to what it meant. Others associated mental health with negative behaviours such as fighting, being naughty, 'dodging' school, overusing technology, and especially with alcohol or drug use:

> Interviewer: Have you noticed anyone with mental health problems maybe here at school or at home?

> Respondent: They don't act normal, some of them use marijuana, some cigarettes or other drugs.

At the same time, around half of adolescent respondents in the qualitative sample in both sites could accurately identify symptoms of mental ill-health, mentioning self-isolation, stress, depression, crying or unhappiness. Alternatively, a few associated mental ill-health with physical or neurological conditions such as headaches, blood clots or over-intelligence – the latter particularly observed in 'those who study too much'. Indeed, our respondents in the qualitative component reported experiencing a wide range of mental distress such as sadness (at times called depression), anxiety, stress and anger, among other emotions. Other adolescents mentioned the mental health problems experienced by their relatives such as anger issues, depression and anxiety. Two adolescents mentioned a belief in the insanity of one of their parents, caused by witchcraft.

In our survey, as many as 70% of respondents reported being knowledgeable about the causes of mental ill-health, while 56% said they recognise signs of poor mental health. However, when asked in more detail, emotional literacy appears to be lacking. For example, over a third (35%) agree or strongly agree that 'a mental illness is not a real medical illness', while 68% perceive mental

17 We do not use the SDQ data to gauge the incidence of mental health issues. While the instrument is often used as a clinical tool, with a threshold established for 'caseness', this threshold was established in the United Kingdom and there are questions as to its appropriateness in other settings. Moreover, we adjusted the initial scale during the validation process to maximise its reliability – meaning that thresholds established for the full scale do not apply. For this reason, we identify the top quartile of the student population as at risk of mental ill-health (see Chapter 2, Sub-section 2.2.1). For the WHO-5, by contrast, we use a threshold of 50% to indicate a likelihood of depression as this threshold has been used in many settings (see Topp et al., 2015); and we complement this by focusing also on the top quartile of the distribution, consisting of those individuals who report relatively high psychological well-being.

illness as a sign of personal weakness. Nearly half (48%) were unwilling to make friends with someone with a mental illness, while an equal share (48%) equated seeing a mental health professional with not being a strong person. Given that the qualitative findings also point to a limited understanding of mental health, we plan to interrogate the positive self-reports more closely.

Adults were more likely to associate the symptoms of mental health problems with undesirable adolescent behaviours such as disobedience in school or at home, and the use of drugs, as one parent explained:

> You may give him/her everything but he/she keep on being stubborn; when you give him/her advice he/she doesn't listen, he makes trouble, he spends time with bad company, he smokes marijuana and does other bad things. So, it is possible that this child has mental health problems but as a parent you are not aware, you just keep on saying that my son is crazy, he is mentally ill. He becomes too stubborn at school, he doesn't listen to his teachers and sometimes you may blame teachers but your son has mental health problems. (Participant of FGD with fathers of adolescent children living in Morogoro)

Key informants at school observed that they identified adolescents suffering from symptoms of mental ill-health when they were violent to teachers and/or other students, lacked patience or were absent from school regularly or for long periods. One key informant observed that young people were more likely to attribute mental health problems to drug use, while adults associated this with witchcraft (see also Section 4.1.3, on drivers of mental ill-health). One key informant highlighted the lack of knowledge on mental health issues and their importance among adolescents and the overall community:

> Adolescents are not aware about what mental health is and the importance of mental health. Also, the community is not aware about mental health issues, this is also a challenge because in one way or another if something is not known it cannot be treated. For example, now we can see people misbehaving but we don't know what the reason is. (KII 18, Mwanza)

4.1.1 Perceptions and data on at-risk groups

The literature identifies certain groups as being at an elevated risk of experiencing mental health disorders. These include HIV-positive adolescents (Dow et al., 2016; Lwidiko et al., 2018; Ramaiya et al., 2016); adolescent girls who have experienced violence from sexual partners (Kuringe et al., 2019); individuals living in rural areas (Lwidiko et al., 2018); orphans (Dorsey et al., 2015); and those with low SES and food insecurity (Nyundo et al., 2020). Evidence also suggests that older adolescents are more at risk of mental health disorders compared with younger ones. In Berhane et al.'s (2020) study of adolescents in seven countries, including Tanzania, the prevalence of low mood was generally higher among older adolescents (15–19 years) than younger adolescents (10–14 years). The same study identified that females were more likely to experience depression and mental health risk factors compared with males, echoing the findings of Nyundo et al. (2020) that female adolescents (aged 10–19 years) were more likely to suffer from depression than males. Another study of 3,013 out-of-school adolescent girls and young women aged

15–23 in north-west Tanzania found depressive and anxiety symptoms to be prevalent, at 37% and 31% respectively (Kuringe et al., 2019).

Study respondents in the qualitative component identified different groups of adolescents as being at higher risk of mental health disorders. Slightly more respondents in the qualitative component (adolescent and adults) indicated that *adolescent girls were more likely to experience mental health issues*. Their increased risk was perceived to relate to early sexual encounters as well as gender norms and expectations (see also Section 5.2). The quantitative survey did not find statistical differences between boys and girls in their risk of mental ill-health, as measured by the SDQ. Nearly one-quarter of students (23%) reported ever having been sexually active; but this was not significantly associated with the risk of mental ill-health.[18]

Other adolescents, both male and female (although fewer than those who perceived girls were more vulnerable) perceived adolescent boys as more susceptible to mental distress because *boys were more likely to engage in socially frowned-upon behaviour* such as alcohol and drug use, which was linked to mental ill-health (as mentioned earlier). Our survey confirmed a significant higher risk of mental ill-health, measured by the SDQ score, among respondents who smoked (risk ratio, 1.12; F=4.43, df=1, p<0.05), engaged in drug use (risk ratio, 1.14; F=8.65, df=1, p<0.005) and/or consumed alcohol (risk ratio, 1.17; F=11.68, df=1, p<0.001). However, differences in levels of engagement in these behaviours between boys and girls were not significant, and the reported incidence was always very low.[19]

Some respondents in the qualitative component also noted that *older adolescent girls and boys are vulnerable because they are more likely to suffer from corporal punishment by teachers*, particularly in grades 6 and 7. Our survey found no significant differences between boys and girls in terms of whether they had been beaten, hit, whipped or caned by a teacher at their school, or whether they had ever been punished at school in another way such as forced to run around, stand on a bench, or kneel. However, such punishments are common: 64% of students had experienced corporal punishment, 70% another type of physical punishment (e.g. being forced to run), and fully 84% had experienced at least one type of these punishments.[20] We found no statistical differences in the risk of mental ill-health or psychosocial well-being associated with the experience of corporal or another physical form of punishment. However, in the qualitative component, corporal punishment by teachers or relatives emerged as a source of stress and anxiety (see Section 5.2 on the drivers of mental ill-health).

Respondents in the qualitative component also cited older adolescents' engagement with socially frowned-upon behaviours (drug use and alcohol consumption) in secondary school, compared with those in primary school who are still protected by their parents or their teachers and who are given more care and attention. Parents also cited

18 We assume in this calculation that respondents indicating 'I prefer not to say' had, in fact, been sexually active.

19 For example, 4% of boys reported smoking compared with 3% of girls. For drug and alcohol use, the respective shares were 6% and 3% for both substances. There were no statistically significant differences in the WHO-5 score related to any of these behaviours.

20 Students could respond "I prefer not to say' to these questions. We interpreted this response as indicating that the respondent had experience of the punishment in question.

academic pressure, particularly during exam periods, and worries about having a career as contributing to older adolescents' mental distress (see also Section 5.2). These findings echo those reported elsewhere in the Tanzanian literature (e.g. Berhane et al., 2020; Mbelwa, 2017). By contrast, a smaller proportion of both adolescent and adult respondents suggested that younger adolescents were more likely to experience mental distress, mostly owing to a greater likelihood of abuse.

In our survey, although boys exhibited a slightly higher emotional literacy score, differences between girls and boys were not statistically significant. Examining specific components of emotional literacy reveals more nuanced differences. A slightly higher share of boys reported knowledge of the causes of mental health (relative risk, 1.06; F=3.521, df=1, p<0.1), and more boys reported an understanding of how social media impacts on their well-being (relative risk, 1.08; F=4.829, df=1, p<0.05). However, fewer girls perceive people with a mental illness as 'dangerous' (relative risk, 0.90; F=8.467, df=1, p<0.005). Age differences in our sample did not significantly predict emotional literacy scores, nor did differences between primary and secondary students. Indeed, only socioeconomic differences emerged as statistically significant correlates, with respondents from better-off households showing higher literacy. The emotional literacy score ranged from 62% of the total possible in the lowest quartile to 66% in the top quartile (F=9.884, df=3, p<0.001).

By contrast, school level was the only statistically significant socio-demographic correlate of the SDQ score or of being in the high-risk category. The average score of primary school respondents was 46% of the best possible outcome, compared with 49% for secondary school respondents (risk ratio, 0.92; F=22.67, df=1, p<0.001). Moreover, we categorised nearly one-third (32.3%) of primary students as being at risk of mental ill-health compared with only 14.1% of secondary students (risk ratio, 2.297; X^2=18.573, df=1, p<0.001). For the WHO-5 score, in turn, gender predicts being in the top-performing group, albeit with borderline statistical significance: 25% of boys were in the top quartile according to this metric, compared with 17% of girls (risk ratio, 1.455; X^2=3.58, df=1, p<0.01).

The role of education in adolescents' vulnerability to mental ill-health was also noted by respondents of the qualitative component. Adolescents and adults both observed that *individuals who are less educated are more likely to experience mental distress*, as is also suggested by our survey results, showing lower SDQ performance, on average, among primary school students. Although respondents in the qualitative component did not elaborate, there could be many reasons for this (e.g. the ability to avoid harmful relationships and distress, thereby decreasing the likelihood of engaging in illicit behaviour, and that education provides the greater opportunity of a career accompanied by greater well-being). The educational level of respondents' head of household was not associated with the likelihood of adolescent mental ill-health, measured by the SDQ, but it does show a statistically significant relationship with psychosocial well-being: 17% of respondents whose head of household had a primary education or less were in the top quartile of the WHO-5 distribution compared with 22% of respondents whose head of household had some secondary education and 36% of those whose head of household had some post-secondary education (X^2=8.423, df=3, p<0.05).

During FGDs, many adolescent respondents commented on *the relationship between SES and mental health*. For example, the vast majority of focus group respondents reported that poorer

families are much more likely to experience mental distress than wealthier families. However, other respondents suggested that adolescents from wealthier households were equally or even more likely to experience mental distress, mostly owing to a greater likelihood of their being given material items (e.g. being 'spoiled') and/or consuming drugs or alcohol. Our survey did not find an association between SES and mental ill-health; however SES did show a statistically significant relationship with psychosocial well-being, in both the WHO-5 score and the likelihood of being in the top quartile of the distribution (see Sub-section 5.2.6 for details).

The relationship between ethnicity and mental distress was also mentioned during IDIs and FGDs, but with vague responses. Only one father suggested that some ethnicities are less likely to marry, which he believed resulted in psychological issues, while one key informant noted that 'lake zone' tribes had difficulties talking about mental health issues openly due to shame, but the interviewee did not elaborate. Our survey showed no statistically significant difference between Muslims and Christians, and neither did we observe any difference in the qualitative component. Key informants provided some insights into the impact of disability and likelihood of mental distress, suggesting that disability directly results in psychological distress due to an inability to carry out (mainly economic) activities. Finally, several focus group respondents (adults and adolescents) suggested that adolescents who do not live with their parent(s), such as street youth or orphans, are more vulnerable to abuse from adults, resulting in mental distress.

Multivariate analysis of our survey data allowed a better understanding of how the various indicators we observed interacted with one another to predict mental health (in terms of the SDQ and WHO-5). In our first set of models (Annex 6, Table A7), we introduced only socio-demographic variables as independent variables: characteristics of adolescents (gender, age, school level), their household SES, and their place of residence (region). As explained earlier (Section 2.2.1), we used ordinary least squares regression for models in which the dependent variables were the SDQ and WHO-5 scores, and logistic models where the dependent variables were the 'at risk' (SDQ, WHO-5) or 'top performing' (WHO-5) categories.

Our regression results show that socio-demographic variables explained very little variation in the SDQ score (R^2=6.1%) or the likelihood of being 'at risk' (Nagelkerke R^2=4.8%). Indeed, school level (also a signifier of age) was the only significant predictor of both variables. Attendance at secondary (rather than primary) school was associated with a significant improvement in the SDQ score (B=0.894, p<0.01) and decreased the odds of belonging to the SDQ high-risk category by 68% (OR=0.376, p<0.01).

The socio-demographic variables explained slightly more variation in psychosocial well-being: the WHO-5 score (R^2=10.6%), WHO 'top performers' (Nagelkerke R^2=4.9%) and the WHO 'at risk' category (Nagelkerke R^2=6.0%). The experience of hunger (i.e. student reports of having gone hungry in the previous year) negatively predicted the WHO-5 score (B=0.537, p<0.01) and decreased the likelihood of being in the top-performing category by 60% (OR=0.398, p<0.01); this experience also more than doubled the odds of being 'at risk' of depression (OR=2.22, p<0.05). Belonging to the top socioeconomic quartile, in turn, was associated positively with the WHO-5 score (B=1.34, p<0.05) and with a 66% reduction in the odds of being at risk of depression (OR=0.344, p<0.05).

The relatively low impact of the socio-demographic variables on both SDQ and WHO-5 outcomes would appear to suggest that mental health issues and subjective well-being are not determined principally by socio-demographic factors – and that the intervention need not devote undue attention to the targeting of at-risk groups within each school based on these characteristics (with the partial exception of poverty). In further work, we will aim to determine how the experience of relative poverty (measured by the SES index) and absolute deprivation (measured by the experience of hunger) jointly influence mental health outcomes.[21]

4.1.2 Perceptions of trends in the incidence/prevalence of mental health problems

The prevalence of mental disorders among youth populations in sub-Saharan Africa is estimated at 13%–20% (Atilola and Ola, 2016; Cortina et al., 2012). In Tanzania, various studies have examined the overall prevalence of mental health problems among adolescents. For example, an epidemiological study of Tanzanians aged 15–59 in Dar es Salaam found the prevalence of common mental disorders among those aged 16–24 to be 4.7% (Jenkins et al., 2010). A nationally representative survey of 700 Tanzanian secondary school students showed that 41% reported an elevated level of mental health problems in the previous six months, and 31% of parents reported observing an elevated level of mental health problems in their children (Nkuba et al., 2018).

A common theme identified by most focus group respondents (adolescents and adults) was that *mental health challenges were increasing*. When probed, most respondents could not identify since when, while others referred to the previous 5–20 years. Despite this ambiguity, some respondents identified 'signs', events or circumstances that had led to an increase in mental health challenges. Adults and youth perceived that increased youth engagement in 'illicit behaviour' (drug use, alcohol consumption) was a sign of increasing mental distress. These two behaviours, as many adolescents observed, are driven by peer pressure and peer beliefs that drugs will reduce some mental health symptoms such as depression, stress and anxiety (see also Section 6.3, on coping mechanisms, for further details).

Several adolescents participating in FGDs also highlighted an increase in mental health issues linked to poverty, lack of resources to continue studying or events related to the adolescent's life course. For example, adolescents seem to perceive an increase in their mental ill-health upon first reaching adolescence, when they start to engage in romantic relationships or have greater economic needs that are unmet, such as sanitary pads or school materials. For adolescent girls in both study sites, this is not only because of changes in a girl's body and mind, but also because of an increase in material needs – for instance, school materials, food, clothes and hygiene products, with some noting that girls sometimes engage in romantic relationships to satisfy these needs. Other respondents, adolescents and adults, highlighted that mental health issues increase when adolescents are unable to achieve higher levels of education, due to their inability to pass exams or to afford further education. However, key informants, and parents during FGDs, noted that mental health problems have also increased for those who have studied further but face a competitive job market that does not value educational qualifications. This was noted by adults who indicated that many

21 It should be noted however that the small sample sizes largely prohibit the inclusion of interaction terms in the regression models.

graduates are unemployed and unable to live independently – something they did not observe or experience in the past.

From the perspective of key informants working in the health sector, mental health issues had increased since September 2015 when the government's war on drugs began because drug prices rose, leading people to mix legal drugs (e.g. Valium) with illicit substances.[22] Other key informants in the health sector considered that mental health issues are increasing due to a lack of programmes and services to support adolescents, particularly those who take drugs, and a lack of education and awareness of mental health among adolescents and community members. These key informants also noted that mental health issues have increased because mental health has not been given the same priority by policy-makers as other health challenges such as HIV, malaria or tuberculosis. Other respondents attributed the rise in mental distress to the increased use of technology, specifically mobile phones and social media. Adolescents and adults reported that technology has a damaging impact on adolescents by increasing access to pornography and, in the case of girls, unrealistic body images and standards of beauty.

To a lesser extent, other informants (one key informant and one focus group with adolescents who belonged to a youth group) perceived that mental health challenges were decreasing, mainly due to the rise in awareness of mental health and accompanied services, although the focus group participants belonged to a FEMA club[23] in Mwanza, so were probably more aware of the services and support available for mental health. Other key informants (government officials) in both study sites observed that mental health issues were decreasing because youth are busy looking for employment or have found manual jobs (mechanics, motorcycle drivers, builders), leading to reduced drug use and theft.

4.1.3 Community perceptions and responses to mental health issues

Respondents in the qualitative component were asked about responses to mental health issues in their community. Most respondents indicated that *community members engaged with mental health negatively, even within families.* People suffering from mental health issues are often called names and are stigmatised, as one key informant in the health sector observed:

> They [people] do stigmatise them, criticise them, isolate them, they ignore them … In the past I went to visit a patient in their home, the patient told me, he/she is doing well and continues to use the medicines but also said 'my family is the one that can't help, because they call me different names like insane, stupid', and they have isolated him/her in the decision-making process, this makes it more difficult and this is the cause why he/she gets sick more often. (KII 5, Morogoro)

22 A new Drug Control and Enforcement Act was enacted in 2015, which led to the establishment of the Tanzanian Drugs Control and Enforcement Authority with the main role of curbing the supply, demand and harms associated with drug use.

23 Several after-school clubs in Tanzania, established in primary and secondary schools, focus on developing leadership skills, building confidence, and/or teaching SRH issues. The curriculum is usually developed and implemented in partnership with local NGOs. These clubs provide valuable skills and knowledge not typically covered in the school curriculum. FEMA is a school club made up of students and teachers where youths work on youth leadership, teamwork, volunteering, life skills, economic empowerment, entrepreneurship, financial literacy, citizen rights and engagement, and SRH issues, including HIV and AIDS.

Stigma leads families to 'hide' people suffering from mental ill-health. At the same time, relatives and community members tend to isolate the person:

> Communities isolate them, by gossiping and leave the affected person alone with nothing to do. Community members are saying 'look at this child, he is just sitting here doing nothing', they keep gossiping about him [and it] affects him. (FGD with adolescent boys aged 11–14 years old, Mwanza)

> In general, there is no support for someone with a mental health problem, people think he is crazy. When the problem becomes serious people isolate them... Stigmatisation is done by the community members. When someone is in that condition then comes in your house, there is nothing you can do but to chase him away. By doing so you have isolated this person. So, the burden is at individual level. (KII 11, Mwanza)

Similarly, people who have a drug addiction are also isolated and stigmatised since mental distress is associated with drug consumption by community members:

> The communities consider them [people who consume drugs in the streets] as bad people, for instance, those who smoke marijuana ... the community considers them as people who cannot be controlled in their family. (FGD with adolescent boys aged 15–19 years old, Morogoro)

> In the community we mainly concentrate on people who are using drugs... We take them to sober houses, places where they can be changed and stop using drugs. (FGD with fathers of adolescent children, Morogoro)

Indeed, there seems to be a collective perception that a person with a mental health problem has done something to deserve their situation. When the key informant above noted the reasons why a person with mental health issues is isolated, he used the expression *kila mchuma janga hula peke yake sio na wa kwao* (which means 'when you are getting into a problem get prepared to face consequences by yourself, not collectively'). Stigma and the associated isolation also apply to female victims of sexual abuse who can be blamed by the community for initiating the act.

Negative perceptions of community members towards mental health are related to beliefs around witchcraft or curses:

> Most of them [community members] believe that people with mental health problems have been bewitched. You may find that a young man is using marijuana, but people will still insist that he has been bewitched. Most people in this community, they believe in witchcraft, they believe every problem is caused by witchcraft. (KII 9, Morogoro)

> There is [an]other big part of the community that do take them [mental health patients] to the traditional healers because they believe the problem has been due to bewitching, others think it is a curse, others say it is a demonic spirit... (KII 5, Morogoro)

> What they [community members] believe is that people who suffer from mental [health] problems, most of them have been bewitched. Therefore, they start going to a traditional healer... others lock up that mental patient, if he/she is in the family who think it is shame. Stigma still exists, they lock him up at home, when they fail and reach last stage. (KII 16, Mwanza)

Due to beliefs that those with mental health problems are 'cursed', key informants noted that the community (including adolescents) do not feel confident sharing mental health problems or experiences openly. Other respondents, predominantly adolescents but also adults, considered that perceptions towards mental health depend on each person, family and community, and did not specify how mental health is responded to within their community:

> Some people in the society, they take it as normal when those children [with mental health problems] are brutally treated, but other people in the society do extend their help – for example, they look for the person who did this act and take him/her to the law enforcement. (FGD with adolescent girls aged 11–14 years, Morogoro)

By contrast, a few respondents during FGDs suggested that certain community members may engage positively with adolescents with mental health issues – for instance, through offering support, particularly out of pity to adolescents in difficult situations such as those whose basic needs are not met or who have a drug addiction. A key informant suggested that the increased availability of mental health treatment and knowledge about different mental health disorders by professionals means that sufferers are less likely to be stigmatised.

5 Protective factors for mental health and drivers of mental ill-health

This chapter first examines protective factors for mental health followed by drivers of mental ill-health, drawing on qualitative fieldwork and our survey. The survey sought to identify and quantify factors influencing the likelihood of scoring highly on our positive psychosocial well-being measure (WHO-5) or conversely being at risk of depression according to the same measure, and the likelihood of being at risk of mental ill-health according to the SDQ. Each section describes the literature in Tanzania then assesses our empirical evidence.

5.1 Protective factors for mental health

The literature has identified distinct drivers/protective factors leading to positive mental health and psychosocial well-being among adolescents in Tanzania. Having financial security and emotional support are found to protect against depression and anxiety among adolescents and young women aged 15–23 in north-west Tanzania (Kuringe et al., 2019). The school environment and school experience are also important protective factors. A study of 402 undergraduate students in Tanzania found that 1 in 10 screened positively for mental distress, but that residing off-campus and perceived availability of social support reduced this likelihood (Mboya et al., 2020). The availability of social networks outside the household emerges as another protective factor. For example, a small qualitative study of adolescents aged 15–24 in poor agrarian communities in Tanzania, Ghana and Malawi found that social networks are an important source of support, although this resource is mediated by the availability of people with the capacity to provide the specific support needed (Hall et al., 2019). This study finds similar drivers and protective factors, as well as additional aspects identified by our research participants such as perceptions of self-confidence and self-esteem, positive family dynamics, absence of poverty, ability to attend school and a positive school experience, active participation in leisure activities, positive social relationships outside the household, and having aspirations for the future.

5.1.1 Self-confidence, self-esteem and self-efficacy

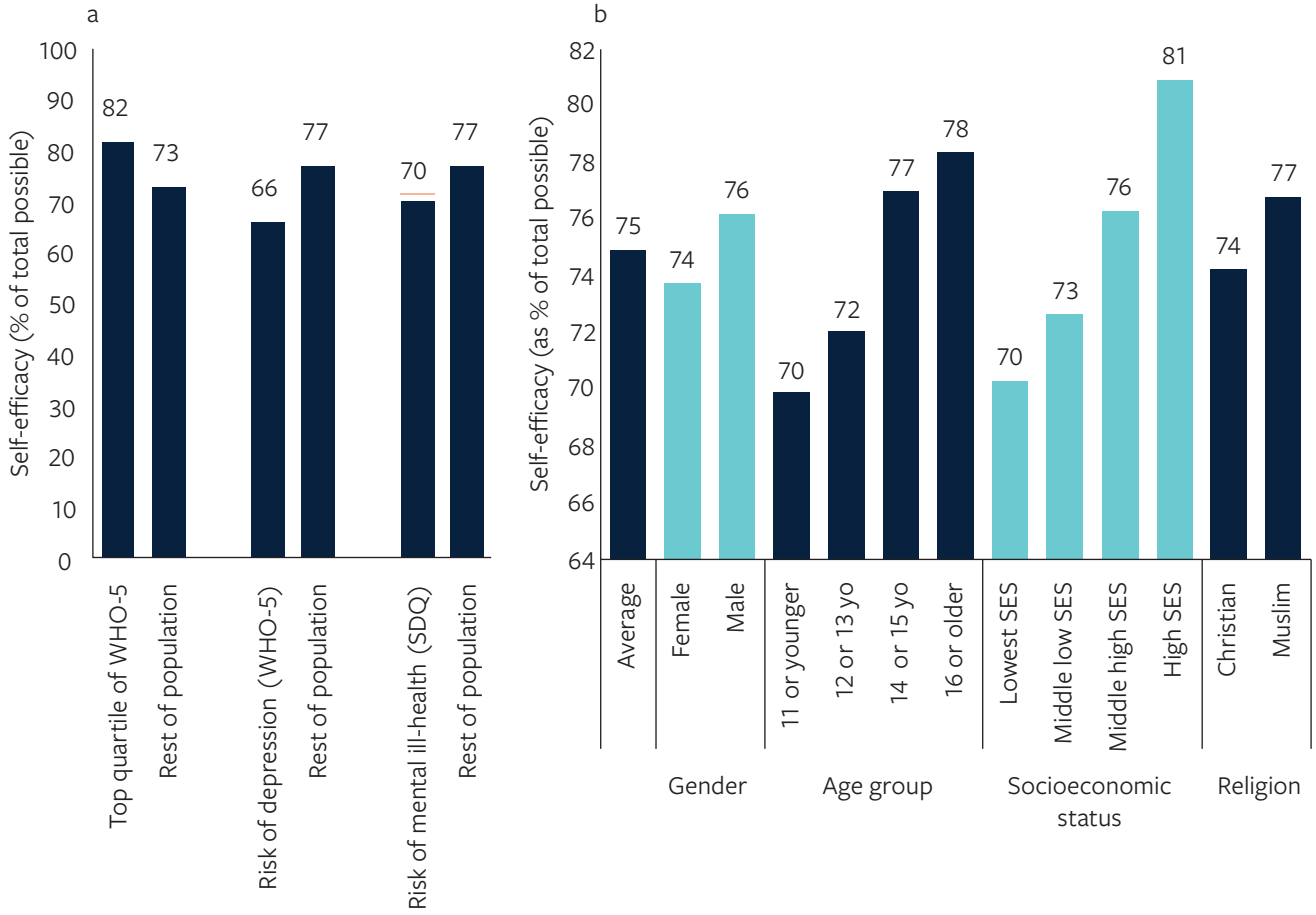
Having a positive perception of oneself was identified as an important protective factor during IDIs with adolescents. Asked about anything they liked or disliked about themselves, some adolescents reported that there was nothing they disliked and they had a generally positive self-perception. Several adolescent respondents were specific as to what they liked and valued about themselves – for example, being healthy or having a particular talent (singing, writing songs):

> Interviewer: Okay. What do you value about yourself?
>
> Respondent: My physical well-being, I feel happy that I am healthy, and I am not sick and I don't feel bad. (IDI with 18-year-old girl in secondary school, Morogoro)
>
> Interviewer: What are the things that make you happy about yourself or things that you value?

> Respondent: Maybe about the parents I have and a talent that I think I have, writing songs is what makes me happy, or I can sit down and feel I should write a song so I will take a pen, write down a song and sing. I feel very happy when I do that and go through my work later. (IDI with 17-year-old boy in secondary school, Morogoro)

Our survey data also links self-efficacy, positive psychosocial well-being and mental health: those in the top quartile of the psychosocial well-being distribution have significantly higher self-efficacy than the other respondents (risk ratio, 1.12; F=29.47, df=1, p<0.001). Those in the WHO-5 at-risk category have lower average self-efficacy (risk ratio, 1.17; F=36.30, df=1, p<0.001), as do those in the SDQ high-risk category (risk ratio, 1.11; F=24.47, df=1, p<0.001) (Figure 2a). Other characteristics also emerge as important: boys reported slightly higher self-efficacy than girls (F=3.30, df=1, p<0.1); age is positively correlated with self-efficacy (F=6.910, df=3, p<0.001), as is SES (F=12.113, df=3, p<0.001); and Muslims reported slightly higher self-efficacy than Christians (F=3.01, df=1, p<0.1) (Figure 2b).

Figure 2 Self-efficacy associations with (a) psychosocial well-being and mental health, and (b) socio-demographic characteristics



Notes: SES, socioeconomic status; yo, years old.

5.1.2 Positive family dynamics

Positive family dynamics are deemed to be a driver of positive mental health. Some adolescent interviewees attributed their well-being to *living with both parents in the same household*. However, the survey did not find any statistically significant differences in mental ill-health depending on whether one or both parents of the respondent were alive or with whom they currently live.

In the qualitative interviews, many adolescents highlighted the enjoyment they derived from spending time with family members (such as parents, extended family members and siblings):

> Interviewer: What are the things in your life that you enjoy at present?
>
> Respondent: Spending time with my mother, sharing stories, talking about school issues and telling my mother that I have passed my examinations. (IDI with 12-year-old girl in primary school, Morogoro)

Few IDI respondents indicated that they liked spending time with their father, while more indicated that they enjoyed spending time with their mother or aunties, to whom they felt closer. Stories, talking about school issues, joking, and sharing news about good performance at school were some of the topics that adolescents enjoyed sharing with their mother or aunties. For example, a 17-year-old boy in Morogoro indicated that he enjoyed spending time with his aunties because they were less strict compared to his father, and he could joke and laugh with them. Thus, being listened to and having parental or family support and understanding was considered important. Finally, feeling 'loved' and 'valued' by family members, particularly parents, was described as an important factor for adolescents that contributed to their happiness.

5.1.3 Socioeconomic status/absence of poverty

Having basic needs met (health, food, and school materials were consistently mentioned) is a key driver of positive mental health and well-being among adolescents. Indeed, our survey data confirms a positive association between the WHO-5 score and SES (for more details, see also Section 5.2 on drivers of mental ill-health). Several adolescents in the qualitative component reported feeling happy when their families were able to take care of them and provide for their basic needs, as shared by one adolescent boy during a focus group:

> I think adolescents become happy when they are listened to or when they are given things that they need. For example, when a student needs a school bag so he/she goes to tell his/her parent about that, when his/her parent agree to give him/her what he/she needs, that will make him/her feel happy. (FGD with adolescent boys and girls aged 15–19 years old, Morogoro)

Similarly, parents of adolescents suggested that their children are happy and perform well at school when their basic needs are fulfilled:

> ...They [adolescents] will be happy and perform well at school if they get all their important needs like exercise books and their social needs. (FGD with fathers of adolescents, Mwanza)

> For an adolescent to be happy he/she must be healthy, secondly he/she should be treated well by his/her parents and thirdly he/she should get all his/her daily basic needs. (FGD with fathers of adolescent children, Morogoro)

Thus, a key feature of the Tanzanian context is that positive mental health and well-being among adolescents is driven by not only intrinsic or subjective well-being domains such as happiness, contentment or comfort (Jones, 2011), but also extrinsic aspects relating to welfare such as having basic facilities, food or amenities that ensure a comfortable existence and a conducive atmosphere for learning. Our evidence shows that these two dimensions are deeply interrelated, and that external welfare has a huge effect on positive mental health and well-being for adolescents. This finding is similar to that of Seidu et al. (2019), who found that Tanzanian adolescents (enrolled in primary and secondary school) showing mental health distress (e.g. those engaged in fighting, those who were attacked and those who felt lonely) also experienced hunger and were more likely to abandon school.

5.1.4 Ability to attend school and positive school experiences

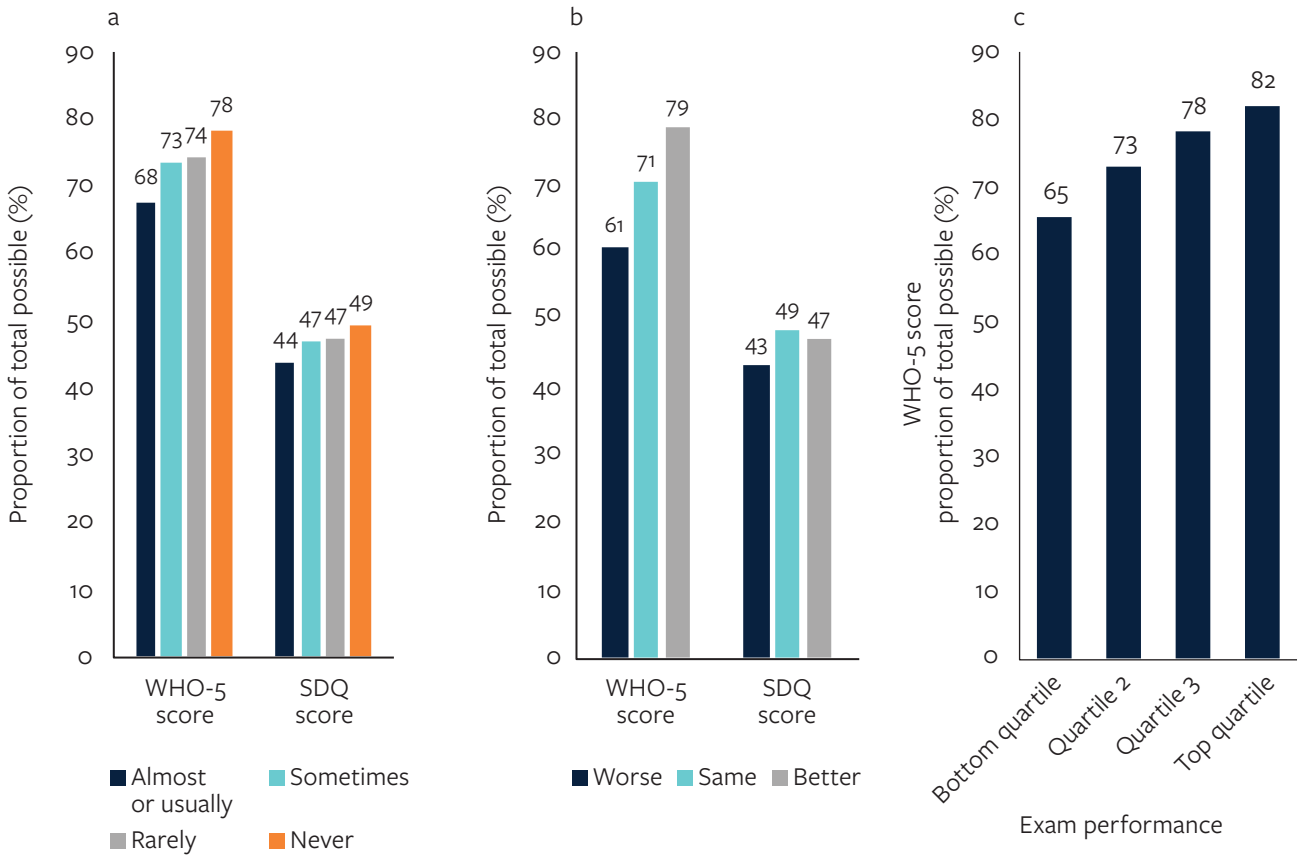
In Tanzania, young people are expected to study hard and excel in education to develop their country (Oak Foundation, 2019). Boys and girls, in both IDIs and FGDs, highly valued *the ability to attend school and to experience a positive schooling environment*:

> The first thing which I value is to study, I am happy with the education I am getting, and my parents who send me to school. That's the happiness I have. (IDI with 15-year-old girl in secondary school, Morogoro)

Education was important to adolescents as 'the key to life' and was considered a tool that would allow them to have a better future and to support their parents, although this view was mainly shared by adolescent boys. Similarly, when asked 'what makes adolescents happy?', some parents and other family members answered 'their studies', recognising the role of education in adolescents' well-being. This shows that both adolescents and their parents have educational aspirations for their children and that education is perceived as a route for achieving social mobility and a better life, as observed in other contexts (see also Dercon and Singh (2011) in Ethiopia; Posti-Ahokas and Palojoki (2014) in Tanzania, for adolescent girls). A large proportion of adolescent boys and girls indicated that they did not face any problems at school, even in cases where they had been physically punished by teachers. The ability to participate in school activities that are perceived as helpful to the school environment also led to feelings of happiness. For example, one 14-year-old girl in Mwanza indicated that her involvement in a school-run anti-corruption youth group (initiated to report teachers who asked students for money) made her feel happy, as she felt valued and considered it an opportunity to stop teachers who treat students unfairly.

Higher psychosocial well-being was associated with more frequently completing homework (F=2.58, df=3, p<0.1), as was better performance on the SDQ (F=4.11, df=3, p<0.01) (Figure 3a). When survey respondents compared themselves as performing worse academically than others in their class, they exhibited lower psychosocial well-being (F=18.87, df=2, p<0.001), whereas SDQ scores were best for students perceiving their performance as 'the same' as their peers (F=6.07, df=2, p<0.05) (Figure 3b). When grouping students into quartiles based on their exam performance, better performance was positively associated with well-being (F=13.34, df=3, p<0.001) (Figure 3c) but was not correlated with the SDQ score.

Figure 3 Mental health outcomes and school performance by (a) share going to class without homework, (b) subjective academic performance and (c) exam marks



Notes: PWB, psychosocial well-being.

5.1.5 Active participation in leisure activities

Another important driver of positive mental health and well-being was *the value of having time to play* (or *cheza*, the most common word for 'play' in Tanzania), as reported by a good number of participants in the qualitative interviews and FGDs. A majority of girls mentioned enjoying playing rede,[24] while boys enjoy playing sports, particularly football. Playing traditional games is an important activity for most children due to the lack of sports equipment in many primary schools (Clements et al., 2008). The literature shows that Tanzania's traditional outdoor games (e.g. animal games, hunting games, rede) play a major role in enhancing children's physical and mental health as these encourage the use of their imagination, problem-solving skills and feelings of joy, thereby contributing to their overall well-being (ibid.; Makwinya and Straton, 2014). Playing with a partner or group contributes to the socialisation of children as they can learn soft skills such as the importance of being a friend (*rafiki*) and not being a bully (*mnyanyasaji*), being kind (*mwema*) to smaller children, and how to forgive those who discriminate against them (*kubagua*) (Clements et al., 2008.).

24 Rede is a famous East African game originally from Tanzania, played during childhood. It involves two players who each try to hit the other with a small ball made of a sock, while trying to avoid being hit themselves.

Similarly, Makwinya and Straton (2014) observed that relatedness (significant interpersonal relationships) and school attendance among primary school students improve when students are given chances to play context-specific games and sports (e.g. football, netball, volleyball, basketball). They also found that students prefer to participate in games and sports that are familiar to them, and those demanding less competition, because what matters most is their enjoyment rather than how often they win (ibid.). As Tanzanian children grow older, there is a shift from single partner towards group play, giving value to friends who are successful in physical games, thereby increasing their own prestige (Clements et al., 2008).

In addition to playing, adolescents highlighted the value of *spending time on other leisure activities* such as watching television (TV), singing and reading. However, spending time playing games and doing other leisure activities clashed with parents' perceptions of what adolescents should do with their free time, as they considered that their children should balance their time on leisure activities with their studies and household chores. Some parents were concerned with the activities their children did during their free time after school, while parents are away working. They perceived excessive TV that showed negative role models (e.g. singers, artists) as a threat that could lead adolescents to moral misconduct. Thus, homework and household chores were deemed a good strategy to keep adolescents busy, rather than engaging in leisure activities that caregivers perceived as negative or unnecessary. However, several adolescents also suggested that their caregivers actively encouraged them to pursue leisure activities when these were perceived as positive and did not interfere with their school responsibilities.

5.1.6 Social relationships outside the household

Students in our survey felt they could rely on one or two people – and indeed, more than half of the sample (53.4%) could rely on two people or fewer. The number of social support relationships was significantly associated with being a boy (X^2=9.35, df=3, p<0.05), attending secondary school (F=4.47, df=1, p<0.05) and higher SES (F=8.48, df=3, p<0.001) (Figure 4). The number of people that respondents reported being able to rely on was positively associated with their psychosocial well-being, as measured by the WHO-5 (F=3.66, df=3, p<0.05) (Figure 5). Conversely, respondents with no connections were more likely to be at risk of mental health issues: 40%, compared with 22% of those with at least one supportive relationship (X^2=3.3206, df=1, p<0.1). However, the number of supportive persons a respondent reported having (where they had at least one) did not predict their SDQ score.[25]

25 We asked also about female and male support outside the respondents' households. The results are consistent and indicate no difference in well-being relating to whether the person has male or female support, or support within or beyond the household.

Figure 4 Ratio of social supports by gender, socioeconomic status and school level

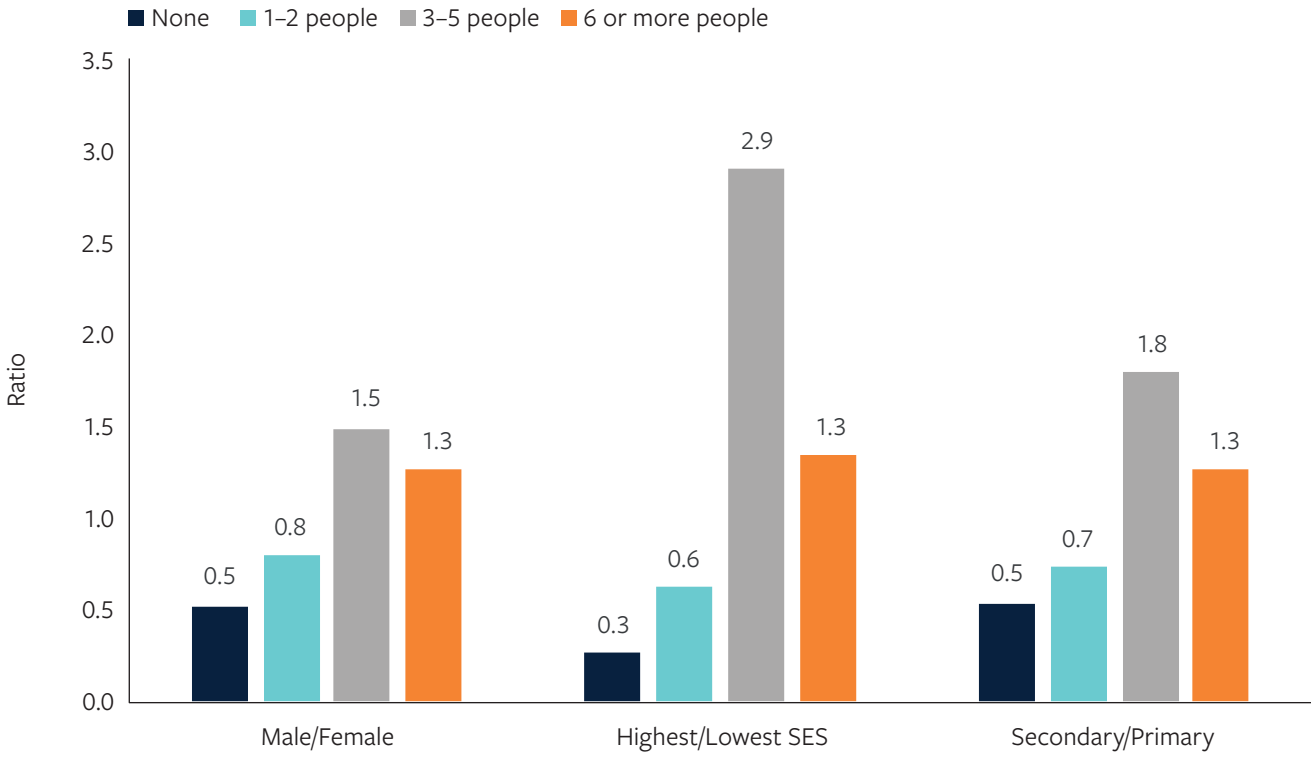
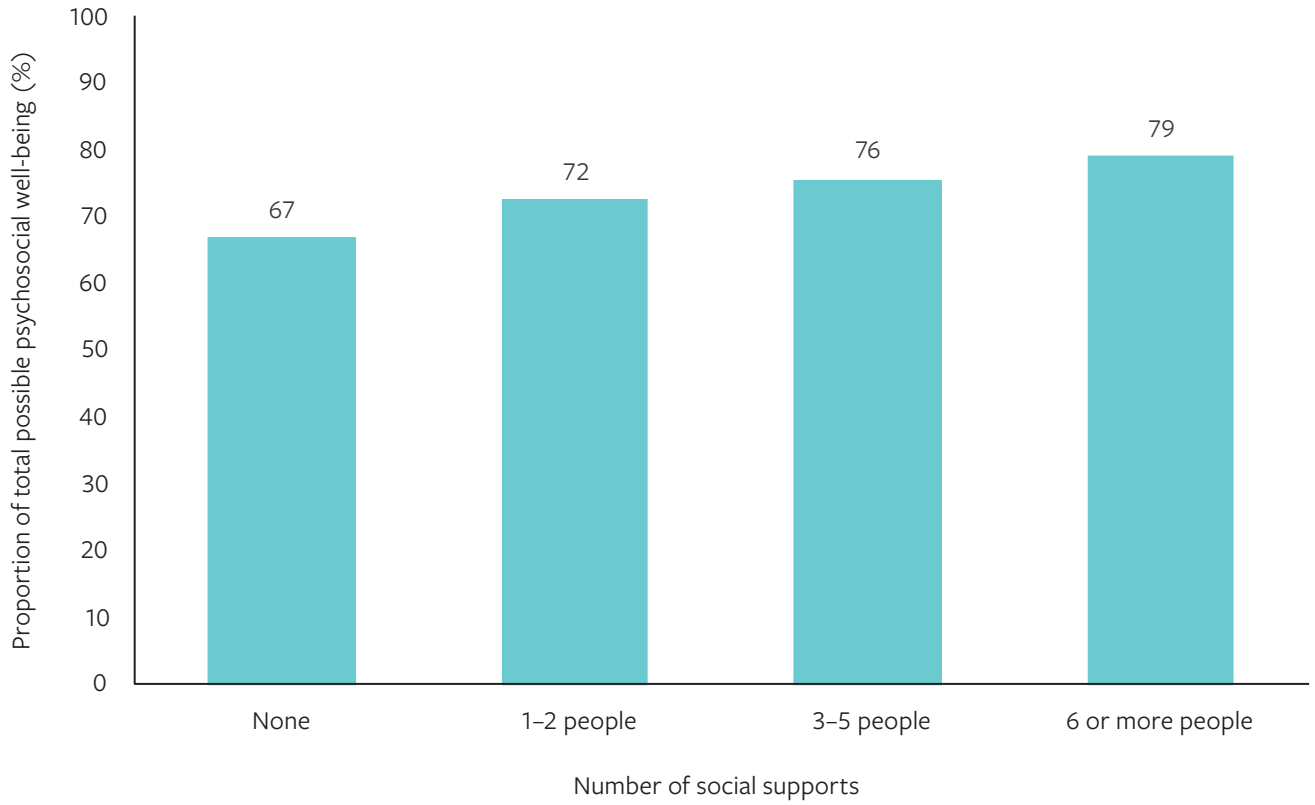


Figure 5 WHO-5 score and social supports



It could be that the quality rather than quantity of relationships matters. In the qualitative data collection, almost all adolescents highlighted *the value of having friendships*, with the majority indicating that they had a close or special friend. These friends were at school, close to their home, or a mix of school and home friends. Time with friends included activities such as studying together, 'playing', practising sports (particularly football), talking with each other and doing chores together. This is an important determinant of positive mental health and well-being, as indicated by one adolescent boy who commented that '*being with my friends and playing together makes me happy*'. As other studies have found, social networks are an important source of coping support for adolescents (Hall et al., 2019). However, as we go on to show (Sub-section 5.2.11 on the role of gender norms), girls have less time to play with friends than boys have, especially when they get older and their parents assign them more household chores. Similarly, a few girls in our sample observed that they had lost valuable friendships due to misunderstandings (e.g. gossip, interfering on personal matters). Lack of time to spend with friends and the loss of friendships may have reduced their opportunity to build stronger and closer relationships, compared with boys.

Similarly, *positive role models* were linked with mental health and psychosocial well-being. In our survey, 85% of respondents reported having a role model. Having social supports is strongly associated with having a role model (X^2=16.0783, df=3, p=0.001): 63% of those with no social supports had a role model compared with 92% of those with six or more supports. Boys were more likely to have a role model than girls, as were those in the highest socioeconomic quartile compared with the rest of the population, although the differences were not statistically significant in either case. Christians were more likely than Muslims to have a positive role model (relative risk, 1.09; X^2=3.0414, df=1, p<0.1). The age of the respondent did not predict the likelihood of having a role model.

Having a role model was positively associated with psychosocial well-being: the average WHO-5 score for those without a role model was 70% of the total possible compared with 75% for those with a role model or not (relative risk, 1.08; F=4.35, df=1, p<0.05).[26] The associations with the SDQ score were not statistically significant; however, having a role model did predict being in the SDQ high-risk category: 33% of those without a role model were in this group compared with 22% of those with a role model (relative risk, 1.48; X^2=3.151, df=1, p<0.1). The most common role models cited by adolescent survey respondents were their mother (18%), father (13%) and 'someone famous' (15%).

In the qualitative work, the role models most frequently mentioned by adolescents included professionals they knew within their community, such as teachers or government employees. Some teachers are admired because they transmit knowledge and are committed to their students, while government professionals are perceived as examples of self-improvement, especially where they had overcome poverty. Family members were also frequently cited as role models, either for character traits (e.g. kindness, patience, resilience, persistence) or because of their profession. Some adolescents mentioned friends as role models, either due to their higher standard of living, perceptions of these friends doing well at school, or for their ability to speak out and be heard by their family:

26 Associations between being in the WHO-5 top quartile and 'at risk' WHO-5 groups and having a role model were not statistically significant.

> She is my friend, and I admire her because of her life ... first of all, her parents listen to her, and she is doing what she wants to do. Also, when she shares her feelings to her parents, they provide and implement it. (IDI with 17-year-old girl in secondary school, Morogoro)

> Interviewer: Why do you wish to be like her?
>
> Respondent: Because she gets all her basic needs like exercise books, or if she needs money to buy food at school, she gets it, if there is any contribution needed from school, she gives it. But there is only one thing, which I don't like to be like her because she doesn't work hard in the class. (IDI with 14-year-old girl in primary school, Morogoro)

Although some adolescents in the qualitative component shared feelings of admiration and respect for their friends, it seems that this admiration was rooted in aspects they felt themselves to be lacking in (e.g. basic needs, being heard by their parents, excelling at school), which could trigger feelings of deprivation. Finally, some adolescents indicated admiring a celebrity such as a football player or a singer. However, not all adolescents mentioned having a role model, and some parents were unsure whether their children had a role model.

5.1.7 Aspirations for the future

A final driver of mental health and psychosocial well-being that emerged in the qualitative research was the importance of future aspirations – most commonly to stay in education (including going to university) and getting a job. Several adolescents reported barriers to achieving these aspirations, including financial issues or the need to pass exams. However, most felt confident that their aspirations could be fulfilled, notably by studying hard, with several respondents suggesting that they could ask relatives for money if needed. They also perceived support from parents, other relatives and from teachers as important to achieving their aspirations.

When asked about gender differences in the qualitative component, most respondents perceived equal opportunities or similar barriers, although they could not elaborate upon why. Others (boys and girls) indicated that girls face more challenges and fewer opportunities than boys because of domestic responsibilities, while boys have more employment opportunities, even if in manual labour such as construction workers or *boda* (motorcycle taxi) drivers.

> Interviewer: Why do you think the opportunities between girls and boys are not equal?
>
> Respondent: Because girls are dealing with home chores and boys are earning a living. (IDI with 12-year-old boy in primary school, Morogoro)

> Even when a boy fails school there are many jobs for him like being a driver, being a boda driver, but when a girl fails school, she will just be a housewife, she will suffer, she will just end up doing manual works. (IDI with 16-year-old girl in secondary school, Mwanza)

Other respondents (boys and girls, but especially boys) considered that girls have more opportunities, mainly because society gives girls more support or because boys are more vulnerable to challenges such as drug abuse:

> You may find that girls are given priority [over] boys … For example, when you go somewhere to seek for help and when you reach there you find that there is a girl who needs help too so the person in charge will give priority to a girl and you will be left behind. (IDI with 17-year-old boy in secondary school, Morogoro)

> It is different for boys because they can get a girl pregnant and end up in jail. Apart from that boys can also engage themselves in drug abuse like smoking marijuana, drinking alcohol. (IDI with 19-year-old girl in secondary school, Morogoro)

5.2 Drivers of mental ill-health or reduced psychosocial well-being

The mental health and well-being literature on Tanzania has identified important drivers of mental ill-health among adolescents, namely poverty, deprivation and lack of access to basic services. Nyundo et al. (2020) found that depressive symptoms and suicidal ideation/behaviours were associated (particularly among older adolescents and girls) with low SES, food insecurity and poor access to healthcare. Similarly, a history of childhood deprivation and rural residence are significantly associated with depressive symptoms (Lwidiko et al., 2018). In the study by Hall et al. (2019), adolescents aged 15–24 in poor agrarian communities in Tanzania, Ghana and Malawi indicated that sources of stress included difficulties in generating income, an inability to meet basic needs, and factors that could exacerbate poverty such as drought. An unstable family situation is another driver of mental ill-health in Tanzania. For example, Mbelwa (2017) found that adolescents whose parents had divorced or died or who were living in single-parented households were more likely to suffer from depression and brief psychotic episodes. Being orphaned (living at home rather than in an institution) was also identified as a factor leading to mental health-related issues, as identified by orphans and their caregivers in the study by Dorsey et al. (2015).

Exposure to different kinds of violence is another factor associated with mental ill-health. For example, Hecker et al.'s (2016) study of 409 children and adolescents aged 6–15 in southern Tanzania identified a strong relationship between harsh discipline and adolescents' internalisation of problems, which were in turn related to lower working memory capacity. Nkuba et al. (2018) observed a significant association between physical violence by parents and adolescents' mental health problems, as reported by students and their parents. Adolescents who are exposed to violence, whether emotional or physical, tend to have lower self-esteem, which can predispose them to depression and suicidal behaviour, as observed in a survey of Tanzanian adolescents aged 10–19 (Nyundo et al., 2020). Suffering from bullying and psychological maltreatment is also an important driver of poor self-esteem and depression (Mwakanyamale and Yizhen, 2019; Nyundo et al., 2020; Pengpid and Peltzer, 2020), although bullying is observed to be more common among younger male adolescents (Berhane et al., 2020). Finally, lack of opportunities to continue studying is another important factor that affects mental health. For example, in north-west Tanzania, Kuringe et al.'s (2019) study of 3,013 adolescent girls and young women aged 15–23 found that out-of-school girls are at higher risk of depressive and anxiety disorders compared with their in-school peers. One-third of respondents (33%) had mild symptoms, 20% moderate symptoms, and 6% severe symptoms of anxiety and depression (ibid.).

Our empirical data echoes some of the above findings but also identified other risk factors that lead to mental ill-health and poor psychosocial well-being among our adolescent participants. These include experiencing lack of self-worth, inability to spend time on leisure activities, poor social relationships outside the household, unhealthy family dynamics, conflict, maltreatment or violence within the family, poverty and the inability to meet basic needs, negative school experiences, lack of guidance to achieve life aspirations, stigma, relationships and early sexual encounters, and discriminatory gender norms and expectations.

5.2.1 Experiencing lack of self-worth

At the individual level, one important factor leading to mental ill-health is *having a negative perception of oneself*. For example, several adolescent girls during IDIs suggested that they dislike feeling angry or being easily upset, although they did not describe what triggered their anger. Other adolescents suggested that they dislike aspects of their personality such as being selfish or forgetful. While many adolescents reported that they could not participate in household decision-making, a few girls in mid-adolescence explicitly cited that *not being heard, not being able to contribute to decisions, or feeling ignored* causes them distress or sadness.

5.2.2 Inability to spend time on leisure activities

Several adolescent boys and girls in the qualitative sample reported different barriers to their ability to spend time on leisure activities. One is spending excessive time on homework or household chores before and after school. Some indicated that household chores even left them with insufficient time for schoolwork. *Not having enough time to spend on activities of their choice or to rest was perceived as an important stressor*, as one adolescent girl observed:

> If you keep on doing the same thing without getting a time to rest or to entertain yourself, it affects your mind … because you are not supposed to work too much without resting, or read too much without playing. (IDI with 11-year-old girl in primary school, Morogoro)

Lack of money was perceived as another barrier to leisure activities, including not being able to afford toys or sports equipment or fees to join school clubs. Other adolescents mentioned lacking items such as TVs, smartphones or video games – items that they considered of value for their leisure time. A father of an adolescent living in Morogoro shared that most houses in the area do not have electricity, which poses a challenge for adolescents who want to watch TV or listen to the radio. On one occasion, an adolescent boy reported having a chronic / permanent debilitating illness that affected his mental health as it prevented him from participating in activities that he previously enjoyed, such as sports.

Another key barrier to leisure activities is parental disapproval. This was driven by distrust between parents and adolescents due to parental concerns that adolescents may get involved in harmful activities such as drug use or other distractions from their studies. For example, one adolescent boy was not allowed to play football after school because his father was concerned that he would consume drugs with his friends. Another adolescent boy was prevented by his father from joining the scouts because he perceived it as unnecessary.

Parental disapproval of leisure activities has a gender dimension, with respondents citing inadequate protection and security concerns as a key barrier for girls to spend time in public spaces and do activities of their choice.

> Some parents or community members don't agree. For example, I like doing exercise but you may ask your parent for permission to go for exercise, but she refuses because she/he think that you are going to do bad things, so he/she will prefer you to stay at home. (FGD with adolescent girls aged 15–19 years old, Morogoro)

Similarly, one mother indicated that, after school, her daughters stay indoors helping with household chores and are only allowed to go out later in the day to fetch water when there are fewer people around. These attitudes may be driven by community disapproval, since adolescents observed that when girls are seen outside, people question them and talk disparagingly about them (see also Sub-section 5.2.11, on the role of gender norms and expectations).

Some parents disapprove of friendships they consider to be a bad influence, causing adolescents distress or anger. Older adolescents observed that parental disapproval of leisure activities caused them stress and negative feelings of being unloved, particularly when they see other friends who are able to participate in leisure activities. Some adolescents felt that they had no other option than to engage in these activities (e.g. sports, singing) and to see friends who were considered a bad influence in secret, to avoid disputes with their parents. A few parents indicated that they supported their children participating in sports activities when these were organised by the school. However, they shared concerns that sports and other activities (e.g. traditional dances, singing) have become de-emphasised or removed from school programming. They believe that reinstating these activities at school would be good for children's mental health.

5.2.3 Poor social relationships outside the household

Lack of social networks (friends) causes solitude and sadness. Several adolescents in the qualitative sample, especially older ones, did not have any close friends they could turn to for advice or support, or could trust or receive help from in times of need. Although adolescents reported having friends, these were not perceived as strong relationships that could translate into a support network. Some relatives of adolescents indicated that they were unsure if the adolescent had close friends. Few adolescents discussed whether they perceived the lack of close friends to be an issue, although female adolescents explicitly reported feeling sad that they did not have a friend who could give them advice. Disputes or disagreements among adolescent girls were indicated as reasons for friendships ending, causing feelings of being 'hurt' or 'isolated'.

5.2.4 Unhealthy family structure and intrahousehold dynamics

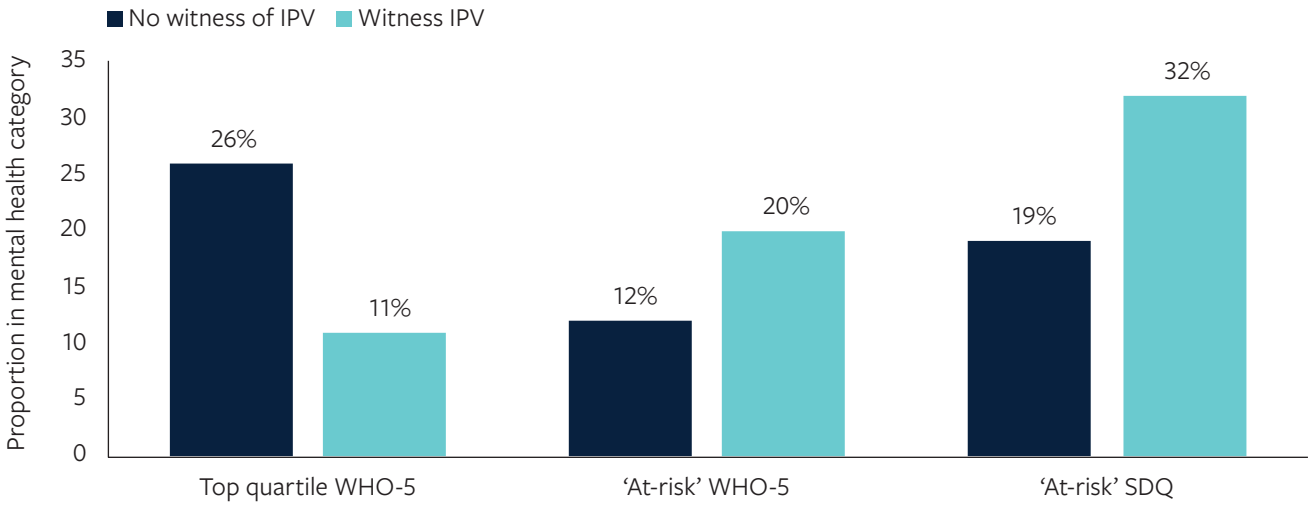
Unhealthy or unstable family dynamics were another risk factor identified by participants in the qualitative sample. Respondents across all categories (adolescents, parents/caregivers and key informants) were unanimous that unhappy/unstable family dynamics were a major stress factor in adolescents' lives. Family conflict (such as frequent fights between parents, at times leading to violence) or unhappy home environments

were identified as being a source of adolescent mental ill-health, causing depression or feelings of sadness and/or fear. Fathers having more than one wife was perceived as another driver of conflict, leading some adolescents to worry about future problems such as inheritance disagreements between children from different wives.

Our survey measured a particular aspect of unstable family dynamics – whether in the previous year, respondents had witnessed their mother being hit or beaten by either their father/male guardian or another relative. One-quarter of adolescents reported having witnessed their father commit an act of violence against their mother at least once, while 23% had witnessed another relative hit or beat their mother. About one-third (32%) had witnessed either type of violence in the previous year. There were strong correlations between witnessing violence and not being in the top WHO-5 quartile (relative risk, 0.42; X^2=11.80, df=1, p=0.001), being at risk of depression according to the WHO-5 (relative risk, 1.64; X^2=4.29, df=1, p<0.05) and being in the SDQ high-risk category (relative risk, 1.67; X^2=7.86, df=1, p=0.005) (Figure 6).

Not living with one or both parents was another source of distress reported in the qualitative work (although the survey found no observable difference in psychosocial well-being or risk of mental ill-health related to whether a respondent lived with both parents or in another household configuration). Several adolescents reported living with a single parent or with other family member(s) such as a grandmother, an aunt or an uncle. This may be due to parents having separated, the death of one or both parents (more commonly one), or labour migration. The death of a parent is a key source of depression or unhappiness, as identified by adolescents who are themselves in this situation. Similarly, key informants working as educators noted that students who are raised by a guardian or by a single parent are not given enough attention or discipline, leading to poor school performance or engagement in negative coping behaviours such as early sexual debut or drug abuse. Adolescents also noted cases of their peers living with biologically unrelated guardians (including step-parents), which may pose additional risk of guardian favouritism between biological and non-biological children or lack of love and attention to adolescents:

Figure 6 Witnessing violence against mother and correlation with mental health indicators



Notes: IPV, intimate partner violence (i.e. youth witnesses father committing violence against mother)

> For what I see, it is like that woman [father's wife] doesn't love us. (IDI with 16-year-old girl in secondary school, Mwanza)

> Interviewer: ... so who do you live with now?
>
> Respondent: I am living with my uncle.
>
> Interviewer: But he can't provide you with your needs?
>
> Respondent: He can't.
>
> Interviewer: Is it because he doesn't have enough income or is there another reason?
>
> Respondent: It is like his wife doesn't want me to be there, she does things as she wishes, and when I tell my uncle, he doesn't do anything. (IDI with 19-year-old boy in secondary school, Mwanza)

Adolescents living with one parent or neither of their parents shared feelings of abandonment and unmet need for parental love, as noted by adolescent girls who were often affected by the absence of their mother:

> She [mother of participant] doesn't even call me to see how I am doing or if I am sick. It is me who calls her when I am sick or when I have any problem, but that other girl [friend of participant], her mother calls her every day to ask how she is doing and when she gets sick her mother comes to take care of her, something which my mother doesn't do. (IDI with 16-year-old girl in secondary school, Mwanza)

> When she [mother] was still living with us, she was giving different advice, she was giving me direction, something that my father doesn't do. (IDI with 16-year-old girl in secondary school, Mwanza)

> They [both parents] can stay quiet for so long, without sending money for my exercise books, they don't ask me about anything to do with school, and they don't ask if I went to school today. (IDI with 18-year-old girl in secondary school, Morogoro)

Some of these adolescents also highlighted feeling judged by teachers for not living with their parents, adding to their feelings of sadness.

Unstable family dynamics can also be driven by the *illness of a family member* (e.g. parent, sibling), causing further distress to adolescents. Oftentimes, the stress is exacerbated by the family's inability to afford proper treatment or because the adolescent becomes a caregiver. Illness (especially of the family 'breadwinner') can also exacerbate poverty at home, while adolescent fears that the family member may die are a source of further mental anguish.

5.2.5 Conflict, maltreatment, or violence within the family

Household tensions, arising from a number of sources, can drive psychological ill-being among adolescents. Lack of communication between parents and adolescents and *lack of parental care* – often because of unstable family structures and/or pressures on parents in a competitive labour market – lead to feelings of neglect. Participants in the qualitative research noted that even if adolescents live with both parents, the parents are

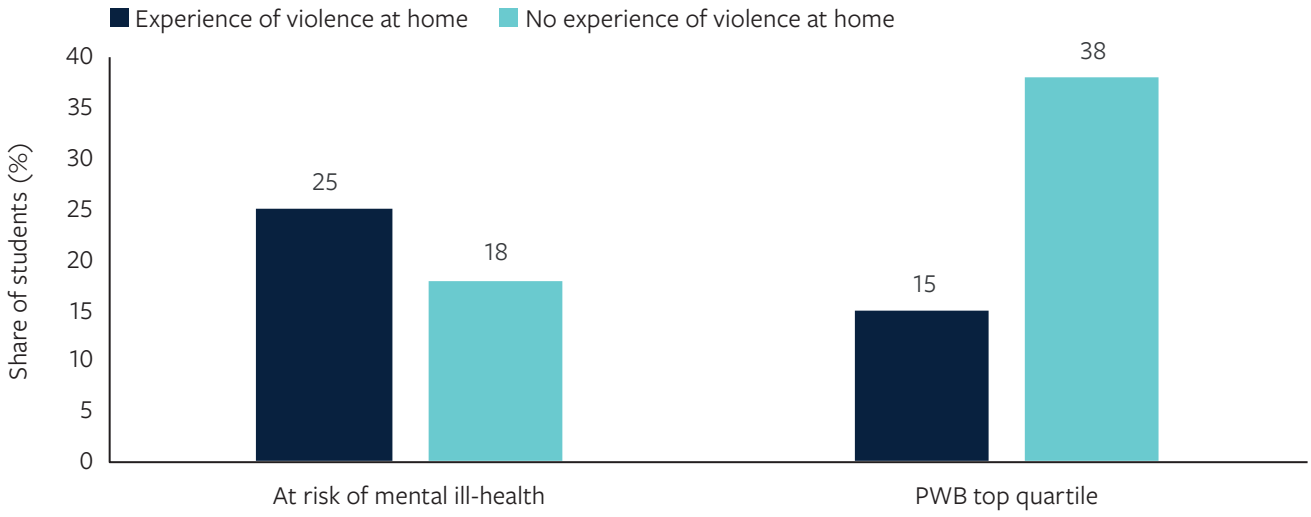
often too busy with work (leaving very early and returning home very late), which means they are not able to give adequate time and attention to their children:

> Most of us as parents we do not care about our children, if they have gone to school or not, or when they come home late, we don't even question why they come home late and we don't even follow up to their teachers and look for their progress. Sometimes they can pretend to go to school but end up elsewhere, or sometimes they can dress [in] school uniforms but change to other clothes on the roads, since they are aware that you don't care that much, they can only continue with this habit. (FGD with fathers of adolescents, Mwanza)

Lack of attention can lead to negative behaviours, as noted by the quote above, but can also make adolescents feel unloved, unsupported or neglected. Key informants noted that poor parenting is exacerbated for adolescents living with one parent, as that parent generally does not have enough time to spend with their child (or children) or to give them the attention they need.

Violence and abuse suffered at home is another cause of mental ill-health observed in both the qualitative and quantitative samples. In the survey, about one-quarter (26%) of respondents reported having experienced either physical or emotional violence, or other maltreatment (e.g. being denied food) at home within the past year. Girls were more likely to experience violence than boys, Muslims were more likely to experience violence than Christians, primary school children more likely than secondary school attendees, and those living with a father only were more likely to experience violence compared with those in other living arrangements – but none of these differences were statistically significant. The experience of violence is strongly negatively correlated with the WHO-5 (relative risk, 1.13; F=19.28, df=1, p<0.001) and with a higher SDQ score (relative risk, 1.06; F=9.52, df=1, p<0.05). Similarly, experience of violence is associated positively with being in the WHO-5 at-risk category (relative risk, 1.91; X^2= 3.844, df=1, p=0.05) and negatively with being in the top quartile of the WHO-5 (relative risk, 2.50; X^2=23.492, df=1, p<0.001) (Figure 7).

Figure 7 Adolescent experiences of violence at home and correlation with mental health indicators



Notes: PWB, psychosocial well-being.

Asked how they were usually disciplined, just under half (48%) of respondents indicated that their parents talked with them, 18% that they were shouted at, 25% that they were spanked, and 10% another form of disciplining (ranging from being pinched to thrown out of the home). Those who indicated being spanked or experiencing 'another form' of discipline were at higher risk of mental ill-health than their peers.

In the qualitative work too, many adolescents (boys and girls of all ages) shared a fear of being scolded, punished or suffering from physical abuse by strict parents or guardians for reasons such as being disobedient or not doing their household chores properly, particularly in the case of girls. Punishment also arises from poor performance at school. Several adolescents who expressed this view came from families in which corporal punishment was common, and the fear of punishment caused them mental distress. At times, disputes between parents also led to physical violence towards adolescents such as throwing objects or beating them, even if they were not the cause of the dispute.

Experiencing corporal punishment can make adolescents feel sad or hurt, especially when they perceive they are being wronged or unjustly punished. Several respondents made clear that the use of corporal punishment had caused them not only mental distress but also severe physical injuries:

> My father caned me [with an iron belt] and broke my head. (IDI with 12-year-old boy in primary school, Mwanza)

> She [my aunt] locked me inside, she went to take a stick and came back ... So, she was hurting me, and most of the time I bleed when someone hits me on the head, so I was losing a lot of blood ... I bled from my nose because she beat me with a stick on the head. (IDI with 15-year-old girl in secondary school, Mwanza)

Another factor that exacerbates the risk of violence is *having a parent that abuses alcohol or drugs* (often the father), leading to adolescents feeling 'stressed', 'sorrowed' and/or 'unvalued', as one adolescent explained:

> ... my father drinks alcohol ... when he leaves for work, he comes back home drunk, he doesn't value us. He might say 'I am going to kill you' ... I am living with my stepmother, we live [as if] she was my real mother, we get out from the house and find a place to sleep, we get away... (IDI with 15-year-old girl in secondary school, Morogoro)

In some cases, the influence of alcohol led parents to use corporal punishment. Living with a parent with alcohol addiction can be so destabilising and stressful that it can cause adolescents to run away from home – something that was reported both by mothers whose children had left home, and by adolescents who had temporarily left home to escape these situations:

> He [uncle] came home drunk ... he started talking badly about me, something which I didn't like, then he started beating me. I told him 'I didn't do anything wrong for you to beat me, you left without leaving any money, you didn't even leave money to buy food'. After that he said that I insulted him ... he started to chase me, so that he could beat me again, so I jumped the fence and left ... I didn't want

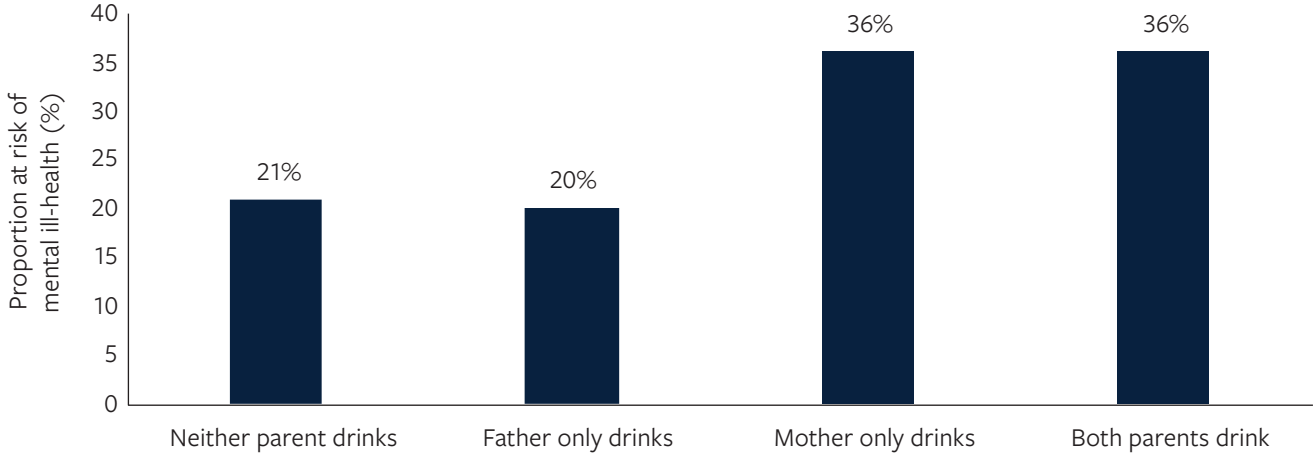
> to cause any problems, so I decided to go to live at my friend's house until today. (IDI with 17-year-old girl in secondary school, Mwanza)

In a few situations, adolescents were chased away from home. Although they did not elaborate on the reasons why, they clearly felt lonely, unaccompanied and unable to deal with these kinds of situation.

Some 22% of respondents reported that their father drinks alcohol, and 15% that their mother drinks alcohol; 12% of respondents reported that both their parents drink, 13% that one parent drinks, and 75% that neither parent drinks. Male respondents were more likely to report having a parent who drinks alcohol (relative risk, 1.55; X^2=6.071, df=1, p<0.05), as were primary school students (relative risk, 1.41; X^2=3.764, df=1, p<0.1), although this could reflect gender and age differences in willingness to report on sensitive behaviours. Neither religion nor household composition affected reports of a father or mother drinking alcohol. Having a father who drinks alcohol was not related to an increased risk of mental health issues among respondents, but having a mother who drinks alcohol was associated with a lower SDQ score (relative risk, 1.07; F=10.18, df=1, p<0.05) and an increased likelihood of being in the SDQ at-risk category (relative risk, 1.73; X^2=6.481, df=1, p<0.05). However, adolescents who reported having a mother that drinks alcohol and those who reported that both their parents drink were equally likely to be at risk of mental ill-health (i.e. the SDQ high-risk category), suggesting that a mother's alcohol consumption is the important predictor (Figure 8). It could be that alcohol consumption of fathers is more normalised. There were no significant associations between parental alcohol consumption and the WHO-5 score, nor with being in the WHO-5 at-risk category.

Another kind of violence affecting adolescents (particularly girls) is sexual violence, as observed in the qualitative component. Only a few respondents (adolescents and key informants) mentioned sexual violence (including rape), reporting that this is usually perpetrated by step-parents, neighbours, friends close to one of the parents/caregivers who took advantage of parental absence, or teachers (see below), causing adolescents considerable distress.

Figure 8 Respondents' reports of parental alcohol consumption and risk of mental ill-health

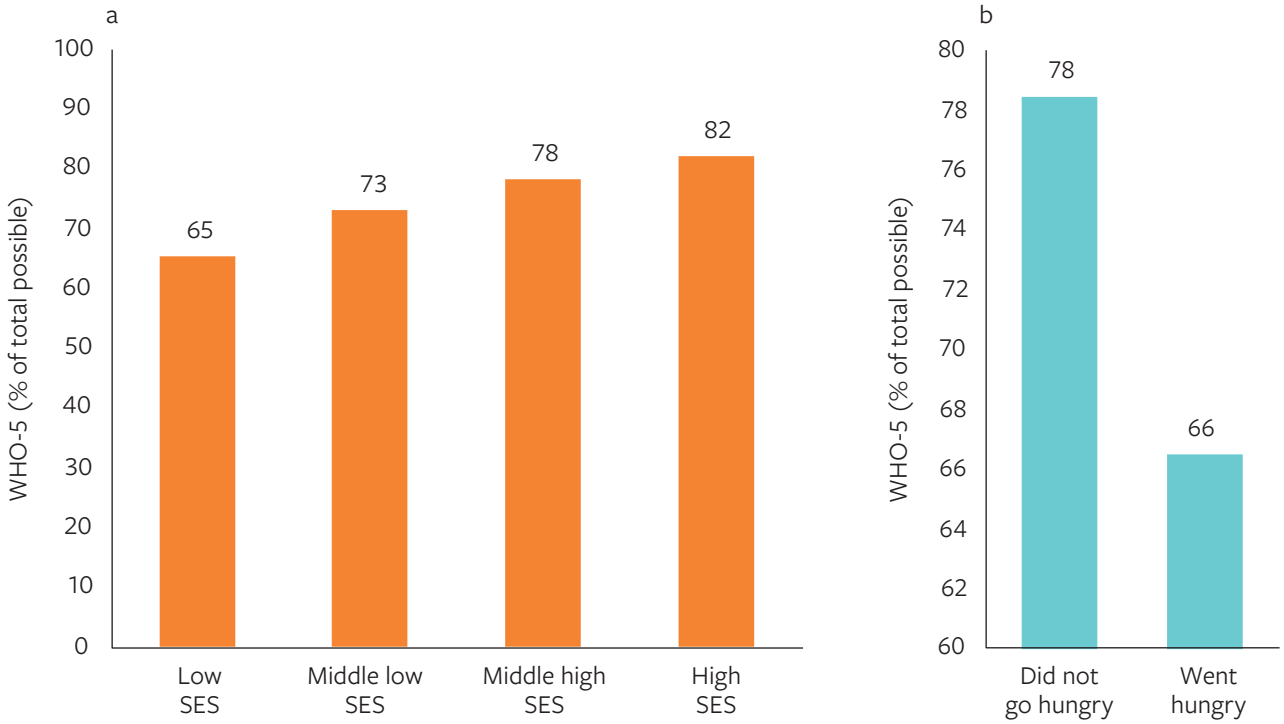


Adolescent girls during IDIs and FGDs indicated that sexual violence was more likely to occur in school. Key informants at school did not mention cases of sexual violence on school premises or committed by school staff, but rather identified cases of girls being abused when living in unstable family situations or in a one-parent household. Another key informant mentioned that adolescent girls (or even younger girls) are more likely to suffer from sexual violence due to cultural beliefs that having sex with a virgin would cure diseases or help a person become wealthier.

5.2.6 Poverty and the inability to meet basic needs

As referenced in Sub-section 4.1.1, our survey found a clear association between psychosocial well-being and SES (Figure 9a), with poorer respondents exhibiting lower psychosocial well-being than their wealthier peers (F=13.341, df=3, p=0.000). By contrast, we did not find clear associations between SES and being at risk of mental ill-health. This same pattern recurs for other indicators of deprivation – for example, having gone hungry in the previous year, the most apt marker of absolute poverty in our survey (Figure 9b).[27]

Figure 9 Figure 9 Psychosocial well-being by (a) socioeconomic status and (b) experience of hunger



27 This relationship is strongly statistically significant (F=34.88, df=1, p=0.000). Hunger is moderately correlated with SES (F=–0.4236, df=371, p=0.000). We also examined students' subjective assessments of well-being, whether their household belonged to the bottom SES decile (rather than quartile) and the education of the household head (considering as 'deprived' households in the bottom SES quartile with a head who had a primary education or less). All these indicators demonstrated the same pattern – namely, a statistically significant correlation with WHO-5 but not the SDQ.

By contrast, respondents in the qualitative interviews (adolescents, parents/caregivers and key informants) were unanimous that *poverty was a major driver of mental ill-health* among adolescents. Specifically, adolescents and adults mentioned that lack of food, unmet basic needs (including sanitary pads for girls) and hunger led adolescents to feel worried and sad:

> I don't like the situation I am going through because I am missing food and our people in the streets are talking about us. I don't like it ... They are saying that we don't have money for food, that we are going to sleep hungry ... If we don't have maize flour, I will go straight to ask our relatives, but if they also don't have [any], then I will start thinking, and that can be stressful. (IDI with 14-year-old girl in primary school, Morogoro)

Some adolescents mentioned that they lacked food 'often' or 'many times', which affected their mental health and their school performance (as also noted by teachers). Several adolescents considered that poverty led to their parents' inability to afford school materials (e.g. books, uniforms) or to pay school fees and for items requested by the school. For example, a 14-year-old girl in Morogoro indicated that her parents could not afford the electricity bill requested by her school, making her feel 'hurt' because she cannot use a computer like her classmates do. Respondents (adolescents and adults) agreed that some adolescents drop out of school because their parents cannot afford school materials, uniforms or shoes.

Adolescents in the qualitative sample who perceived that their material and school needs are not being met are usually living with extended family, in female-headed households or in adolescent-led households (where one parent is frequently absent but leaves the older child in charge). This emerged clearly in our survey data – for example, 37% of children living with both parents reported having gone hungry in the previous year compared with 63% of those living with a single parent, or in another household formation (relative risk, 0.72; X^2=6.859, df=1, p<0.05). The relationship was also confirmed by single parents themselves:

> My adolescents face problems because I am poor, when they come back from school there is no food at home. The father is available, but he is not providing for us, so it is my task as a mother to find ways to feed my children. (FGD with mothers of adolescent children, Morogoro)

Among older adolescent boys who perceive themselves as poor and want to meet their own basic needs, some indicated that they work during the weekends or during certain seasons (e.g. when they lack food, before the school season), particularly as day labourers on farms. In the case of adolescent girls, key informants noted that some work with 'Mama Ntilie' – female street-food vendors – doing small tasks such as fetching water or washing dishes, although these girls tend not to return to school and drop out to support themselves and their families, as key informants noted.

The qualitative research found that due to economic hardship, *parents' unstable jobs or unemployment* can also negatively affect their children's mental health, with adolescents facing sadness, worry and feelings of vulnerability. Other adolescents reported feeling anxious because

their parents work in dangerous or hazardous occupations and are often absent. For example, a 13-year-old girl in Mwanza mentioned that she feels 'scared' and 'worried' because her mother works in mining. This girl experiences high levels of stress, especially when her mother does not answer the phone, as she thinks her mother has been in an accident and is dead. Adult participants and key informants highlighted that a lack of job opportunities also affects youth who have completed school or even university and may not find a job. However, adolescents themselves did not identify the lack of employment opportunities as a source of mental ill-health in qualitative interviews and FGDs.

Some adolescents noted that parents sometimes migrate to meet their children's needs. In Morogoro, a couple of adolescents noted that parents usually migrate during the farming season from a couple of weeks to more than a month. Some parents leave their children with little food (e.g. 1 kg of rice) and few amenities (e.g. charcoal, some money), causing emotional distress:

> Respondent: It was better in the past, but it is currently getting worse.
>
> Interviewer: Why do you think it is getting worse?
>
> Respondent: Because our mother and father are not around, they are living in the farms and we don't know when they are coming back, and at this time we don't have maize flour at home. (IDI with 14-year-old girl in primary school, Morogoro)

5.2.7 Negative school experiences/ pressure

Several adolescent respondents during IDIs and FGDs spoke of their unhappiness about being poor and comparing their financial circumstances with others, particularly at school, causing feelings of isolation, stress or depression, as noted by one male adolescent:

> I think the ones who get affected more is the poor … Perhaps I am with my fellow students, whenever it is break time, they go to have breakfast and I will be staying alone in the classroom hungry. It reaches lunch time, you find no food at home, my friend has money, they don't even go home, they have money, they go to the canteen, they buy food and eat. That will make me isolate from them, it's like separating me from them, that they're in another level; I cannot look like them. (FGD with adolescent FEMA Club members aged 15–19 years old, Mwanza)

Some parents (especially single mothers) noted that their own inability to afford school materials or basic items for their children (such as shoes or clothes) made their children feel distressed, as they compare themselves with wealthier classmates. Adolescents confirmed this view and shared their aspirations of wanting to be like their wealthier classmates:

> Interviewer: What are the things you can't do at school because you are missing some of the equipment needed?

> Respondent: I don't have exercise books, so when I see her [wealthy classmate of respondent] writing I wish I could be just like her. (IDI with 14-year-old girl in primary school, Morogoro)

Another driver of mental distress was *academic pressure*, notably fear of failing exams and inability to understand subjects or complete exercises. This was particularly noted by older adolescents who perceived that subjects and school demands are tougher as they progress to higher grades. For example, an 18-year-old girl attributed her anxiety to a fear of failing exams and performing poorly at school. An older adolescent boy shared that the challenging exercises teachers give can make students feel discouraged or even depressed when they cannot solve them. Two respondents highlighted the humiliation and stress experienced by older adolescents (e.g. older siblings, relatives or friends) who have had to repeat a school year. Adolescents who are already suffering from low academic performance may be particularly affected by academic pressure and poor mental health, driven by stigma from teachers or other students who place them in a special class of 'low performers':

> Teachers tend to despise students who are in Class C, so even when you know something you just decide to remain quiet because they always say that students who are in Class C don't perform well. So you become stressed because you try to study hard so that you can be removed from Class C, but you just keep on being there … It is like this, Class C is for students who don't perform well and Class A is for students who perform well, but even students who are in Class A tend to isolate students who are in Class C, they don't want to be close to them. (FGD with adolescent girls aged 15–19 years old, Morogoro)

This challenge was perceived more keenly by students who lack the means to take additional private tuition classes (provided after school, during weekends or school holidays) and compare themselves with students who can afford these. This highlights again that detrimental financial circumstances – mirrored in adolescents' (in)ability to access additional teaching to improve their school performance or to afford school material – drive mental ill-health. A teacher at a secondary school perceived that, ultimately, economic status is the key factor behind low academic performance. Indeed, this was one of the most striking findings in our survey data – for example, every student from the bottom socioeconomic decile reported exam results in the bottom quartile of their class distribution. The same teacher also indicated that the school learning environment is poor, given that classroom equipment (e.g. desks, chairs, school infrastructure) largely requires contributions from students' parents, and most are unable to afford these costs. In other cases, adolescents did not fear physical punishment (by teachers or parents/caregivers) but felt under pressure to excel at school due to relatives' expectations to be economically supported when adolescents find a stable job after their studies.

Some adolescents of all ages (but prominently older adolescent boys) mentioned *corporal punishment* from teachers at school (e.g. being beaten with sticks) as another cause of mental distress, although as noted earlier this connection was not visible in the quantitative data (Sub-section 4.1.1.). Adolescents feared punishments for reasons including not doing well

in an exam or being late to school. Although this may encourage some adolescents to perform well and to behave in school, adolescents indicated that it caused them stress and anxiety:

> I'm scared of being punished, that's why I will make sure I come to school early... so if I wake up late and I know I will find the other students in class, I will be worried on my way to school, so what worries me is to be late for class. (IDI with 17-year-old boy in secondary school, Morogoro)

> We did a Geography test and the teacher said it [the mark] shouldn't be below 50% and we did the exam in 1 hour. So, the day that we were told we will get back our exam results ... I was thinking about it the whole day, I couldn't speak to anyone, I didn't go out during break time, I was just thinking of how results are going to be and how the teacher will punish us ... I knew the teacher and he said he would not come alone, he would come with three other teachers. So, I was thinking how I would handle punishment from three teachers, so I was thinking and I was praying to God I get above the average. (IDI with 17-year-old boy in secondary school, Morogoro)

Several adolescents commented on disproportionate punishment by teachers for minor mistakes (e.g. not wearing socks, making noise in class), resulting in mental distress. Adolescent girls also noted having been punished for not providing teachers with small gifts such as '*jojo*' (chewing gum) or lemons. Some parents indicated that some teachers at times teach lessons under the influence of alcohol, which also disturbed their children. In one FGD with adolescent girls, participants mentioned teachers asking sexual favours from their female students, threatening them with poor marks or exclusion from class if they refused (also see Sub-section 5.2.10, on relationships and early sexual encounters).

All adolescent respondents in the qualitative component were asked if they had experienced *school bullying*, but the majority reported that they had not. Of those who did report having been bullied (both male and female, and of varying ages), few mentioned any impact in terms of mental distress, but some noted that they were bullied due to stigma related to being poor (see Sub-section 5.2.9, on stigma) or personality traits (e.g. being calm). By contrast, in our survey, more than half of respondents (54%) reported having been 'picked on or bullied' by other children and young people. The experience of having been bullied was correlated with the SDQ score (relative risk, 1.12; F=55.18, df=1, p<0.001) and with the WHO-5 score (relative risk, 0.92; F=10.56, df=1, p<0.05). The impact of bullying appears to be considerable: for example, 33% of those bullied were at high risk of mental ill-health compared with 11% who had not been bullied (relative risk, 1.67; X^2=27.3144, df=1, p<0.001); and the figures for the WHO-5 at-risk category were 18% and 11% respectively (relative risk, 1.62; X^2= 3.659, df=1, p<0.1).

Other adolescents in the qualitative sample mentioned *security risks getting to and from school*. An adolescent girl mentioned encountering threats of physical violence by older men on her way home from school. Parents also reported concerns related to the risks adolescents faced in getting to and from school, especially when they lived far away from school (e.g. 8–9 km), including both security risks and the potential to meet negative peer influences. Similarly, several adolescents (boys

and girls) recounted experiences of verbal abuse getting to and from school. In the case of boys, they experienced verbal abuse from community members (with lower levels of schooling) who mock them for their interest in continuing to study rather than making their own money.

5.2.8 Lack of guidance to attain aspirations

Although one key informant in local government noted that adolescents drop out of school because they are not interested in further studies, none of the adolescent participants in our qualitative sample confirmed this, instead commenting that they lacked guidance about how to achieve their aspirations. A few respondents indicated that they did not perceive their goals (e.g. further studying, attaining a profession) as achievable, mentioning challenges such as poor support networks, discouragement from friends or having unsupportive guardians/teachers. This was confirmed by a few adult respondents, who indicated that they have not spent time talking to their adolescent relatives about their aspirations or goals for the future, or about concrete plans for how to achieve these. Other adult respondents and key informants noted that even if they want to support their children to achieve their aspirations, some adolescents are negatively influenced by their peers, who encourage them to skip school or to drop out to start earning money, even if this involves joining the labour market as *boda* drivers (see Sub-section 5.2.11, on gender norms and expectations).

5.2.9 Stigma

Already marginalised/excluded groups who face stigma and discrimination can also face mental health issues. Adolescents and adults in the qualitative sample both reported that adolescents who are *HIV-positive* face stigma at school, from friends and the community, further exacerbating their mental health issues. The Tanzanian literature identifies being HIV-positive as being significantly associated with mental health symptoms such as depression (Lwidiko et al., 2018) or anxiety (Kuringe et al., 2019), in part due to stigma from community members and peers, but also due to chronic domestic abuse and financial stressors that restrict access to medical care and education (Ramaiya et al., 2016).

Adolescents living in poverty, who cannot afford school items or fees, also face stigma and in turn mental ill-health. For example, one adolescent girl highlighted that her brother could not continue studying because their parents could not pay his school fees, resulting in ridicule from his classmates. This worried her because she also feared being obliged to drop out of school.

Another adolescent during an FGD recognised that she stigmatised a classmate from a poorer background:

> I belong to a rich family and my friend belongs to a poor family, what I get is not what she is getting, hence sometimes I stigmatise her, telling her 'you are nothing because I can afford [things] myself, while you belong to a poor family.' That's what I think. (FGD with adolescent FEMA Club members aged 15–19 years old, Mwanza)

Similarly, one parent mentioned that community members stigmatise street children because they are poor and may have unstable families, causing them mental health problems driven by lack of a sense of belonging.

People with mental health problems face stigma and social isolation, further exacerbating mental ill-health. Due to a lack of awareness and knowledge of mental health, as well as associated beliefs that mental health is caused by witchcraft (see later), respondents indicated that their communities held negative perceptions of people with mental ill-health. This leads family members to stigmatise or isolate those who are suffering, including adolescents. One key informant, for example, described the violent response from community members toward an adolescent suspected of stealing, who had been experiencing mental health issues. Another key informant indicated that individuals with mental health issues are called derogatory names by their relatives and the community such as 'crazy', 'insane', 'stupid' or 'hooligan'.

Key informants in the health sector observed that due to existing stigma, patients are not given treatment in time and are isolated, while some are beaten or harmed by their relatives, exacerbating their condition. Adolescents and adults suggested that stigma towards people suffering from mental health varies between families and communities:

> There are communities which stigmatise, and others that don't stigmatise. There are also families in the communities where we are living which have an adolescent facing a mental health problem, who is just home doing nothing like a crazy person. Other parents are taking responsibility to advise and provide counselling to the adolescent. But other communities isolate people facing these kinds of challenges; also other parents are complaining, saying this child is just staying home doing nothing and has become a burden in the family. (FGD with adolescent boys aged 11–14 years old, Mwanza)

Only one key informant suggested that the increased prevalence of mental health issues has led to less stigmatisation, especially because treatment is accessible in health facilities.

Likewise, since mental ill-health is often equated with drug use (from the perspective of adults and adolescents) (see Section 4.1, Mental health indicators, knowledge and perceptions), adolescents suggested that individuals with drug addiction are highly stigmatised within the community. Therefore community members were unwilling to help adolescents with any addictions, although some participants mentioned that they would offer support, out of pity.

5.2.10 Relationships and early sexual encounters

In the qualitative sample, several adolescents (boys and girls aged 15 and over) reported peer pressure to be involved in a romantic relationship. Other adolescents indicated having no desire to engage in romantic relationships, as this could distract them from their studies or cause mental distress. For example, two older adolescent boys indicated that they feared being in a relationship because potential conflicts (such as affairs or disagreement) could lead them to self-harm (including suicide). Some adolescent girls indicated that being in a relationship could lead to conflict and disagreements with their families, also leading them to avoid relationships.

The pressure to engage in early sexual encounters was mentioned by several adolescents in the qualitative interviews and FGDs. Those who indicated that they are in a relationship noted that they experience peer pressure to have *sexual encounters* with their boyfriend/girlfriend. However, some adolescents were aware of the potential consequences, such as acquiring a sexually

transmitted infection (STI) or an unintended pregnancy, with some teachers indicating that girls are tested for pregnancy regularly at school. There was a general perception (among males and females of all ages) that adolescent girls are more likely to experience mental health issues because of pressure or force to engage in sexual encounters from a young age. According to different kinds of participants (KIIs, adolescents and adults), the reasons adolescent girls engage in sexual interactions include: to get money or gifts so they can meet their basic needs (e.g. shelter, food, clothes); to pay for food during lunch breaks (given that some parents do not have the means to give pocket money to their children); to improve their grades by having sexual encounters with teachers; because they feel under pressure from their boyfriend; lack of parental guidance such as parents giving advice or monitoring what their children do; or teachers abusing their position. Adolescent girls mentioned some of these reasons during FGDs:

> Some of the girls cannot even satisfy their basic needs … because of this challenge most of the girls do involve themselves with unwanted behaviour due to their environment … For example, a girl has seen her colleague has pocket money, has new clothes and when she looks at herself, she doesn't [know] how to afford these, so she will have a romantic relationship with her elders, while she still has a fragile body, and sometimes these elder people have diseases, therefore she gets infected while still young. (FGD with adolescent girls aged 11–14 years old, Morogoro)

> For girls … you find this teacher at school, he has seen this schoolgirl and he harasses this girl every day, that 'you are not going to enter my class until you give me sex.' Or in your streets you find your neighbour, he threatens you and tells you 'if you will not satisfy me with this need, I will harm/hurt you with anything.' These cause a girl to think too much. (FGD with adolescent girls aged 11–14 years old, Morogoro)

Mothers of adolescent girls also mentioned peer pressure on their daughters to engage in early sexual encounters. The Tanzanian literature identifies a cultural expectation that men will provide economic support to girls during a sexual relationship, leading girls to engage in sexual encounters not only as a potential source of economic resources (Halley, 2012; Sommer et al., 2019), but also to obtain gifts and money from boys or older men (Halley, 2012). Thus, early sexual encounters are also driven by a girl's desire to achieve the 'social status' of other female peers who are engaged in sexual relationships (ibid.).

5.2.11 Discriminatory gender norms and expectations

Gender norms and perceptions that perpetuate gender inequality can harm boys and girls by constraining aspirations (Kågesten et al., 2016), leading to harmful effects on adolescent mental health (Kapungu and Petroni, 2017).

Our qualitative findings suggest that gendered norms are an important driver of poor mental health, particularly for girls. Adolescent boys and girls alike identified girls' greater burden of unpaid care and domestic work responsibilities as detrimental:

> In the communities we are living in, girls are considered as being responsible for domestic chores, and that is not right because even boys can do domestic chores. This causes

> psychosocial problems to girls; it makes them feel incapable of doing other things. A girl asks herself 'why am I supposed to do domestic chores only while he is capable of doing that. Why is he doing something else?' (FGD with adolescent boys aged 11–14 years old, Mwanza)

Parents of adolescents noted that girls are told to engage in household chores more often than boys because girls are more 'capable' and 'quicker'. In one interview with a parent, as well as an adolescent interview, the importance of undertaking domestic responsibilities (before going to school or upon their return) was emphasised. Adolescent girls observed that taking on more household responsibilities – including cooking, cleaning, collecting firewood and water or looking after younger siblings – affected their school performance:

> Because when I went back at home, I have to do home chores, and maybe I would be done with everything at nine in the night, after this I go to sleep because I can be already tired and I don't have extra energy to study. (IDI with 18-year-old girl in secondary school, Morogoro)

> Challenges which we girls face, for instance … after leaving school for home, you find that you [do] everything in the family. You are the one who performs all the household chores and gets no time for private studies … until you finish all those activities … you won't even get time for studying because you are so tired. You are tired to the extent that even if you take an exercise book, you can't concentrate. As a result, you just go to bed. So those are the challenges. (FGD with adolescent girls aged 15–19 years old, Mwanza)

Girls tended to perceive the excessive household chores allocated to them relative to those assigned to adolescent boys as unfair and detrimental to their mental health, as they lacked time for leisure activities, as mentioned earlier. Indeed, norms around mobility also affected girls' ability to play or do outdoor activities:

> I think they [boys] do face challenges, but not that much because most of the boys have time to play and they can go to any place and stay late. But if a girl went to a place and stayed until night[time], you would hear my aunt saying, 'what kind of girl stays late until these hours?' So, my aunt doesn't allow me. (IDI with 11-year-old girl in primary school, Morogoro)

Similarly, norms around son preference also affected adolescent girls, who highlighted that males are more valued than females and their education is also prioritised due to the belief that male children will look after their parents financially when they grow older, which contributes to girls' mental distress. Some girls noted that their relatives discouraged or mocked them for having educational aspirations:

> For example, the way my father's relatives insult me, they say that I will never pass my examinations, they say that I have no future. That is the problem. (IDI with 17-year-old girl in secondary school, Mwanza)

Other girls indicated that 'boys are brighter', so they had more chances to achieve their aspirations. These views affect girls' capability to aspire, according to key informants. One female key informant working in the health sector identified

that girls have a harder time to find their path after their studies due to the way they are raised, given that they mainly learn household chores at home and receive more protection from parents, finding themselves unable to know what other skills they may have, and how and where to apply them. This perspective was shared by a female teacher who noted that girls face more challenges than boys because social norms limit their aspirations:

> It is because of the tradition, in this community girls are still considered weak, so most of them, they know for sure that at the end, I must get married. Only [a] few of them are aware that they have to fulfil their dreams first. Most of them, they don't finish school. (KII 15, Mwanza)

Nevertheless, a few older adolescent girls mentioned that their families expect them to contribute to household expenditures or they had self-expectations to support their parents and younger siblings to overcome economic hardship. Gendered norms around becoming a breadwinner mainly preoccupied boys and were also noted by adult participants. One key informant noted that adolescent boys feel pressure to provide their girlfriends with pocket money, imitating some of their peers, leading some boys to join the labour market after completing primary or secondary education.

5.2.12 Bringing together drivers of mental ill-health and protective factors

Finally, we look at the combined impact of the drivers and protective factors this chapter has explored on the key mental health variables of the study: the SDQ and WHO-5 (see Annex 6, Table A8 for full regression results). When introducing indicators of drivers and protective factors alongside socio-demographic variables to the multivariate analysis, the amount of variance explained (R^2) rises to 23.5% for the SDQ score and 17.4% for the WHO-5 score.

Secondary school respondents are 45% less likely to be in the SDQ at-risk category (OR=0.547, $p<0.1$). The experience of being bullied also exerts a statistically significant influence on the SDQ variables; for example, those who have experienced bullying are more than three times as likely to be in the SDQ high-risk category (OR=3.261, $p<0.001$). Having a mother who consumes alcohol is positively associated with a higher SDQ score ($B=1.104$, $p<0.001$) and with twice the likelihood of being in the high-risk category (OR=2.038, $p<0.1$). Engaging in a risky behaviour (e.g. smoking, alcohol, drugs, self-harm, gambling) also worsens SDQ performance; those who engaged in at least one such behaviour were 2.6 times as likely to be in the SDQ high-risk category (OR=2.636, $p<0.05$), and nearly 65% less likely to be in the top quartile of the WHO-5 distribution (OR=0.348, $p<0.1$), although no more likely to be at risk of depression.

The predictors of the WHO variables are different. Girls are 38% less likely to be in the WHO-5 top performers (OR=0.618, $p<0.1$). The experience of hunger continues to be positively associated with poorer performance; those reporting hunger are 57% less likely to be in the WHO-5 top quartile (OR=0.431, $p<0.05$) and have nearly four times the odds of being in the WHO-5 at-risk category (OR=3.37, $p<0.05$). Experiencing violence from a parent – whether physical violence or a combination of physical and verbal violence – also exerts a statistically significant impact (whereas verbal violence alone is not associated with a heightened risk). For example, adolescents who have experienced physical violence are 58% less likely to be in the top quartile of the WHO-5 distribution (OR=0.415, $p<0.05$) and more than three times as likely to be at risk of depression, according to the WHO-5 (OR=3.37, $p<0.05$).

6 Mental health-seeking behaviours, coping strategies and the influence of technology

This chapter focuses on adolescent awareness of and responses to mental health issues. Section 6.1 explores mental health literacy and knowledge of sources of information and support. Section 6.2 examines adolescent experiences of accessing formal and informal support,[28] while Section 6.3 highlights positive and negative ways of coping with mental ill-health. Section 6.4 focuses on the linkages between technology and mental health, including ownership and usage, positive aspects of technology and negative aspects of technology. This chapter also focuses on the responses on average, and how they vary according to the characteristics of students and their households (Annex 6 contains full descriptive statistics emerging from the analysis). In the following chapter (Chapter 7), we consider how these findings can inform services and interventions that seek to improve adolescents' mental health, particularly those services and interventions that are relevant to this project.

6.1 Awareness and knowledge of services and support

A key theme we examined in both the quantitative and the qualitative data concerns knowledge of mental health issues and confidence in accessing relevant information. Our survey included two scales of mental health literacy, measuring emotional literacy (including stigma and knowledge of mental health) and knowledge of what constitutes good mental health. We also included a separate scale focused on confidence in seeking information regarding mental illness through various channels.

The average score on the Emotional Literacy Scale was 65.5% of the possible maximum.[29] Just 22 respondents (5.5%) scored 50% or less of the maximum, 315 (78.75%) scored more than 50% but less than 75% of the maximum, and 63 (15.75%) scored 75% or more of the maximum (Figure 10a). Knowledge of what constitutes good mental health was higher still – the average was 76% of the possible maximum.[30] Only 7 respondents (1.75%) scored 50% or less than the maximum, while 177 (44%) scored higher than 50% but less than 75%, and 216 (54%)

28 By formal support, we refer to regulated interventions and resources providing mental health support and services by mental health professionals – for example, primary care services, specialist mental health services or psychiatric services based in general hospitals or health clinics. Informal help is usually provided by friends, family, school, religious leaders or other non-medical sources. In our two study sites, NGOs, schools and traditional healers provide informal support.

29 The raw mean for the Emotional Literacy Scale on the traditional scale of 1–4 (with higher scores indicating better emotional literacy) is 2.62.

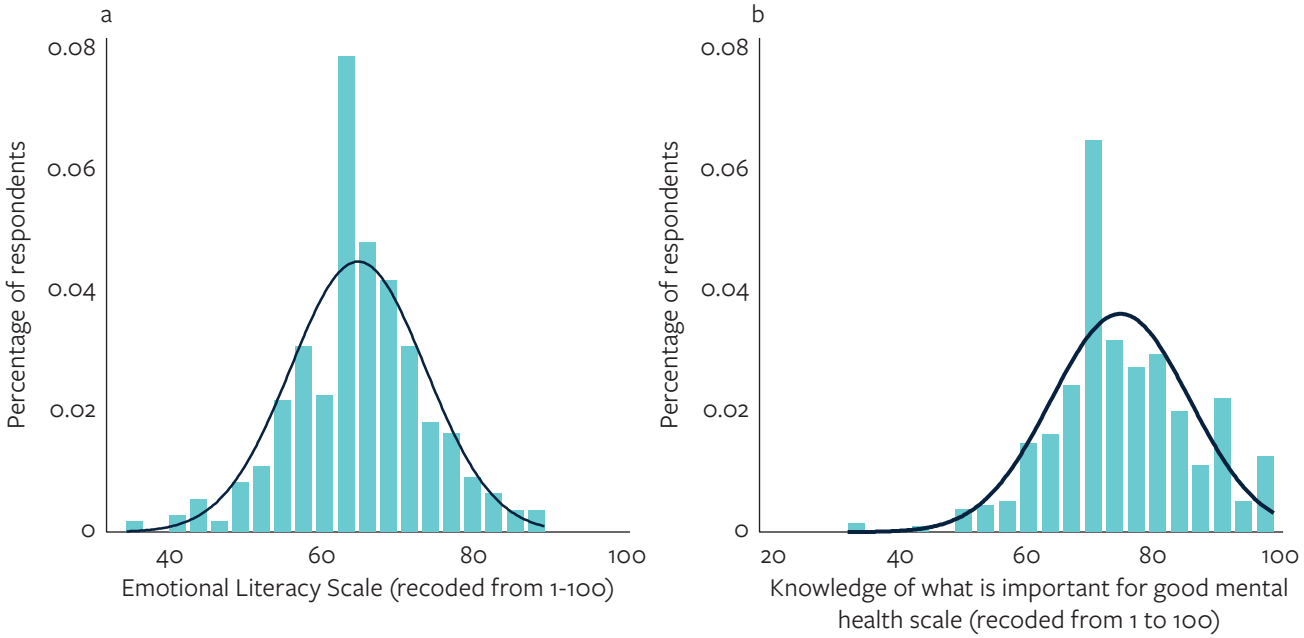
30 The raw mean for the knowledge of good mental health scale on the traditional scale of 1–4 (with higher scores indicating greater knowledge) is 3.03.

scored at least 75% (Figure 10b). Both data series appear to be normally distributed.[31]

Emotional literacy differs markedly by SES (F=9.884, df=3, p<0.001): the range is from an average of 62% of the total possible for the lowest quintile to 69% in the top quintile. Emotional literacy is also positively correlated with adolescent reports of having someone they could rely on (relative risk, 1.06; F=3.72, df=1, p<0.1). Adolescents in the WHO-5 at-risk category displayed lower emotional literacy (relative risk, 1.07; F= 13.95, df=1, p<0.05) (Figure 11a). Top performers according to the WHO-5 measure have higher emotional literacy (relative risk, 1.03; F=4.49, df=1, p<0.05) (Figure 11b).

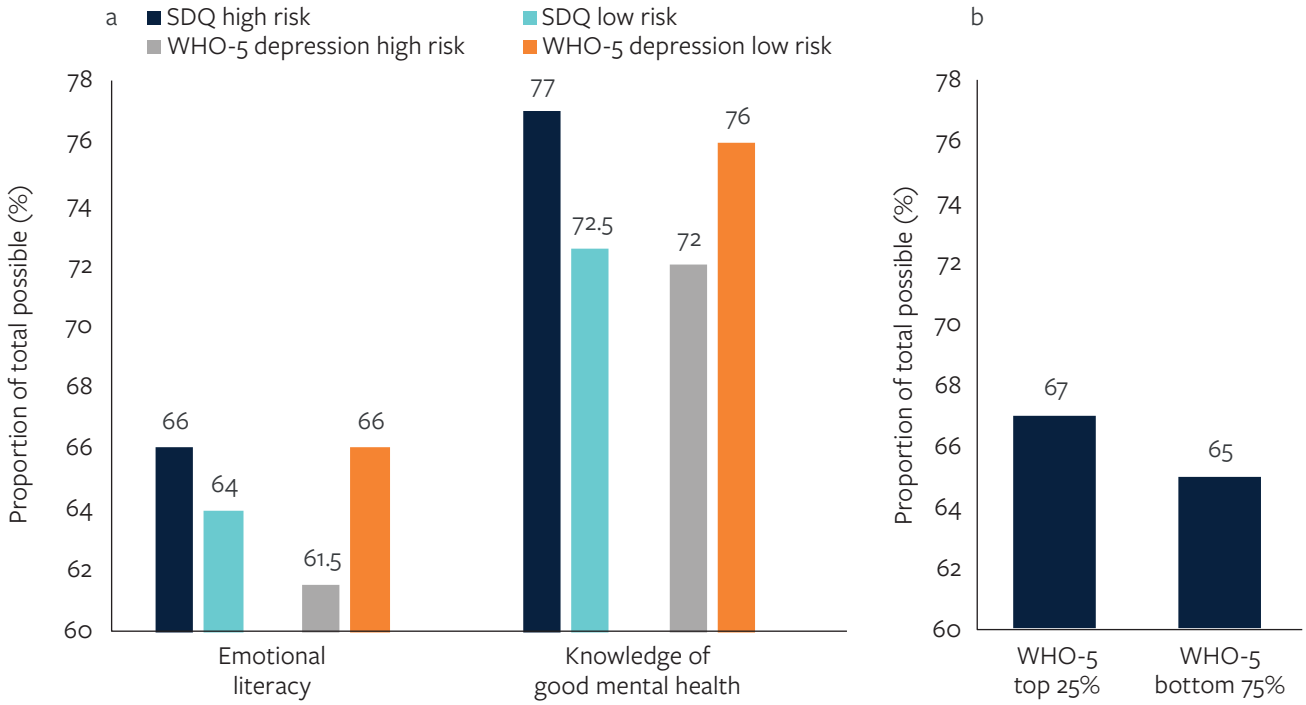
SES is also positively correlated with knowledge of what is important for good mental health, with a range from 73% for the lowest quartile to 78% for the highest quintile (F=4.060, df=3, p<0.05), as is school level (relative risk, 1.07; F=20.23, df=1, p<0.001). Those with knowledge of good mental health are more likely to report having someone they could rely on (relative risk, 1.12; F=11.12, df=1, p<0.001) and a role model (relative risk, 1.04; F=3.70, df=1, p<0.1). Adolescents in the SDQ at-risk category have less knowledge of good mental health (relative risk, 1.06; F=11.24, df=1, p<0.001), as do those in the WHO-5 at-risk group (relative risk, 1.06; F=8.48, df=1, p<0.005) (Figure 11a).

Figure 10 Distribution of (a) emotional literacy and (b) knowledge of what is important for good mental health



31 Both have a negative skew and show slight leptokurtosis. For the Emotional Literacy Scale the skew is –1.99 and the degree of Kurtosis is 3.43; for the knowledge of good mental health scale, the figures are –0.081 and 3.598 respectively. Statistical tests (Shapiro–Wilk and Skewness Kurtosis) do not reject the hypothesis that the series are not normally distributed.

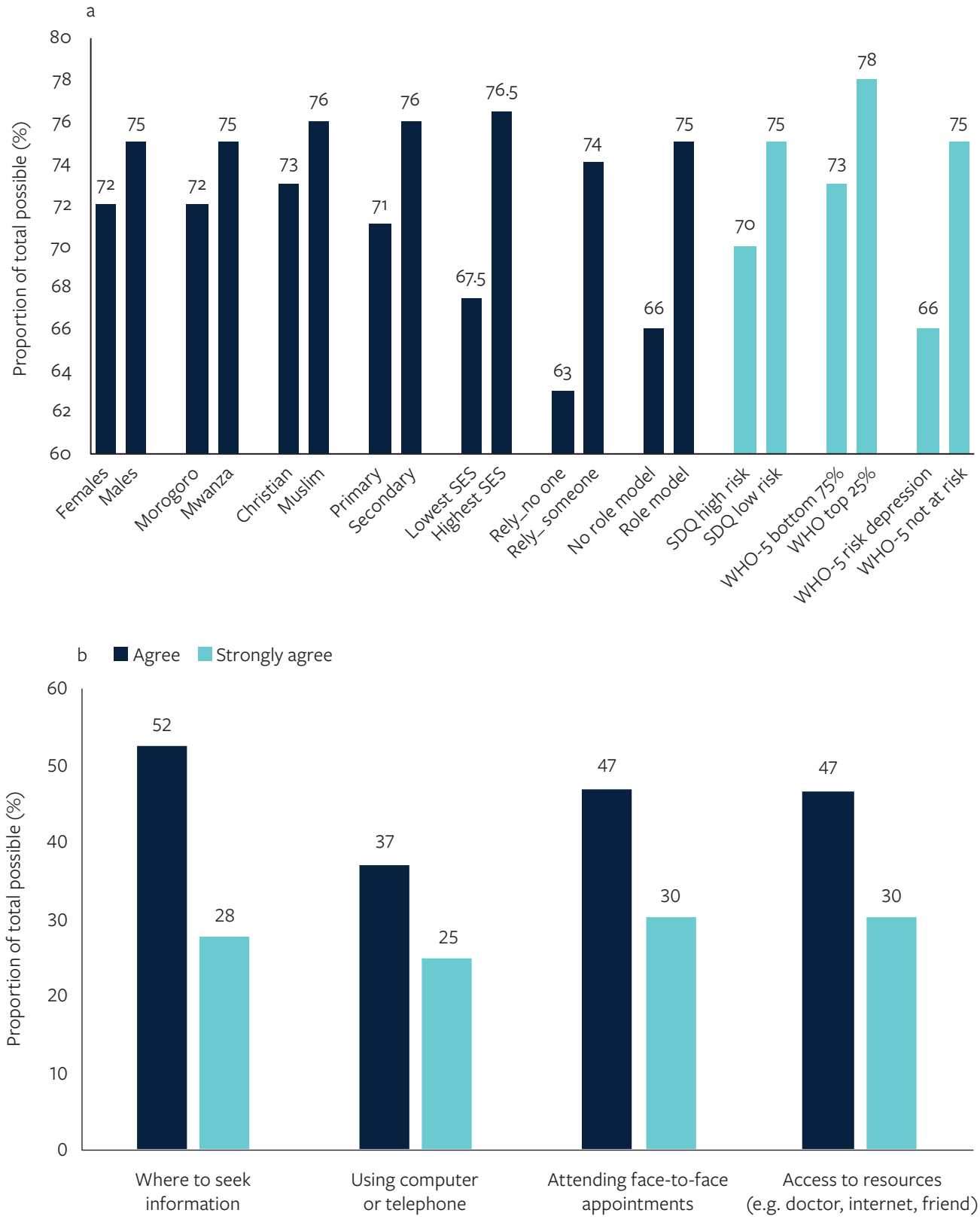
Figure 11 Correlations between (a) mental health risk and emotional literacy or knowledge of good mental health, and (b) psychosocial well-being and emotional literacy



We also asked about knowledge of sources of information about mental illness. The average score was 73.6% of the total possible, indicating relatively high confidence. Knowledge of sources of information is positively correlated with being male (relative risk, 1.04; F=4.35, df=1, p<0.05), living in Mwanza (relative risk, 1.04; F= 2.86, df=1, p<0.1), being Muslim (F=3.22, df=1, p=0.0734), secondary school attendance (relative risk, 1.07; F=9.81, df=1, p<0.05), higher SES (F=7.32, df=3, p<0.001), having a role model (relative risk, 1.14; F=19.86, df=1, p<0.001) and having someone to rely on (relative risk, 1.18; F=10.19, df=1, p<0.05) (Figure 12a). It is also linked with mental health outcomes; it is positively correlated with psychosocial well-being (F=7.17, df=1, p<0.01) and inversely with being in the SDQ at-risk category (relative risk, 1.07; F=7.05, df=1, p<0.01) and the WHO-5 at-risk category (relative risk, 1.13; F=15.99, df=1, p<0.001). Respondents were least confident in their ability to use the computer or internet to access information on mental illness (62% reported confidence) and most confident in knowing 'where to seek information' on mental illness (80% reported confidence) (Figure 12b).

The qualitative data, which probed different aspects of mental health literacy and awareness of formal support, highlighted knowledge gaps. Overall, we found low access to information on mental health and limited awareness of formal support – especially in a context where many people resort to traditional healers (also known as 'witch doctors'). *Most adolescents indicated that they do not usually receive information about mental health from any source*. Some adolescents reported having heard about mental health from TV, radio, books, or information shared by teachers. Others noted that they would approach a doctor or a teacher if they required information on mental health. A couple of adolescents mentioned having seen information on mental health online, on social media.

Figure 12 Differences in (a) knowledge of sources of information on mental illness and (b) confidence in using them



Adolescents and adults alike displayed a limited awareness of formal mental health services. Most adolescents and adults reported that there were no such services, or that they had not heard of services supporting adolescent mental health, whether formal or informal services (excepting 'witch doctors'). A few older adolescents indicated that they were aware of health clinics or would access formal mental health support services by visiting the hospital, while only a few adults reported being aware of mental health services from the district hospital from their personal experience of accompanying a patient for such services. These findings echo those of the Tanzanian literature, which highlight a lack of awareness of available mental health services (Ambikile and Iseselo, 2017; Mwansisya et al., 2015).

Often, adolescents would first seek the advice of someone close to them (such as a family member, teacher or friend) before accessing such services. Regarding NGO-provided services, only one older adolescent girl mentioned a women's group based in Magu District called ELITUA, which offers community-level education about children's rights and mental health challenges that are faced by children. Adolescents also mentioned some school support. For example, some adolescents in Mwanza indicated attending the school-based FEMA Club, although this does not necessarily offer support on mental health issues directly, but does offer help on topics such as SRH, leadership and life skills. A younger adolescent girl in Morogoro reported that one of her teachers at school talks about mental health during class and encourages students to reach out to teachers, parents or caregivers when they face any distress, so that they can be supported. During this class, sometimes, the students would sit in groups to share their challenges and the teacher gives lessons on mental health coping strategies.

6.2 Use/experience of accessing formal or informal services

Use of formal and informal health services (including mental health services) was limited among our research participants. According to key informants, community members choose which services to access based on factors such as personal beliefs, budget, geographical location, and/or awareness of mental health:

> There is a group that do take a mentally ill person to the hospital, others to the traditional healers and others to the churches and to the mosque for prayer. (KII 5, Morogoro)

Key informants indicated that those who seek mental health support resort to formal and informal services (combined or in different sequences). Below, we outline the use of formal services (e.g. hospitals and health centres), NGO/community-based services, school-based services and informal services. We examine the experiences of respondents when using such services and the experiences of key informants as service providers. We also examine the challenges faced by adolescents and/or their caregivers in accessing services, as well as the challenges key informants perceived in the provision of such services.

6.2.1 Formal mental health services

Most adolescents and parents/caregivers in the qualitative sample did not have first-hand experience of accessing formal mental health services. Key informants observed that community members who are more educated, located in town (or close to services) and relatively well-off tend to access formal services. By contrast,

community members who live in poorer and more remote villages are less likely to access formal health services and instead postpone or ignore their health problems. Gender differences also emerged; a female nurse observed that she is approached more often by women than by men, probably because women 'open up easily' or because men doubt her skills/ability to be able to help them.

Key informants from mental health service providers shared their insights. They mentioned having adolescent patients, although they did not offer details of following any different protocol for adolescents compared with adult patients. One nurse working in the local clinic at Morogoro observed that she does not have the skills to treat patients with severe mental health issues, so she refers them to the regional hospital. Most service providers in our study noted that lack of funding was the main barrier to providing high-quality mental health services, leading them to refer patients to clinics or hospitals, which themselves face budgetary constraints. Key informants also indicated that they usually refer patients with complex mental health needs or those that require specialist treatment (e.g. patients who become aggressive or have had long-term mental health conditions) to larger health centres that might offer suitable services.

Three healthcare providers also highlighted how the lack of infrastructure and space negatively affects their ability to provide a high-quality service to mental health patients:

> The main challenge, I think I just need an office first, so that at least I know how to position myself, because it is very dangerous to mix patients, normal patients who have physical illnesses from those with mental health problems. Therefore, if I get an office, that's when it will be much better and this is the challenge which I want to start with. (KII 16, Mwanza)

Healthcare providers indicated that lack of transport was also a barrier at times, preventing them reaching patients that cannot travel to a health facility:

> Another challenge is transport – for example, you have a patient, and you want to use a car, and you also need a car for other things that we need to use [at the clinic], so sometimes I have to use my own money for transport. (KII 2, Morogoro)

Different factors appear to challenge the use of formal mental health services or prevent adolescents and parents/caregivers from approaching formal services. Adolescents and key informants both indicated a limited demand for formal mental health services, which can be explained in part by lack of awareness of mental health or symptoms of mental ill-health. A key informant working in a health facility in Morogoro suggested that the community does not approach mental health services because they are not aware of common symptoms or ignore mental health problems:

> Someone might have a disease without knowing, 'mother I can't fall asleep, I'm worried', but it doesn't happen when I'm with people. He will think it's normal but that's how it starts. (KII 2, Morogoro)

This was confirmed by some local key informants who considered that mental health symptoms and coping mechanisms among adolescents (such as alcohol or substance abuse) can only be treated at 'sober houses'.[32] Other adult respondents expressed the belief that mental health issues could not be treated or would pass with time. As a result, support is not sought until critical stages. In other cases, adolescents (and the community in general) do not feel confident to approach formal mental health services:

> You know most Tanzanians, they lack confidence, we are not serious with such kinds of issues. For example, you may have a problem and when you are told that you can go to a certain place for treatment, you just ignore, you take things easy. (FGD with adolescent girls aged 15–19 years old, Morogoro)

> Yes, most youth lack confidence and they are afraid what will they look like when they speak, so some children have little confidence to come and talk about their problems. (KII 7, Morogoro)

This lack of confidence may be related to associated stigma (within this sub-section), but also to the lack of spaces and opportunities to talk about mental health on a regular basis. This perspective was echoed by adolescents and other key informants who noted that adolescents usually ignore mental health issues.

In other cases, *adolescents have not approached formal services because their parents/caregivers consider that their health problems are driven by 'demons' or 'witchcraft'*. Key informants in the health sector confirmed that they had treated patients with physical and mental health issues who first approached traditional healers that were unable to treat them. Once relatives realise that traditional remedies are not effective, patients are brought to the clinic in a very bad state, '*most of them with wounds in their hands, and others might have been beaten*', as noted by a clinical psychiatrist in Mwanza. As another clinical psychiatrist noted, approaching formal mental health services is seen by many as a last resort:

> A large percentage, I can say 80%, when they discover they have a health problem, relatives might organise and take this patient to a traditional healer. Once they fail, they will advise them to go to the hospital, and when they come to the hospital, and we tell them 'this problem can be solved here at the hospital', most of them don't believe it. Only when we initiate the treatment, and they get treated as outpatients they start to believe it. (KII 16, Mwanza)

These findings echo those of Ambikile and Iseselo (2017), who observed that visiting a mental health service was repeatedly conceptualised as a 'last resort' in rural communities, and the social acceptability of these actions was low. In other cases, when mental health patients are brought

32 Sober houses are facilities that provide safe housing and supportive, structured living conditions for people exiting drug rehabilitation programmes. These spaces serve as a transitional environment between such programmes and mainstream society.

to health facilities, families may choose to stop treatment mid-way through because they do not believe that patients are suffering from mental health problems and prefer instead to seek informal support, as indicated by a clinical psychiatrist:

> The day before yesterday I received a patient, and he/she was a university student. The next day his/her father came and said he is a pastor, and he wants to take the patient to the prayer because the problem is not psychological. We tried to educate him, but he refused and signed against the treatment in the book. But the patient's history does indicate that there is a [mental health] problem in the family chain, even his/her father seemed to experience the same problem, his/her sibling, his/ her cousin have all experienced the same mental health issue. But according to his [father's] explanation, he said they received the healing through prayers. This is the challenge that we are going through. (KII 5, Morogoro)

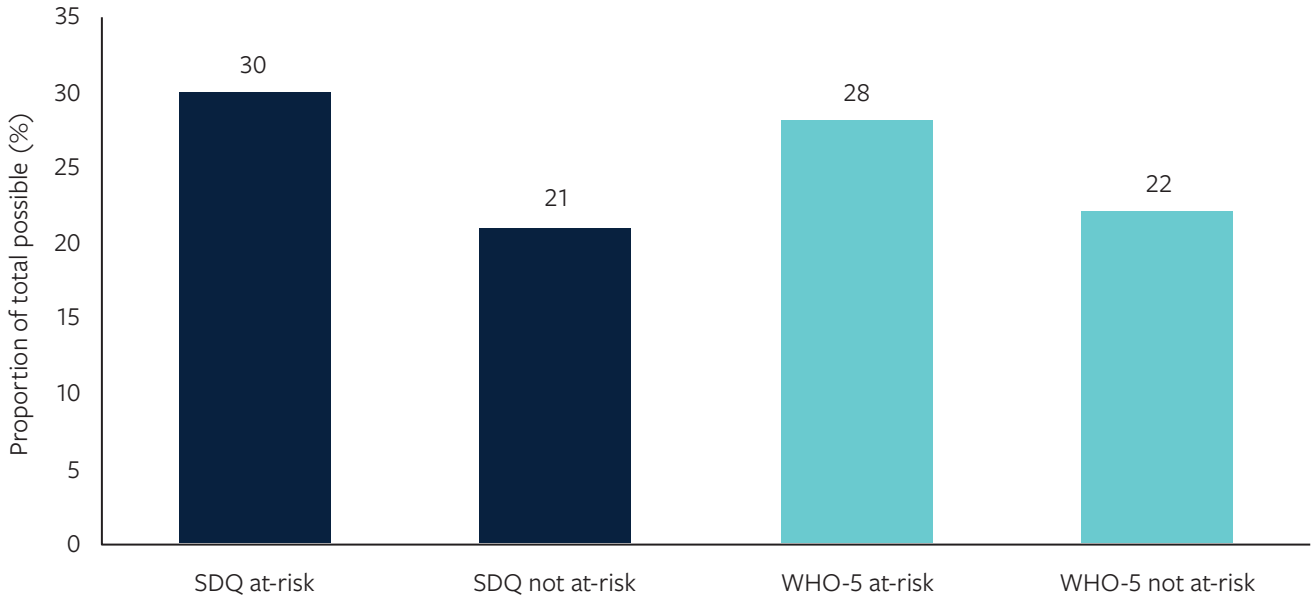
Stigma is another factor that prevents people approaching formal mental health services, as noted by a key informant (a local government official):

> Parents tend to hide things, they do hide the disabled and they do the same to their children when they are going through certain challenges. Parents do take their children to their grandfathers to get help, but from our part, we want an adolescent to have a good healthy state, so in most cases we are let down by the parents. (KII 3, Morogoro)

Indeed, stigma towards formal mental health services is reflected in the responses to our survey. We measured attitudes toward seeking professional psychological help among all survey respondents but compute the indicator for secondary students only, given that the measure exhibited low reliability among primary school respondents (see Annex 3.2, Table A1 for more information). Among secondary students, the average score was 23% of the total possible, with higher levels indicating more stigma (Figure 13). Region was the only socio-demographic variable associated with a statistically significant difference in attitudes, with students in Morogoro reporting less stigma (relative risk, 1.05; F=3.28, df=1, p<0.1). Holding stigmatising attitudes, in turn, is positively associated with being at risk according to the SDQ (relative risk, 1.42; F=10.51, df=1, p<0.05) and the WHO-5 (relative risk, 1.29; F=4.61, df=1, p<0.05) (Figure 13).

A preference for informal services may also reflect lack of economic resources, as even if formal services are free, for some they are often located further away (requiring money for transport), while certain medications and treatments may have additional costs, as highlighted by key informants and adolescents. However, a few adolescents observed that 'support groups' form at times, where relatives and community members make contributions for hospital bills or medication.

Figure 13 Attitudes toward seeking professional psychological help and risk of mental ill-health



Finally, local authority key informants noted that people with major mental health problems at times approach the police, the executive office, the neighbourhood chairman or even the court. However, they did not give details of effective and successful support or experiences regarding referrals to mental health clinics or hospitals. Lack of training opportunities and limited knowledge of mental health was also noticeable among some key informants working at local level who linked severe behavioural and health issues (such as alcohol or drug abuse and sexual violence) with mental ill-health.

6.2.2 NGO and community-based services

Regarding experiences in accessing mental health services provided by NGOs or local organisations, only one mother mentioned that her son participated in a programme to support mental health, although she did not give details. She noted that through the organisation, her son became more involved in sports and his mental health improved. This was an opportunity for her son to invite other friends to participate, which also helped him to meet new people. Although some NGO providers mentioned delivering services to adolescents (for example, the 12 steps programme for those with addictions, and livelihoods or economic support to vulnerable adolescents), they did not mention mental health offerings as part of their core services. Similarly, our key informants based at NGOs commented on a lack of staff with skills to deal with adolescents' mental health issues. Furthermore, one key informant explained that efforts made by their organisation had not been well-received by the community, who stigmatise mental health issues, noting that some people feel 'insulted' if they are said to have symptoms of mental ill-health.

6.2.3 School-based services

Adolescents were more familiar with and had more experience of accessing mental health services in schools. Some adolescent girls in Morogoro noted that school counselling services

were available, although others noted that it was not common for adolescents to make use of such services. Experiences in accessing school counselling services varied, with some adolescents noting that the advice they received was unhelpful or unrealistic. For example, one girl noted that school counsellors may, for example, recommend a higher level of formal services to access further support or treatment, when adolescents cannot afford these services. Another girl indicated that the school advisor recommended that she follow a balanced diet, but her family's economic situation made such a recommendation challenging.

Teachers and school-based key informants identified their lack of skills for dealing with mental health issues, which posed challenges for them in terms of being able to offer support to students:

> We don't have enough skills to detect the problem, we are detecting the problem when it is [in the] serious phase. We need to have expertise, I mean teachers should be given skills about mental health issues, it might not be to all teachers but at least two or three of us. We could also have sessions to meet children directly to detect and solve problems ... If possible, there should be an electronic system or non-electronic system to be used as guidelines to educate children about mental health in general. (KII 11, Mwanza)

> There is a lack of trained teachers to provide support to students with such problems. Here in our school, we don't have any teacher who has studied special education who knows how to deal with a [child with] mental disability. Most of us have studied general subjects. We don't have teachers who specialise in special education subjects. (KII 1, Morogoro)

Other teachers showed indications of not having adequate knowledge to identify, support and monitor students who may have symptoms of mental ill-health such as behaviour issues. Instead, they tended to exclude or suspend these students so that they do not disturb other students.

6.2.4 Traditional healers ('witch doctors')

In Tanzania, witch doctors and traditional healers are often seen as obstacles to accessing professional treatment (Dillip et al., 2012). As already noted, mental health issues are widely associated with beliefs around witchcraft, leading community members to use traditional healers and remedies more often than formal services, as one key informant echoed:

> Some families believe in superstitions, so instead of taking them [people with mental health issues] to the hospital, they take them to witch doctors. So, until they realise this person has a problem, it will be late or sometimes, we have already lost the person. We don't have education about mental health in our society. (KII 12, Mwanza)

Another health worker indicated that family members usually have conflicting opinions about the choice of formal or informal services for mental health issues:

> People do go to the traditional doctors because more often they have tried their best to help this patient. When I ask, 'when did he/she start to get sick?', the answer can be two to three months, and I ask again 'where have you been in all this time; why you didn't take him/her to the hospital?' They say 'we have been with

> traditional healers; we have lost a lot of money and livestock, but we haven't seen any progress, and now we have decided to come to the hospital.' More often it's a conflict of interest within the families; there are those who want to bring the patient to the hospital and the other group that wants to take the patient to the traditional healers. (KII 5, Morogoro)

While most adolescents indicated that they have not used traditional healers, a couple of respondents shared that their father/caregiver had taken them to see a traditional healer. One younger adolescent boy shared that he had a positive experience with traditional healers as he was cured of his mental health-related symptoms:

> I was taken there when I was sick, it was when I was young ... When I got sick, they took me to a traditional healer who told my father to take me to Kigoma. After that, we travelled to Kigoma and my father took me to another traditional healer and I got cured. (IDI with 14-year-old boy in primary school, Morogoro)

Another older adolescent boy shared that he had a negative experience with a traditional healer, which led him to be held back from school and has been causing him severe distress:

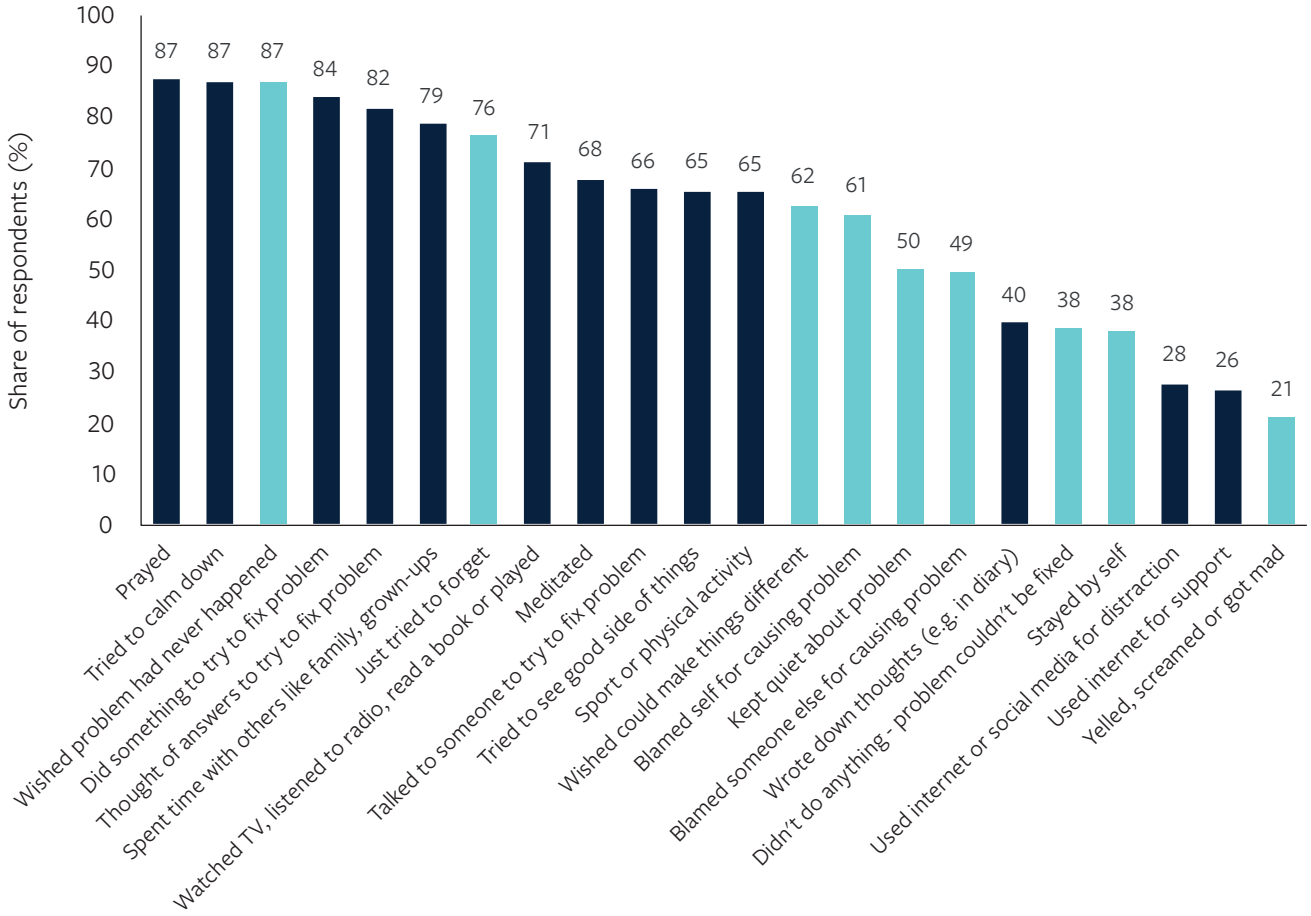
> Respondent: When we reached here in Magu my uncle took me to a witch doctor ... I stayed there for about two years and I started getting better. He enrolled me to another primary school so that I could repeat standard seven.
>
> Interviewer: The treatment you got from the first traditional healer helped you?
>
> Respondent: No.
>
> Interviewer: What treatment would you like to get now?
>
> Respondent: Any treatment that will help me get better.
>
> Interviewer: Even bringing you to another traditional healer?
>
> Respondent: I am ready for any treatment that will make me feel better. (IDI with 19-year-old boy in secondary school, Mwanza)

Other adolescents indicated that their relatives had given them traditional remedies to deal with personal distress. For example, a younger adolescent boy mentioned that his sister gave him a 'traditional medicine' to help him cry less. However, several respondents – especially those who attended a Christian church – indicated that they would not approach traditional healers due to their religious beliefs.

6.3 Coping strategies and behaviour

In our survey, we asked respondents what they did the last time they were feeling tense or facing a problem or difficulty. They reported the extent to which they used numerous positive and negative coping mechanisms (Figure 14). The most popular options, cited by over 80% of respondents, were praying, trying to calm down, wishing the problem had never happened, and doing something or thinking of answers to try and fix the problem. The least popular responses, cited by fewer than 30% of respondents, were yelling, screaming or getting angry, and – of particular relevance to this project – using the internet/social media either for distraction or to seek support.

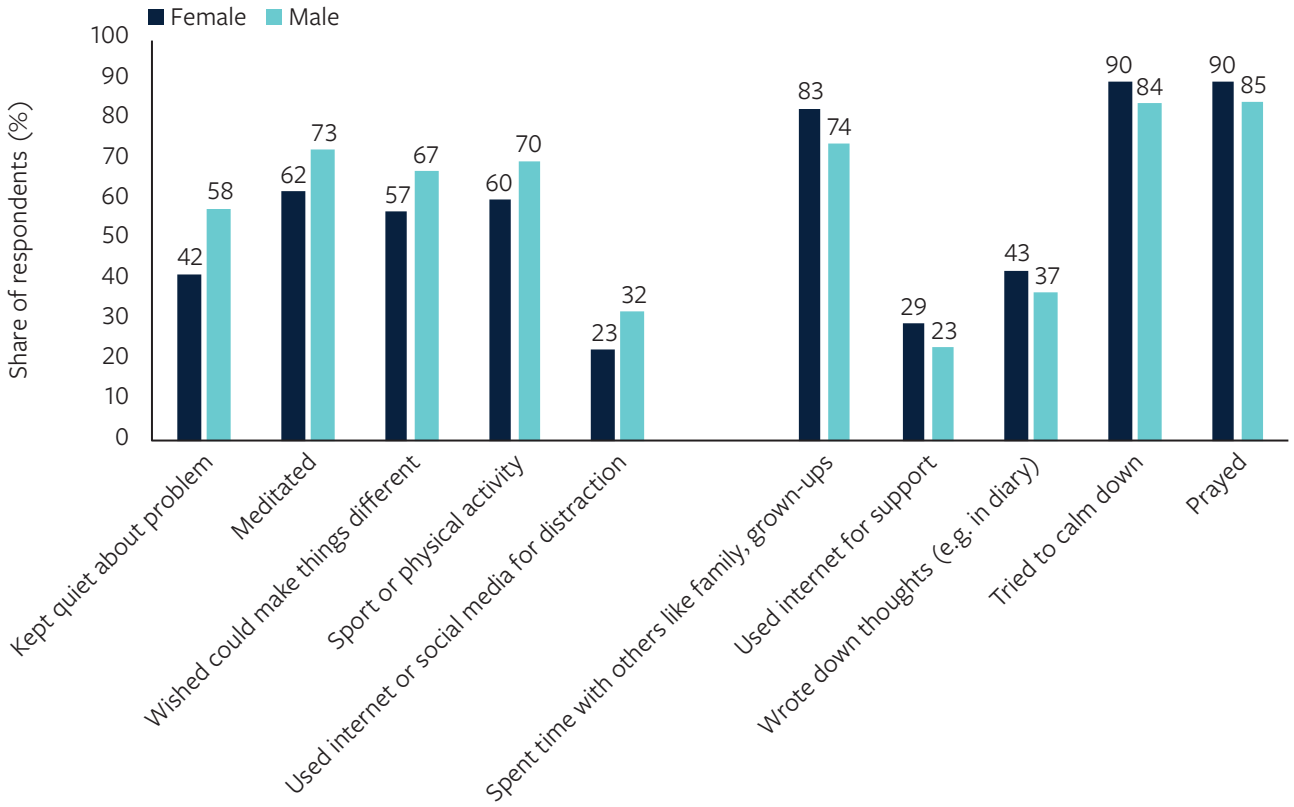
Figure 14 Positive and negative coping activities respondents used when last feeling tense or facing a problem or difficulty



Note: Positive coping mechanisms are coloured in dark blue and negative mechanisms in light blue. The categories are based on factor analysis (the items in the scale grouped into two factors that seemed associated with positive and negative strategies respectively); however, it is not a normative classification.

On average, 65% of respondents used a positive coping mechanism in dealing with a difficulty while 54% used a negative mechanism. Boys and girls were equally likely to use a positive coping mechanism, while boys were more likely than girls to adopt a negative mechanism (56% and 51% respectively). In our sample, the activities boys were more likely to do were keep quiet about a problem, meditate, wish things were different, engage in sport or other physical activity, or use the internet or social media for distraction (Figure 15). The average gender gap for these activities was 11 points. Girls, in turn, were more likely to spend time with others, pray, use the internet for support, write down their thoughts, and try and calm down. The average gender gap for these activities was smaller, at 6 points.

Figure 15 Gendered differences in coping activities respondents used when last feeling tense or facing a problem or difficulty



Before examining the range of coping mechanisms identified by adolescents, one important feature in our data is that several adolescents reported not doing anything to deal with distress or sadness. '*I don't do anything*' was a common response when asked (during qualitative interviews) how they deal with distress, whereas in our survey, 38% of respondents reported doing nothing in response to a problem because it 'couldn't be fixed'. Such responses may be driven by the fact that most adolescents are not well-informed enough about mental health to even consider coping mechanisms. The lack of awareness about mental health and of the symptoms of mental ill-health may lead adolescents to think that, even if they are struggling with difficult moments or life situations, these are perceived as normal. One key informant commented:

> I can say adolescents might not be able to cope because some of them don't even know if they have that problem. They may feel that life is going forward, they may sleep at a different place apart from home so they will just look at the situation as a part of their life. So, we can't say they know how to cope with [mental health] situations because they don't know they have a problem. (KII 7, Morogoro)

Despite this lack of awareness, adolescents have developed strategies or ways of coping with mental ill-health and psychosocial vulnerability. In the next sub-section, we examine in more detail the positive and negative coping strategies that adolescents mentioned using when experiencing mental ill-health symptoms and psychosocial ill-being.

6.3.1 Positive coping strategies and behaviour

In the qualitative work, some positive coping strategies identified by respondents were more solitary (such as sitting quietly, listening to music, keeping problems to oneself), while others involved interaction with others (including engaging in leisure activities that involve sports, meeting friends, or going to church). We examine these responses further in this sub-section.

Distracting and engaging in leisure activities

One important coping strategy is socialising and engaging in recreational and leisure activities to distract from feelings of distress. This includes playing outdoor games, spending time with friends, doing sports or exercise, watching TV, listening to music, singing, reading and studying.

Further, while some respondents cited one specific activity, many discussed several activities they use to distract them from feelings of sadness, unhappy thoughts or stress:

> I kept myself busy with studies and also had enough time to do sports like playing football, watching movies, studying, all those stresses went away to a point I am the way I am now. (IDI with 15-year-old boy in secondary school, Morogoro)

However, these activities appeared easier for adolescent boys, with girls indicating that they have to do household chores after school or are not allowed to hang around outside their home or visit others, unless they are close relatives or neighbours whom the family trusts. Adolescent girls were more likely to mention listening to music or spending time with friends to reduce their stress levels, which was corroborated by the survey results. Among adolescent boys, sports/exercise (namely football) and studying (including studying harder in response to poor results at school) were the most frequently cited activities to cope with feeling sad or depressed, responses that also emerged in the survey. Football also has a social element, as boys would typically play with friends, which is perceived as a source of relief. Only one adolescent boy mentioned that he keeps busy with household chores (washing dishes, bathing younger siblings) until feelings of sadness dissipate.

We also noted differences between younger and older adolescents. Among younger adolescents, studying appears more tied with being able to perform better in future exams, which reduces their academic stress:

> If I feel stress because I failed examinations, the next step will be to study hard and increase efforts on my studies for better performance in the coming examinations. (FGD with adolescent boys aged 11–14 years old, Mwanza)

> Interviewer: Okay. What do you do when you are sad /unhappy?
>
> Respondent: I take my exercise book and my pen and start writing corrections. (IDI with 11-year-old girl in primary school, Morogoro)

Younger adolescents are also more likely to engage in 'play' (as distinct from playing games on the phone), which is often with friends. For example, one young adolescent boy shared that he goes outside to play to forget about his sadness.

Among older adolescents, phones are an important means of relaxing through playing games, listening to music, watching videos or chatting with friends. Several older adolescents suggested that using a phone to engage in these activities helps them to cope with anxiety (including feeling frightened), stress and general mental health issues. Other adolescents mentioned that phones give them access to social media and platforms that help them feel calm and comforted, and to forget about their problems. Notably, it is largely older adolescent boys who indicate phone use as a positive coping mechanism, as found in the quantitative and qualitative data:

> When I'm stressed, I will take my phone and log into Facebook, I will get relief if I chat with my friends or if I play games in my phone, I will be happy or I will get rid of the situation. Others use their phones to download movies or new songs and when they listen or watch videos, it can help them with whatever problem they are facing. (IDI with 17-year-old boy in secondary school, Morogoro)

Several adolescent respondents mentioned phone communication with friends, relatives or other people close to them as positive coping mechanisms for dealing with depression, sadness and other emotions. This was particularly important for adolescents who use a phone to communicate with absent parents or close relatives living in other areas. Some older adolescent girls also mentioned using the phone to relax and feel comfortable, indicating special activities such as listening to music and communicating with relatives. A few older adolescent boys and girls mentioned spending time with friends as an important way to distract themselves and forget about their problems.

Resting or sitting quietly

Older adolescents mentioned coping strategies that involved sitting down quietly and calming down to cope with sorrow, sadness or anger. For example, an older adolescent boy shared that he prefers to sit alone and read a story book to cope with stress. Similarly, an older adolescent girl who lives with her father shared that she copes with being unhappy, stressed or worried by staying calm, comforting herself and remaining patient. Other adolescents mentioned sleep or taking a bath to remain calm in stressful situations such as arguing with parents or friends. These strategies allow adolescent to 'spend time alone', to 'reflect', to 'calm down' and to potentially 'find a solution'.

Speaking to family

Adolescents in the qualitative sample were asked who they speak to in the family when they face challenges or feel distressed. Most young adolescents (both boys and girls) reported going to their mother first, with many indicating that their mother listens and offers them comfort, so they feel confident and trust her. Mothers confirmed that they try to comfort their children or solve their problems (for example, finding ways to pay for school fees or materials, raising issues of bullying at school). Also, mothers can be a 'bridge' to approach fathers to talk about adolescents' feelings:

> Respondent 1: To me, when I get a problem, I always start telling my mother and she will be the one to tell father because I might sit with all of them and want to talk but father will ignore. That's why I always start with mother, because mother will know how to approach father and he will listen. (FGD with adolescent girls aged 11–14 years old, Mwanza)

> Respondent 2: The first person to tell my problems is my mother because … If I have a problem that I can't tell my father, I will tell mother first so she can help me and then she will tell father so as they can solve my problem. (FGD with adolescent girls aged 11–14 years old, Mwanza)

A few adult respondents (key informants and focus groups with fathers) agreed that when adolescents face challenges, they would speak to mothers rather than fathers. They reported that adolescents are typically closer to their mother, as fathers are generally busy being the family breadwinner. They also confirmed adolescents' reports that mothers often serve as the 'bridge' between fathers and children. As one father in Mwanza observed: '[adolescents] *going directly to a father to share their feelings, it happens rarely*'. However, a few adolescents mentioned sharing problems with both of their parents or with their father directly, indicating that they approach whomever they are closer to in the family. In other cases, adolescents observed that they do not share their problems with anyone, but that some of their relatives usually notice abnormal behaviour such as suddenly failing exams (when the adolescent normally does not) or acting much more quietly than usual. On these occasions, relatives talk to the adolescent to try to solve the problem they are facing.

Younger adolescents mentioned that they also speak to older siblings about their problems. They felt heard by their siblings and noted that their advice and actions were usually helpful, such as reporting bullying problems to school teachers, advising with studies, helping to purchase exercise books, or providing comforting words during sad times. Interviews with older adolescents confirmed that younger siblings usually share problems with them, and that they try to advise as best as they can or provide financial support if they can (such as to buy school materials or provide pocket money). When older siblings feel they cannot provide support, they refer adolescents to parents/caregivers or school authorities. Older siblings indicated that they could understand younger siblings' problems very well, as they may have experienced similar issues in the not too distant past. Other adolescents – particularly girls – indicated that they speak to their grandmothers or aunts about their problems. They feel that these family members listen to them, do not react badly (compared with parents, who may do), and can provide helpful advice or financial support if needed. These female family members are also perceived as a 'communication bridge' between adolescents and their parents/caregivers.

However, parents or caregivers are not always a positive coping source and can undermine adolescents' mental health and psychosocial well-being. In a few cases, adolescents observed that their mother did not do anything to help them with their challenges or even provided negative or unhelpful responses. For example, one adolescent boy reported that he stopped sharing problems with his mother because she insulted him. In other cases, mothers probably did not know how to support their children, since the adolescent observed that their mother just 'remained quiet', 'did not say anything' or 'cried'. Another adolescent girl shared her worries with her mother after she lost a chicken. However, her mother warned her of her father's likely violent reaction, making her mental distress worse, and causing her to leave home.

A few adolescents shared that they feel unsupported by family members to deal with their problems. This was often true of adolescents who do not live with their parents (or only with one parent). For example, one adolescent girl

did not want to share her feelings with her father because she was afraid that he was going to tell her stepmother, whom she did not trust, so she preferred to keep her thoughts to herself. In other cases, adolescents faced mental health challenges (such as nightmares, inability to focus at school, tiredness or bullying) that they think their parents/caregivers ignore or with which they are unable to support them. In other cases still, adolescents have suffered repercussions (such as corporal punishment) when they had previously talked to their parents about their concerns, leading them to keep quiet about problems in future.

From the perspective of adult respondents (parents, caregivers and other family members), some adolescents do not share problems with them even when prompted, while others are unable to offer support:

> Not long ago. One day I was sitting here with him, I asked him 'why are you not happy?' He said, 'aunt, I am thinking if you could ask someone for electricity so that I can go and study there'. I told him there is nothing we can do, just bear with it. Sometimes we don't even have kerosine to light up the lamp. Instead, he uses a torch from my phone. He tells me, 'your phone will get damaged'. One day we were here, and he said, 'I have a lot of things in my head but I can't tell you now, I will tell you when I am okay'. I told him 'tell me', but I was busy with my newborn so I didn't follow him up. (IGT with 31-year-old guardian of 15-year-old boy, Mwanza)

Other adult respondents confirmed that excessive use of corporal punishment stops adolescents from approaching their parents/caregivers to discuss their problems. Thus, although some adolescents find it helpful to share their problems with parents or other relatives, others report that adults did not understand their specific needs.

Speaking to friends and neighbours

Adolescents in the qualitative sample also spoke about relationships with non-relatives, including neighbours and friends. Most adolescents had at least one or two same-aged peers – a friend from school or the neighbourhood – with whom they share their concerns.

A few adolescents (particularly younger ones) reported turning to their neighbours for advice when facing challenges, including mental distress. These neighbours are usually close to their family and offer advice or emotional support. Similarly, some adults noted that adolescents may be more responsive to their neighbours' advice. One key informant mentioned that adolescents may seek neighbours because their parents are not at home. Another key informant from local government agreed that adolescents go to neighbours to seek advice for problems, including abuse at home:

> Some children go to their neighbours when they think that problems have been too much for them. For example, if their stepmothers are abusing them, or if they are not given food or if their stepfathers have sexual affairs with them. Sometimes when a mother leaves, a father will bring another wife … So, I normally get information from neighbours and when they give me information, I have been writing letters to those parents and it has been changing. (KII 7, Morogoro)

Several adolescents reported that they also speak to friends about their problems and share with them their worries or sadness. Adolescents shared that they would speak to friends first

(that is, before parents, family or teachers) when experiencing challenges. In most cases, friends are seen as a support network because they offer advice, provide comfort, feelings of being heard/understood, and/or offer helpful advice that makes the adolescent feel better. In other cases, adolescents noted that they are afraid to share problems (such as not having enough school materials or having a problem at school) with their parents. Positive or helpful responses from friends include giving money to buy school materials or advising adolescents to tell parent(s) or other family members about their issues:

> I have never had stress but there is this day I was asleep at home because sometimes my mother leaves home and my brother goes to Mkolani [one Ward in Nyamagana district] where we have built a house, hence I stayed alone. I didn't even have a candlelight, so I got scared. So, I told my friend yesterday that I felt there were people inside the house, and her advice was not to keep it to myself but to tell my mother. (IDI with 13-year-old girl in primary school, Mwanza)

Adult respondents (mothers participating in FGDs and key informants) agreed that positive or helpful responses from friends include advising adolescents to talk to a parent (or parents) or other family member about their problems, and that some even expected friends to directly inform the parent(s) of challenges faced by their children and find a solution together.

Older adolescents felt that friends' advice can be helpful, or at least friends offer suggestions for adolescents to consider. Further, even if friends cannot directly help, they may often try to connect adolescents with someone who can.

However, on some occasions, responses from neighbours or friends are not always positive or helpful (particularly for persistent mental health challenges). A few older adolescent girls opined that friends either did not take their problems seriously and/or simply told them to be patient:

> Interviewer: How did your friends react to your problem?
>
> Respondent: Some of them took it as a joke, some of them didn't take it seriously and some of them told me to be patient. (IDI with 17-year-old girl in secondary school, Mwanza)

> I just told her [friend] about the problems I was going through at school, but she doesn't help me with anything. (IDI with 16-year-old girl in secondary school, Mwanza)

When adolescents did not find their friends' support helpful, they were discouraged from sharing with them in future. Thus, although social networks are an important source of coping support for adolescents, this resource is bounded by the availability of people with the capacity to provide the specific support needed (Hall et al., 2019).

Speaking to teachers

The qualitative data showed that approaching supportive teachers also appears to be critical to adolescents facing mental health issues. This was echoed by some teachers who indicated that adolescents readily share their problems with them, seeking help for issues such as not having food at home. However, secondary school teachers indicated that adolescents do not readily share their problems with them, but they may speak about problems learned in class that resonate with

them. In other cases, peers and friends report to teachers when an adolescent is going through a difficult time. Generally, secondary school teachers noted that they have to make an effort to identify students who may be facing issues by building close relationships with them. Teachers also indicated that they could help adolescents to overcome challenges and avoid falling into drug abuse, bad behaviour and dropping out of school.

A few adolescent respondents shared that teachers encourage them or provide helpful advice, which they typically follow. Also, teachers can solve certain situations such as bullying or providing adolescents with needs such as money for medicines, school materials and food. Adolescents' relatives corroborated that such advice and encouragement could be helpful.

Nevertheless, approaching teachers does not always solve the issues or mental health challenges that are faced by adolescents. Some younger adolescents facing bullying at school noted that reporting it to teachers had not made any difference, leaving them distressed. On other occasions, adolescents felt that teachers ignore their issues, while others still did not feel close enough to any teacher to approach them with problems.

Religion and other positive coping mechanisms

In times of adversity, turning to religion can help adolescents find inner strength. As noted above (see Figure 15), praying was the most common activity cited by survey respondents (90% of girls and 85% of boys) for coping with difficult situations. This was evident in the qualitative work too. For example, adolescents noted that they '*pray to God*' to help them when they are facing problems at home such as a family illness or a parent suffering from alcohol addiction or who is 'bewitched'. Other adolescents also sing gospel songs when stressed or sad, usually at night before going to sleep, or approach religious leaders directly. These religious leaders often share advice and invite adolescents to worship to avoid their problems.

Other positive coping mechanisms adolescents mentioned included crying, as this release of feelings gave them relief. Others try to comfort themselves by thinking positively or remaining calm.

6.3.2 Negative coping strategies and behaviours

Here, we identify the negative coping strategies and behaviours/symptoms used by adolescents according to their own accounts, those of their parents/caregivers and key informants.

Keeping problems to self/not sharing

Our data indicates that while adolescents may feel comfortable seeking help when they feel physically ill, some avoid sharing mental health problems and would rather keep them to themselves:

> I might feel a headache and inform a certain person who buys me a medicine and I take it … but still, I might act as if nothing is happening so that such a situation [that bothers me] does not come again, I might sing to get rid of that situation. (IDI with 15-year-old girl in secondary school, Morogoro)

In some cases, this is due to fears of undesirable reactions from parents/caregivers or teachers, or previous negative experiences when the adolescent did share a problem with them (as described earlier). In other cases, adolescents do not believe that anyone else can help them, so they prefer to keep their problems private:

> I have realised that it [mental health] is my problem, even if I tell anyone, he/she may not be able to help me... (IDI with 17-year-old boy in secondary school, Morogoro)

In some cases, adolescents perceive that sharing their problems with others may cause even more problems, as indicated by a 15-year-old boy:

> Interviewer: Why haven't you told anyone, why don't you tell people your problems?
>
> Respondent: I don't like to tell them
>
> Interviewer: What makes you not to tell them?
>
> Respondent: If I tell them, they might cause more problems
>
> (IDI with 15-year-old boy in secondary school, Mwanza)

Not being able to share can make the problem worse, as reported by an adolescent girl who said she can sometimes feel so distressed that she cannot explain how she is feeling to others:

> I might just keep it in my heart, that's why; sometimes I am having a lot of stress. I fail to know how I can tell others. (IDI with 15-year-old girl in secondary school, Morogoro)

A few adolescents indicated that their problems are a private matter, while others reported feeling ashamed to share them. For example, one girl reported that she does not want everyone to know that her family is poor, so she kept it as 'her secret', even though she was feeling distressed when her family faced financial issues. In some situations, adolescents fear 'gossip' or that others may betray their trust and tell others about their problems. A few adolescents (all of them girls) mentioned not wanting to overburden others with their problems, particularly parents, who may have their own issues. Others did not perceive mental health symptoms (such as anger, depression or fear) as problematic, but rather normal situations that would eventually pass. Even situations of sexual assault can be normalised, leading adolescents not to seek help, according to adolescent girls during a FGD. So, adolescents often just ignore problems, try to keep them to themselves, or try to forget the issues they face.

Withdrawing from others, and isolation

Isolation was also reported as a means of coping, with some adolescents (particularly girls) stating that they cut themselves off from others, especially family members. Some boys also noted that they isolate themselves as it helps them to feel relaxed. Isolation is a strategy that is used when adolescents feel unhappy, upset, sad or distressed:

> I used to try controlling myself, especially if I am angry. I try so much to calm down, but I can't. When I am angry, I never stay close to anyone. I like to isolate myself. (IDI with 19-year-old girl in secondary school, Morogoro)

This is corroborated by relatives of adolescents, who noticed that their children often isolate themselves and usually spend time alone in their room.

Sleep disturbances and eating disorders

Some adolescents shared that they sleep too much or lack sleep, with a few indicating that they use sleep as an explicit approach to cope with feelings of sadness or distress. Adolescents noted that sleeping makes them feel better or was simply used as a coping mechanism to forget or ignore their problems. In other cases, concerns (for instance, about the health of parents or close relatives) are an important trigger for distress that may cause adolescents to lack sleep, echoing the findings of the Global School-based Student Health Survey (GSHS) analysed by Nyandindi (2008). Parents and other relatives corroborated that adolescents usually sleep when feeling sad or distressed, or conduct other activities combined with sleeping (such as crying then sleeping, or singing then sleeping).

Another coping mechanism relates to eating disorders, especially the loss of appetite. Older adolescents (particularly girls) mentioned that they have experienced loss of appetite, usually as a response to being depressed or distress from family situations (such as after being insulted by a family member). However, in a few cases, adolescents (boys and girls) were unsure of the cause of their loss of appetite, especially because they did not report having any mental health issue, although this was probably because of a lack of awareness of mental ill-health and its symptoms, as discussed in Chapter 4.

Use of harmful substances

The Tanzanian literature identifies the use of harmful substances among some adolescents from an early age. The 2008 GSHS, focused on adolescents aged 13–15 years in the Dar es Salaam region, found that 10.8% of respondents had drunk alcohol before the age of 14, and 5.4% had used drugs. The same data found that 23.3% of adolescents had tried their first cigarette at age 14 or younger (ibid.). In a study of adolescents aged 10–19 in six countries (including Tanzania), depression was associated with negative coping mechanisms such as smoking and alcohol abuse (Nyundo et al., 2020).

In our survey, 5% of respondents reported having consumed alcohol, 3% had smoked cigarettes and 5% had used drugs (opium, cannabis or a harder drug). It is certainly possible that respondents may have censored themselves in responding to these questions such that the true percentage is higher, not least given that participants from all categories (adolescents, parents and key informants) identified drug use as an important challenge faced by adolescents, mainly boys, leading them to behavioural problems and school dropout.

A few respondents in the qualitative sample identified substance abuse (smoking tobacco or marijuana, or alcohol consumption) as a driver of mental ill-health, while others identified it as a symptom. Some adolescents shared (not necessarily from personal experience) that adolescents would turn to harmful substances such as cigarettes, alcohol or marijuana as ways to cope with challenges in life and/or mental distress. Substance abuse is often exacerbated by the negative influence of 'bad company' and by not having anyone to offer advice to adolescents facing challenges. Adults mentioned that some adolescents would typically be in groups with their friends and discuss their problems, while using such substances to relax or to forget about the issues they may be facing. Adults also noted that poverty and unstable family dynamics are important factors leading adolescents to use substances. For boys, as noted by some key informants, substance consumption driven by peer pressure is linked to gender norms around masculinity and a need to demonstrate having reached adulthood and maturity.

Although most adults report that adolescent boys are more likely to use harmful substances, one pointed out that girls also use marijuana, but that they may be more discreet about it.

Depressive thoughts, suicide ideation and self-harm

Suicide is the fourth leading cause of death in 15–19-year-olds globally, while over 77% of global suicides in 2019 occurred in LMICs (WHO, 2021). Studies in Tanzania have associated depression with negative coping mechanisms such as suicide (Nyundo et al., 2020). Similarly, analysis of the 2008 GSHS data found that adolescents reporting suicidal intent were more than twice as likely to report having been lonely, more likely to suffer from depressive symptoms and more likely to have previously used an illicit substance (Dunlavy et al., 2015). It also identified an inverse association between age and suicidal planning (ibid.).

Most adolescents in our qualitative interviews indicated not having had thoughts of suicide. However, a few reported having depressive thoughts or suicidal ideation due to different sources of distress, such as illness or feeling overwhelmed with problems. For example, one adolescent girl shared that, due to her anger issues, she sometimes feels like hurting herself. An adolescent boy indicated that he wishes to die because his parents are not loving and the only family member that he is close with (his grandmother) may die soon.

In our survey, 8% of respondents reported having engaged in self-harm (hurting their own body on purpose); figures were twice as high among boys (11%) compared with girls (5%) (relative risk, 2.26; X^2=4.81, df=1, p<0.) and four times higher among primary (12%) than secondary (3%) students (relative risk, 4.04; X^2=11.895, df=1, p=0.001). Again, we expect the true percentage to be higher, given the possible bias in self-reporting; it may also be that older adolescents are more likely to conceal such behaviour. Self-harm is associated positively with the SDQ score (F=14.15, df=1, p<0.0005) and being categorised as at risk of mental ill-health (relative risk, 2.54; X^2=7.457, df=1, p<0.01). Some 43% of respondents who reported self-harming were in the SDQ at-risk category, compared with 21% of those who reported not self-harming.

The qualitative work with adolescents confirmed that most have not engaged in self-harm, which was echoed by relatives. However, a couple of older adolescents reported having self-harmed, including intentionally injuring themselves with a knife or biting themselves. This appeared to be linked to anger issues, which may at times be triggered by poverty (an inability to afford needs) at home. Two key informants also reported hearing about adolescents in the community having committed suicide owing to challenges such as poverty or psychosocial distress.

Bullying others and other inappropriate/ delinquent public behaviours

According to our survey, 27% of respondents reported having bullied someone at school. More males (30.5%) than females (23%) reported having bullied someone (relative risk,1.06; X^2=2.83, df=1, p<0.1) as did more primary school attendees (relative risk, 1.08; X^2=4.164, df=1, p<0.05). The presence of a father in the household is associated with an increased likelihood of engaging in bullying: children living with both parents, or their father only, were more likely to bully someone (31%) than those living with their mother only or without their parents (21%) (relative risk, 1.08; X^2=4.602, df=1, p<0.05). Adolescents who reported bullying someone were more likely to perform worse on the SDQ (F=5.74, df=1, p<0.05) and to be in the SDQ at-risk category (30% compared with 21% of students who had not bullied

anyone) (relative risk, 1.08; X^2=3.575, df=1, p<0.1). However, there was no evident link to being at risk of depression.

More than half of respondents reported being bullied by their peers, with 24% indicating that this was 'certainly true', and 30%, indicating 'somewhat true'. Key characteristics affecting reports of having been bullied were age and SES. Most (70%) of primary school students reported some experience of being bullied, compared with 38% of secondary school students (relative risk, 1.84; X^2=40.1, df=1, p<0.001), as did 56%–60% of students in the three lower SES quartiles compared with 42% in the highest quartile (X^2=6.46, df=3, p<0.1). Relatedly, most students (69%) had gotten 'into trouble' in class and 50% had been in a fight. Around one-quarter (23%) reported their school having phoned their home to report poor behaviour.

The qualitative component identified that adolescents bully others as a coping mechanism to deal with feelings of anger, mistreatment, or to avenge previous experiences of bullying:

> When you get bullied, you will feel like you have no value, why should you be bullied every day? When you are in the classroom you might be crying, and get different stress, and you might even start forming your own group, so that you can go to [take] revenge on a person who bullied you. That's how it can be.
> (FGD with adolescent FEMA Club members aged 15–19 years old, Mwanza)

Although the literature on Tanzania finds that bullying and physical fighting are more common among younger male adolescents (Berhane et al., 2020), in our study, adolescent girls also noted having bullied others, either siblings or classmates. However, adolescents observed that inappropriate behaviours such as stealing, lying, coming home late, general hooliganism or other criminal acts are more common among boys. These behaviours often co-occur with drug abuse and may be borne from distress and family challenges:

> A person who is addicted to drugs will do anything to get money … so when he lacks money, he may decide to go stealing so that he can get some money to buy drugs.
> (FGD with adolescent boys and girls aged 15–19 years old, Morogoro)

> Respondent 1: Adolescents and parents, all of them, are complaining that the situation has become tough … If the mother is selling food and he [a boy] sees that she can't fulfil his school needs, he will quit school, he will go to the streets and become a tout, engage in theft, smoking marijuana, and that problem is increasing.
>
> Respondent 2: You may see some boys smoking cigarettes, going back home late at night and doing criminal acts or making trouble. (FGD with adolescent girls aged 15–19 years old, Mwanza)

One key informant even noted that a former male student was killed by community members after stealing. However, this informant did not share details of the problems that this student was facing. Other types of violence that emerged, through our survey, were having been in a fight (50% of respondents) and engaging in gang violence (6%). The gender imbalance in fighting was not as marked as might be expected: of those

who had been in a fight, 57% were male and 42% were female (relative risk, 1.34; X^2=7.88, df=1, p=0.005). Fighting decreased according to age: at one extreme, 68% of 10–11-year-olds reported having been in a fight, while at the other, 34% of 15–19-year-olds reported having been in a fight (X^2=14.4, df=3, p<0.05).

Gang violence was more common among boys, with 8.5% of males reporting involvement compared with 3% of females (relative risk, 2.73; X^2=5.18, df=1, p<0.05). It was also more common among primary school students: 8% of primary and 3.5% of secondary students reported having participated in gang violence at least 'occasionally' (relative risk, 2.32; X^2=3.89, df=1, p<0.05). SES is positively associated with participation in gang violence (X^2=6.47, df=3, p<0.1). For example, 3% of those in the lowest wealth quartile had taken part in gang violence compared with 11% of those in the highest quartile. Christians (7%) are more likely to have engaged in gang violence than Muslims (3%) (relative risk, 2.64; X^2=2.81, df=1, p<0.1). Living with a father also predicts gang violence – 8% of this group reported engaging in gang violence compared with 3.5% of those living without a father (relative risk, 2.25; X^2=3.27, df=1, p<0.1). Gang violence positively predicts the SDQ score (F=14.01, df=1, p<0.0005) and being in the SDQ at-risk category (relative risk, 3.02; X^2=8.196, df=1, p<0.005). Nearly half (48%) of those who committed gang violence were at risk of mental ill-health compared with 22% of those who did not.

Some 7% of adolescents had engaged in gambling, and those respondents were more likely to score worse on the SDQ scale (F=19.47, df=1, p<0.001) and to be in the SDQ at-risk category (relative risk, 3.06; X^2=10.896, df=1, p=0.001). Nearly half (48%) of respondents who gambled were categorised as at risk according to the SDQ, compared with 21% of those who did not.

Most (69%) of respondents reported having gotten into trouble in class; 57% of this group was designated as at risk of mental health according to the SDQ, compared with 43% of those who had not gotten into trouble (relative risk, 1.27; X^2=7.764, df=1, p=0.005). Just under a quarter (22%) had had the school call their home because of trouble; over a third (35%) of this group was at risk of mental ill-health, compared with 20% of those who had not had the school call their home (relative risk, 1.73; X^2=7.510, df=1, p<0.01).

Early sexual engagements

Lack of money causes stress and psychosocial ill-being for adolescents and their caregivers, and causes risky behaviours, including early sexual engagements (as outlined in Chapter 4). Furthermore, adult respondents in the qualitative sample observed that adolescent girls may start to engage in sex (prostitution) even from a young age, as a response to stress driven by unstable family situations such as the death of a parent, parents' separation, or poverty. As prostitution is a way to cope with poverty, some key informants noted that some girls perceive it as a means to financial independence. As noted in Chapter 4, just under a quarter of survey respondents (23%) reported having ever been sexually active (30% of boys and 16% of girls), and they were no more likely to be at risk of mental ill-health than other respondents.

6.4 Technology usage

6.4.1 Ownership and usage of technology

We now turn to technology use among our sample (in Annex 6, Tables A4 and A5 provide details of the links between access to technology and our key mental health indicators, while Table A6 disaggregates data on technology use by region, school level and school type).

The key finding is a striking lack of access to internet and technology across students (Figure 16a). Most respondents (63%) had 'never' used a computer (or laptop), tablet or the internet in the previous 12 months, and those who had used one mostly did so less than once a month. Use of a mobile phone with internet (smartphone) was relatively more common: more than half of respondents (53%) had had some access in the previous 12 months, with 19% reporting daily usage. Moreover, even if students do not personally own mobile phones, nearly all (92%) lived in a household that owns one, and most (72%) live in households with smartphones that permit internet access. Most students (55%) report being unable to access the internet when needed; 38% were 'sometimes' able to do so, while only 3% had access often, and 4% 'always'.

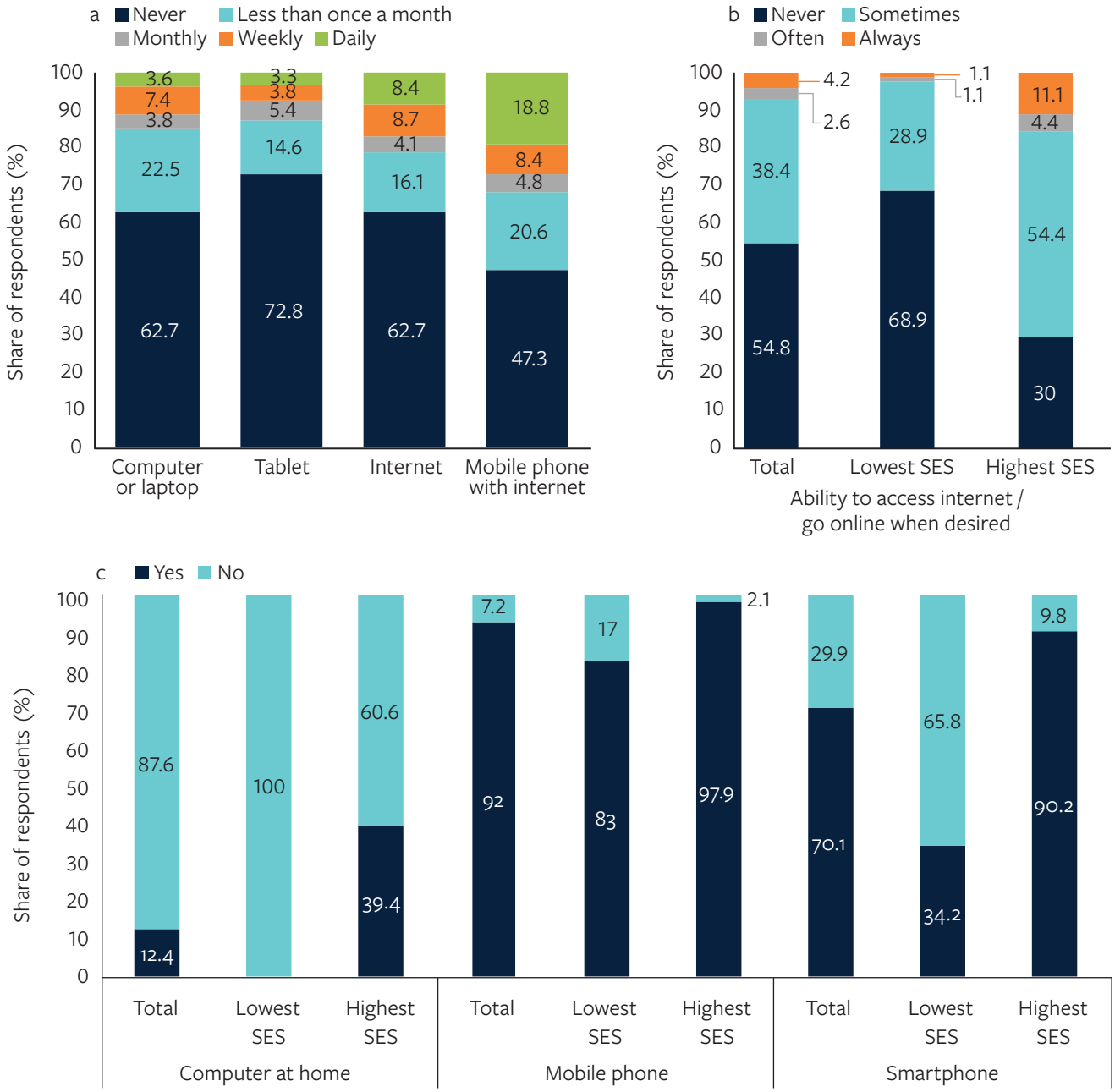
SES is associated with statistically significant differences in computer usage (X^2=58.679, df=12, p<0.001) and internet access (X^2=43.576, df=12, p<0.001) (Figure 16b and Figure 16c, respectively). Just over one-third (36%) of respondents from the highest socioeconomic quartile reported having 'never' used a computer in the past year, compared with 78% from the lowest quartile. Similarly, ownership of a smartphone varied by SES (X^2=81.749, df=9, p<0.001), with only 34% in the lowest SES quartile owning smartphones in contrast to 90% among households with high SES. Computer ownership at the household level is also rare (just 12.5%) but this increases with SES (X^2=90.102, df=3, p<0.001): 39% of households in the highest quartile owned a computer, compared with no households in the lowest quartile. Differences in internet access across socioeconomic quartiles are large and statistically significant (X^2=41.104, df=9, p<0.001): 69% of respondents in the lowest socioeconomic quartile had 'never' had access to the internet when needed, in contrast to 30% among respondents in the highest socioeconomic quartile.

Gender differences are only statistically significant for the use of internet (X^2=16.141, df=4, p<0.005), with boys having more frequently used the internet in the past year (70% of girls had 'never' used the internet in the past 12 months, compared with 56% of boys). Fewer than 15% of students personally owned a mobile phone, and mobile phone ownership also favoured boys (19%) over girls (10%) (X^2=6.124, df=1, p<0.05). Gendered differences in internet access are also statistically significant (X^2=90.102, df=3, p<0.001), with 62% of girls never having access to the internet when needed, compared with 48% of boys.

Regional differences were also marked. The use of digital devices was higher in Morogoro region, where 58% of students had 'never' used a computer compared with 68% of those in Mwanza (X^2=11.296, df=3, p<0.05). Personal mobile phone ownership (X^2=7.865, df=1, p<0.005) and internet usage (X^2=13.471, df=4, p<0.01) also appeared higher in Morogoro, where 19% of students owned a phone and 59% had 'never' used the internet in the past year, compared with 9% and 67% respectively in Mwanza. Some 40% of respondents in Morogoro had never used a mobile phone with internet, compared with 55% in Mwanza (X^2=10.234, df=4, p<0.05).

We found statistically significant associations between technology and being at risk of depression (measured by the WHO-5), particularly in relation to having access to a tablet device (relative risk, 2.52; X^2= 8.238, df=1, p<0.01), internet access (relative risk, 1.85; X^2= 11.987, df=1, p=0.001), and personal ownership of a mobile phone (relative risk, 2.30; X^2=3.196, df=1, p<0.1). Differences associated with the SDQ indicators were not statistically significant.

Figure 16 (a) Use of digital devices and the internet, and access to (b) the internet and (c) digital devices by socioeconomic status



The qualitative research reaffirmed low access to digital devices (e.g. phones, computers) among adolescent participants. As shown in Annex 11 (Table A17), most adolescents indicated that they do not own a phone and face challenges to own or access one (14 respondents). This is followed by those who indicated that they do not own a phone, but have access to a smartphone (9 respondents), closely followed by those who do not own a phone and have no access to a smartphone (8 respondents). Only three adolescents owned a smartphone, and one owned a phone of an unclear type.

In the case of adolescents who do not have access to their own phone but access to someone else's, they most frequently referred to parents, older siblings or other caregivers (see Annex 11, Table A18). Most adolescents reported using their phone to communicate with relatives (16), study (5), find 'entertainment' (4), listen to music (3), watch videos (3), communicate with friends (2), look for and share information (2), communicate with teachers (1) and play games (1).

Our qualitative data on computer ownership among adolescent IDI participants (See Annex 11, Table A19) shows that a great number do not own a phone and face challenges in accessing one (12 participants), while slightly more adolescents do not own a phone but have access to a computer (14). Although students have access to computers at school, a lack of knowledge about how to use them, requirement to pay electricity or computer fees, and computing either not being taught at all or taught as a non-mandatory subject hindered their utilisation. Most adolescents in both sites indicated that they use the computer to play games (5) or study (5). A couple mentioned using it to watch films, and one student reported using it to watch videos.

The qualitative data found that the use of social media among adolescents is generally low (Annex 11, Table A20). Of those who were asked whether they used social media, a few students mentioned using Facebook (4), Google (3) and Camera (1). YouTube was also mentioned by some adolescents during interviews. Others have heard of social media platforms such as Facebook, Twitter and Instagram, but did not use them personally:

> Interviewer: Have you ever used any of them [social media]?
>
> Respondent: No
>
> Interviewer: How did you know them?
>
> Respondent: I have seen them on TV, when people introduce themselves, they say, 'if you want to reach me, follow me on Instagram, Twitter'. (IDI with 14-year-old boy in primary school, Morogoro)

A few respondents explained that they use social media but for limited periods of time (10–15 minutes), mainly because they borrow phones from parents or caregivers and need to give them back.

Regarding access to the internet, most adolescents reported that it was good. In most cases, their internet use (home or phone) is paid for by an immediate family member (usually mother or sibling). In two cases, adolescents paid for their own internet usage. Of those adolescents who were asked whether their internet use is supervised, around half reported that it was not, and the other half were monitored by a family member (father, mother, sibling or uncle/aunt).

Our survey asked respondents how likely they were to have looked online for mental health information for themselves or someone else. Some 60% reported having sought information, with as many as

11% looking every day and another 11% once a week or more. Gender differences were not statistically significant, nor were differences in SES or the risk of mental ill-health (measured by the SDQ or WHO-5).

Survey respondents with more access to technology (digital devices and the internet) appear to be more knowledgeable about sources of information on mental illness (statistically significant for all digital devices included in our survey). They also look more frequently online for mental health information, but this is statistically significant only for tablet access (relative risk, 1.05; F=5.05, df=1, p<0.05), internet access (relative risk, 1.08; F=11.41, df=1, p<0.001) and personal ownership of a mobile phone (relative risk, 1.06; F=4.03, df=4, p<0.05).

Emotional literacy and knowledge of what is important for good mental health is only statistically significant when associated with having internet access when needed (relative risk, 1.03; F=3.10, df=1, p<0.10, and relative risk, 1.03; F=3.20, df=1, p<0.1, respectively), and positively with SES (F=9.884, df=3, p<0.001, and F=4.064, df=3, p<0.01).

Access to technology is also significantly associated with distraction as a coping mechanism (statistically significant for all digital devices in our survey). By contrast, self-blame as a coping mechanism is only associated with access to the internet when needed (relative risk, 1.06; F=3.39, df=2, p<0.1). This suggests that while all technology can be used for distraction, the technologies used most for social media appear to be associated with self-blame; these distinctions in the use and effects of different technology could usefully inform the intervention in the next phase of this project.

Adolescents and adults had different perspectives on the use of digital technology. The following sub-sections examine in more detail the potential opportunities and challenges observed by participants regarding the use of digital technologies for mental health outcomes.

6.4.2 Positive aspects of technology

Adolescents and some adults during IDIs and FGDs shared an overall positive perception of digital technologies. Boys and girls mentioned that *digital technologies can enable them to research and learn* about different topics such as health issues, including but not limited to mental health. Despite challenges regarding misinformation, one boy mentioned that he finds it useful when various specialists discuss health issues and share information on YouTube, which can be accessed at any time since sessions are pre-recorded.

Other *adolescents mentioned that they resort to digital technologies when feeling sad or stressed*. For example, one adolescent boy indicated using the phone to play games or to chat with friends when feeling angry (although he also acknowledged spending several hours on the phone and thus neglecting other important things, especially when he is unsupervised by his parents). Other adolescents found the use of digital technologies a helpful mechanism for coping with mental health problems through searching for useful information, chatting with friends to reduce stress, or playing games for distraction and relaxation:

> When I'm stressed, I will take my phone and log into Facebook, I will get a relief if I chat with my friends or if I play games on my phone, I will be happy or I will get rid of the situation. Others use their phones to download movies or new songs and when they listen or watch videos, it can help them with whatever problem they are facing. (IDI with 17-year-old boy in secondary school, Morogoro)

Adolescents also mentioned the potential benefits of having more regular access to digital technologies to address mental ill-health, including having more information (in an immediate way) about the symptoms, and finding out about strategies to help them cope with mental health issues:

> For example, with a smartphone, a person can access information about how to deal with depression, so after reading that information, he/she may get ideas on what to do. (IDI with 16-year-old girl in secondary school, Mwanza)

> A person who is not good or feels like they have those symptoms would be able to understand 'I have a problem' and they can look for immediate help through technology if someone posts about those things on the internet. (IGT with 29-year-old aunt of 17-year-old girl, living in the same household, Morogoro)

Other adolescents mentioned that *the internet was seen as a more 'open' and 'honest' space* to get information and talk about mental health compared with face-to-face interactions because the internet offers privacy and adolescents may feel more 'confident' to talk about their problems.

For some adults, digital technologies could offer the possibility to reach a wider audience to get access to information related to health and education. Also, being able to communicate with people who may be geographically remote, and to do so in a more immediate way, were perceived as key advantages:

> I think if we used technology like [social] media or TV there would be a huge benefit because we would be reaching many people. Nowadays, electricity is available even in villages, we see people watching TV, therefore it would help with [mental health] education to reach many people if we used technology. (KII 13, Mwanza)

> Phones are the quickest means of communication even when people are far away from each other, but support can be accessed through phones. (FGD with mothers of adolescent children, Morogoro)

Likewise, some key informants (health staff) mentioned the potential of digital technologies for raising awareness of and sharing information about mental health and support services (for example, through WhatsApp groups), even though participants also noted a challenge when it comes to misinformation from different sources on health topics such as Covid-19 (see also León-Himmelstine et al., 2021). Key informants in the health sector also appreciated the potential scalability and cost-effectiveness of technological approaches and solutions for mental health issues:

> If we could use phones to educate [on mental health] it would be easy if everyone has a phone. Because it's not easy to reach people one by one. I have more than 7,000 people. (KII 7, Morogoro)

> The use of technology may simplify provision of services... Technology may help people to contact health professionals easily and increase service accessibility because through mass media you may get help. Also, through the internet, people may be aware that certain services are provided somewhere. (KII 18, Mwanza)

Although the use of digital technologies for mental health was perceived as an effective solution for several participants, ***most adolescents and adults suggested that a combined approach using digital and face-to-face methods should be used for service delivery***. A blended solution was perceived as particularly useful in semi-urban contexts where some people may prefer face-to-face service provision, although respondents also highlighted the positive aspects of digital technologies for those who can access them:

> Both approaches should be used because it is true that face-to-face is better, but you may find that there are few mental health professionals while there are many people with problems. So, it is hard to reach them all in time ... I think it is better if both approaches are used. Also, not all people can have access to smartphones, there are people who are facing mental health problems, but they live in areas where they can't access the internet. For example, in rural areas, a face-to-face approach would be appropriate, but in urban areas, people have smartphones so they can Google and get information. (FGD with mothers of adolescents, Mwanza)

> I would suggest both approaches [digital and non-digital] because if the person with a [mental health] problem meets the expert and explains his/her problems face-to-face, sometimes he/she may have no confidence, but through technology, they can express all their problems because they don't see each other. At least that way she/he would not feel ashamed, because they don't see each other. She/he can express all the problems facing them without any fear. (FGD with adolescent girls aged 15–19 years old, Mwanza)

However, other participants shared negative perspectives on digital technologies and were sceptical about their effectiveness in helping people cope with mental health problems.

6.4.3 Negative aspects/challenges of technology

As noted above, most adolescents highlighted the potential positive outcomes of using digital technologies, while few raised concerns. A few indicated that having a mobile phone would lead them to 'waste time' playing games or chatting instead of using the phone for other important purposes such as studying or finding useful information on varied topics such as mental health. Some adolescent girls mentioned that social media could endanger their personal safety (for example, due to sharing of unwanted images and content without their consent). Likewise, boys and girls indicated that pornography, which is mainly shared on social media, is dangerous and inappropriate for youths.

Adolescents were mainly concerned with their inability to access or own devices such as mobile phones, computers or tablets.

> There are challenges because if you use technology, some of us have no access to mobile phones or laptops, so it is difficult to do much or access information. (FGD with adolescent girls aged 15–19 years old, Mwanza)

The main barrier was a lack of economic resources. For example, one 16-year-old boy indicated that he once owned a smartphone but sold it because he could not finish paying for the phone and could not afford the airtime. He also noted that at times he would divert money given

by parents for school material to use towards airtime instead. Even access to computers at school was perceived as problematic because students are required to pay an electricity fee if they want to use a computer. Many adolescents' families could not afford to pay these fees, at times causing the adolescent mental distress:

> In case I have not paid money for the electricity and the computer, teachers do threaten us and say, 'if you don't have this money today, tomorrow do not come to school', and it makes me anxious. (IDI with 11-year-old girl in primary school, Morogoro)

As such, several adolescents indicated that they had never used a computer at school due to their inability to pay the fees, which could also lead to stigma. Other adolescents perceived that age was another challenge in owning a device (a computer or phone). For example, younger adolescents (aged 15 or under) noted that their age was a key barrier to owning a mobile phone. Also, adolescents must reach the age of 18 to acquire a national identity card, which is a requirement to register for a SIM card. Adolescents also noted that poor network coverage (or no coverage) where they lived, particularly for those in Morogoro, also impeded their ability to engage with digital technologies.

Parents and caregivers shared an overall negative perception of social media and digital devices (especially mobile phones). Although parents and caregivers agreed that technology could have positive uses (for instance, to access information, or to communicate with their children), they highlighted that social media (again, mainly accessed through mobile phones) could be easily used to access inappropriate content such as pornography. They also noted that devices could expose adolescents to negative role models (such as singers, actors, YouTubers) who use drugs, potentially encouraging imitation and/or other negative behaviours such as early sexual encounters. Fears over the misuse and overuse of phones also surfaced. Teachers and parents/caregivers noted that if adolescents were given a phone, this could lead them to be distracted during class or from their daily chores. Other adults mentioned that giving adolescents access to a phone would lead them to develop addictive tendencies to the internet or would 'spoil' them and divert them from their goals (for example, studying):

> Yes, it is not a good way of helping them because when you give a child a mobile phone, you spoil her, because most of the time she will be busy with the phone instead of working. (IGT with 49-year-old mother of 13-year-old girl, separated from her husband, Mwanza)

Phones were also perceived as a source of misinformation for their children, which would be particularly challenging if the children further spread that misinformation throughout their community. Other parents and caregivers indicated that they were unable to supervise the money that adolescents spent on phones, preferring to avoid them. As such, parents/caregivers confirmed that they only lent their phone to their children occasionally, and only a few promised one to their son/daughter after graduation. They also confirmed that they only lent a phone for specific purposes such as to communicate with a relative:

> If they [adolescents] are learning to use the computer, it will help them to get employment in the future, but phones mislead children. Therefore, they should not use it, completely,

> they should not be allowed. I am giving them phones only if they want to talk to a relative or her brother. After talking, I am taking back the phone. (IGT with 55-year-old female who has informally adopted a 17-year-old girl who is her daughter's friend, Morogoro)

As noted in the quote above, parents/caregivers generally approved the use of computers as they could increase their children's future employment prospects. Adolescents also commented on not having legal or parental permission to use mobile phones, noting that they could not do much with it when they borrowed a phone from a relative:

> For students, getting a phone is illegal; therefore, touching a phone for us, we are very lucky. Maybe you go to use a phone of any relative at home, might be a sister, a mother, an uncle or anybody else, you may touch it or use it during the weekend, the days when we are free. In such situations we will not be able to get lots of information or to do much. (FGD with adolescent FEMA Club members aged 15–19 years old, Mwanza)

Parents/caregivers and key informants also shared concerns regarding technology-based mental health support. They indicated that tech solutions may only serve already advantaged groups rather than disadvantaged groups, hence requiring careful programming to make sure that no groups are left behind, particularly in rural areas. According to these respondents, the people that may encounter barriers to use of digital technologies (particularly referring to phones) are those with lower educational levels, those who are unable to afford a smartphone or a computer, those under the age of 18, and adolescent girls/women. For example, some key informants observed that the use of digital technologies for mental health support may be more challenging for adults and adolescents with low educational levels who may not be familiar with the internet or with smartphones, even if they were given access to them. They suggested that other devices (TV and radio) are more appropriate to transmit information to this group because they are more familiar with these communication channels, and people are more likely to own them regardless of their economic situation.

Gender gaps in accessing technology (specifically in leading to its use to access mental health support) are another important barrier. One key informant (local government) observed that women usually have less access to phones and to the internet. Inability to afford a mobile phone (and ongoing costs, especially credit for airtime/data) was another concern. Again, adolescent girls and women may be less able to afford these additional costs, while gendered norms restricting girls' use of mobile phones are another important factor.

Likewise, a few key informants mentioned a preference for face-to-face mental health support rather than digital communications to solve the mental health issues faced by young people. Face-to-face support is deemed preferable because adolescents can obtain professional support, rather than connect with potential scammers without credentials, who may advise adolescents about their mental health through a device. Indeed, digital devices may 'confuse' adolescents if they are misinformed and given erroneous advice from several people (including peers) about their mental health problems. Overall, from the point of view of key informants, digital devices open the door to unprofessional support that is not tailored to the individual needs of an adolescent in need of mental health support.

Thus, our data suggests that, in our research sites, parents and caregivers would not necessarily approve of adolescents having a mobile phone, or grant them access to one. However, they do support the use of computers, as children can gain digital skills that would be useful when they join the labour market. Furthermore, parents and key informants are supportive of a blended digital / face-to-face mental health solution to avoid exclusions related to age, gender and SES, and to provide adolescents with tools that address their different mental health needs.

6.4.4 Understanding the net impact of coping factors and access to technology on mental health outcomes

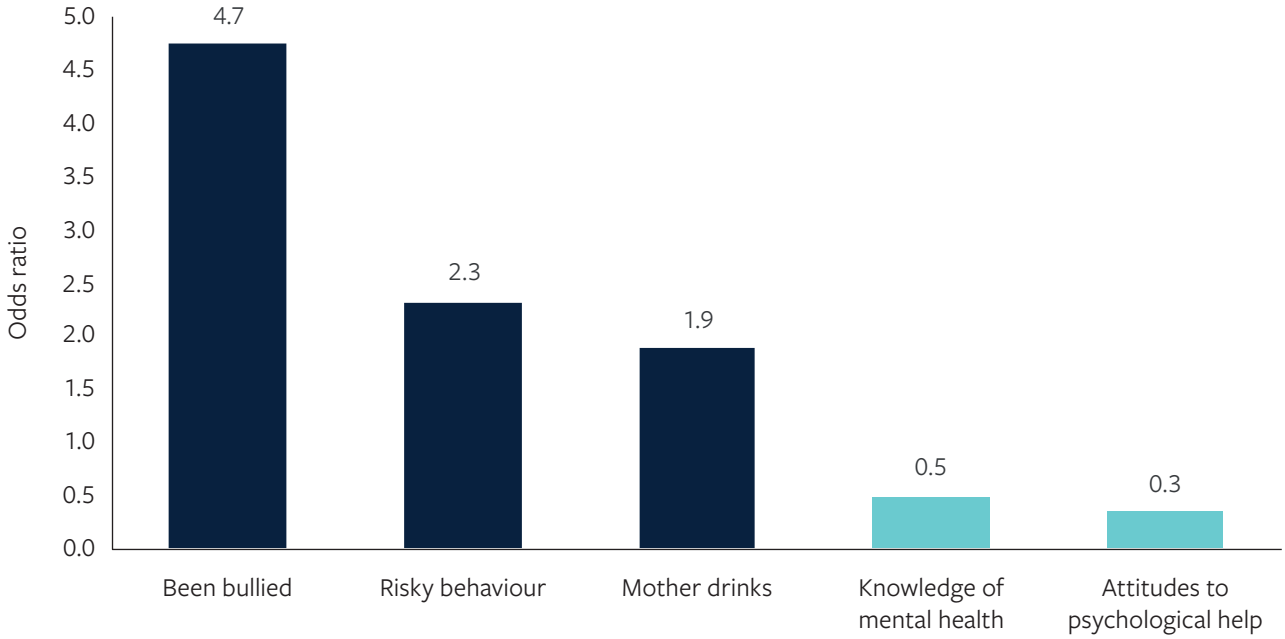
Finally, we explore the joint impact of all the factors we have explored (socio-demographic factors, drivers of mental ill-health, protective factors, coping mechanisms/help-seeking behaviours, and access to technology) on the key mental health indicators we explore: being at risk of mental ill-health according to the SDQ measure; being in the top quartile of students in terms of psychosocial well-being (measured by WHO-5); and being at risk of depression (also according to WHO-5). At this stage, the regressions point only to correlations between the two variables; we are not able to make any claims as to causation (for example, whether being at risk according to the SDQ measure makes children more likely to be bullied, or whether the experience of being bullied causes a higher SDQ risk, or whether both claims are true – or indeed whether another factor altogether explains both SDQ risk and the likelihood of being bullied). Nonetheless, the relationships we identify are suggestive and highlight several areas that the intervention might usefully focus on, to provide effective support for adolescent mental health.

Overall, we are able to explain around 30% of variation – 32.2% for the SDQ score and 29.9% for the WHO-5 score. When controlling for a range of factors (see Annex 6, Table A9, which contains full regression results), we distil only a small number of factors that appear to exert an independent influence on the SDQ. Having been bullied increases fivefold the likelihood of being in the SDQ high-risk category; engaging in a risky behaviour (consuming alcohol or drugs, smoking, self-harm or gambling) doubles the risk of being in this category; and having a mother who consumes alcohol increases the likelihood by 1.9 times (Figure 17). Conversely, having knowledge of mental health is associated with half the likelihood of being in the high-risk category, while holding positive attitudes towards mental health is associated with a 70% reduced risk.

Being able to engage in distraction as a coping mechanism is associated with a much greater likelihood (9 times) of being in the top quartile of the WHO-5 distribution (Figure 18). Respondents with knowledge of how to seek information about mental illness are twice as likely to be in the top quartile, while those with access to technology (a computer, tablet or smartphone) are 1.9 times as likely. Interestingly, having access to the internet was not a significant correlate in any of our models, and was not included in the final specifications – perhaps because a negligible share of our sample had regular access to an internet-enabled digital device. By contrast, poverty – measured by having gone hungry in the past year – halved the likelihood of being in the WHO-5 top quartile, as did experiencing verbal violence from parents at home. Witnessing violence against their mother (by a father or someone else) is associated with a 60% lower likelihood of being in the top quartile, while being subject to physical violence in the home and engaging in one or more risky behaviours (e.g. alcohol, drugs, smoking,

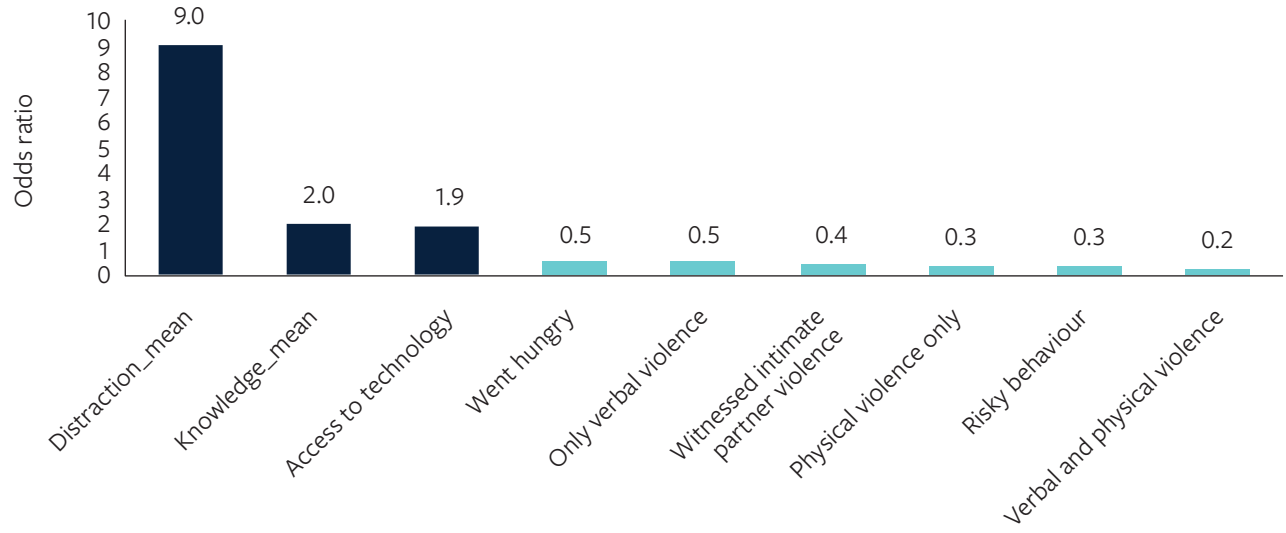
gambling, self-harm) each lower the likelihood by 70%. Experiencing both verbal and physical violence lowers the likelihood of being in the WHO-5 top quartile by 80%.

Figure 17 Factors that predict the likelihood of being in the SDQ high-risk category



Note: Dark blue is assigned to factors with an odds ratio higher than 1 (they raise the likelihood of being in the high-risk category). Light blue is assigned to factors with an odds ratio less than 1 (they lower the likelihood of being in the high-risk category).

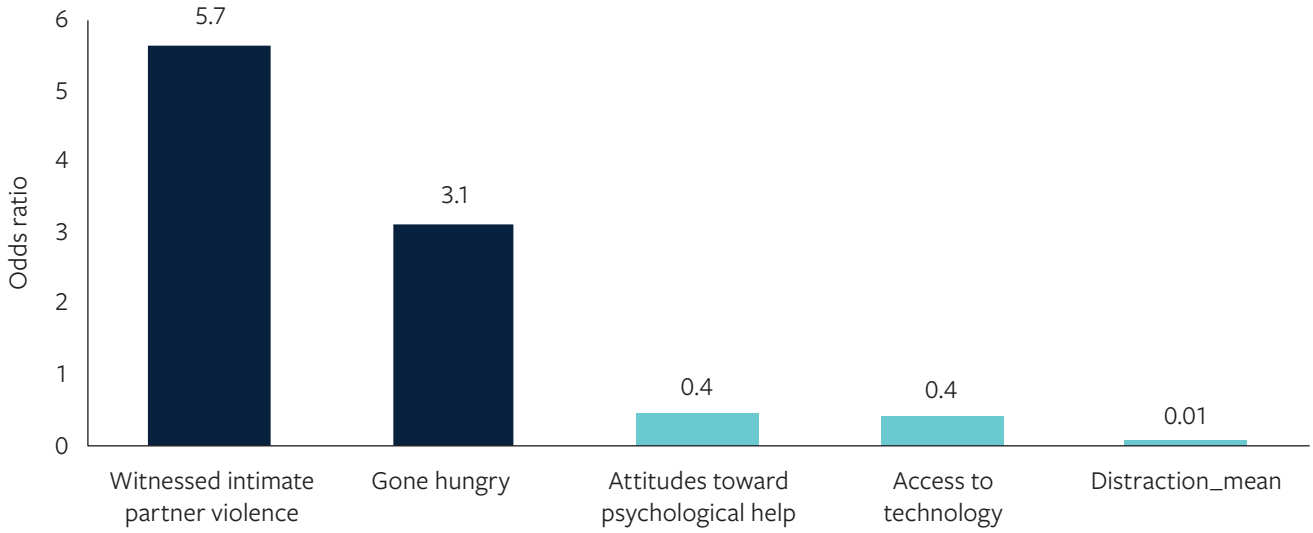
Figure 18 Factors that predict the likelihood of being in the top quartile of the WHO-5 distribution



Note: Dark blue is assigned to factors with an odds ratio higher than 1 (they raise the likelihood of being in the top quartile). Light blue is assigned to factors with an odds ratio less than 1 (they lower the likelihood of being in the top quartile).

The two factors that most influence risk of depression among adolescents (according to the WHO-5 measure) are being subject to physical violence from parents, and poverty (as measured by having experienced hunger in the previous year) (Figure 19). Protective factors are positive attitudes toward psychological help and access to technology (both associated with a 60% lower risk).

Figure 19 Factors that predict the likelihood of being at risk of depression according to the WHO-5 measure



Note: Blue is assigned to factors with an odds ratio higher than 1 (they raise the likelihood of being in the high-risk category). Yellow is assigned to factors with an odds ratio less than 1 (they lower the likelihood of being in the high-risk category).

7 Conclusions, challenges and recommendations

In Tanzania, where some 70% of the population is aged between 0 and 24 years (Kutcher et al., 2017), most adolescents or youth with mental health disorders do not receive adequate care. There is poor understanding of mental health and mental illness, while mental health disorders and symptoms are not recognised and remain largely untreated (Ambikile and Iseselo, 2017; Kutcher et al., 2019). Traditional healing practices prevail, while the availability of professional support is low (Kutcher et al., 2016).

This report has shown that diverse factors affect the mental health and psychosocial well-being of adolescents in Tanzania. On the one hand, positive mental health and psychosocial well-being is driven by protective factors that include positive family dynamics, the absence of poverty, the ability to attend school and participate in leisure activities, and strong social relationships (friendships) outside the household, among others. On the other hand, adolescents often face challenges to their mental health due to factors such as inability to spend time on leisure activities (for instance, due to having to do household chores or due to parental disapproval of leisure activities), poor social relationships outside the household, unhealthy family structures (for example, due to loss of one or both parents, or living arrangements with unloving relatives), poverty and an inability to meet basic needs, negative school experiences (such as bullying or an inability to learn or afford school materials), stigma, or gender norms and expectations, among other factors.

Our regression-based analysis suggests that socio-demographic factors exert a minimal influence on risk of mental ill-health or having lower psychosocial well-being, with the exception of deprivation (measured by whether the respondent reported having experienced hunger in the previous year). This suggests that the intervention funded by Fondation Botnar to support mental health need not devote undue attention to targeting particular socio-demographic groups with a view to identifying those most at risk of mental ill-health. The multivariate analysis also highlighted the experience of having been bullied, engaging in risky behaviours (such as consuming alcohol or drugs, smoking, self-harm or gambling), alcohol consumption by the mother (but not the father), and experience of physical violence at home as factors contributing to mental ill-health – being in the SDQ at-risk category or being at risk of depression according to the WHO-5. Conversely, protective factors included having someone to rely on, having a role model, knowledge of sources of information about mental health, holding progressive attitudes toward professional psychological health, and crucially – for this project – having access to technology (which need not involve the internet). Pursuing distraction as a coping mechanism was associated with psychosocial well-being. We posit that access to technology may facilitate this, which draws into relief the different potential uses and effects of diverse technologies.

We also found that adolescents (as well as their caregivers and the community in general) have low awareness of mental health and ill-health, its associated symptoms, and the services available. Formal mental health services are not reached by the community, partly due to lack of awareness but also due to stigma and/or the belief that mental ill-

health and its symptoms are caused by witchcraft, leading people to consult traditional healers or 'witch doctors' for treatment. Adolescents are more familiar with the support offered at their schools, although this is limited. As such, they employ diverse coping mechanisms and behaviours, some of which are positive (such as engaging in leisure activities, sports and music, or speaking to relatives and friends or teachers), while others are harmful and potentially dangerous (including self-isolation, use of harmful substances, self-harm and early sexual encounters). Our survey enabled us to quantify the relative reliance on a range of coping mechanisms. The most popular options, cited by over 80% of respondents, were praying, trying to calm down, wishing the problem had never happened, and doing something about the problem or thinking of solutions. The least popular coping mechanisms, cited by fewer than 30% of respondents, were yelling, screaming or getting angry, and – of particular relevance to this project – using the internet and social media either for distraction or to find support.

Regarding use of technology and its potential use for mental health support, few adolescents own mobile phones and instead usually borrow them from a relative for a specific purpose. Adolescents also have limited access to computers, although students could potentially use one at school (if their family can afford the fee to contribute to the school's electricity bills). Although adolescents noted the potential positive aspects of technology (such as anonymity and ability to access information immediately) – and, indeed, our multivariate analysis linked access to technology to improved mental health outcomes – most adults had a negative perception of technology. This is due to parental worries about adolescents' misuse of digital technologies linked to potential tendencies to addictive behaviours (particularly use of mobile phones), their access to inappropriate content (e.g. porn, use of drugs), which could lead to negative behaviours (such as drug consumption or early sexual encounters), or technologies acting as a distraction from adolescents' school or household responsibilities.

In addition, our review of services and the legal landscape, alongside the data, indicates that despite some progress, the following challenges remain for improving mental healthcare systems in Tanzania.

Challenges around resourcing

Key informants in our study identified important resource challenges constraining their ability to deliver mental health services. This is echoed in the literature. UNICEF (2020) highlighted a decline in the budget allocated to the Tanzanian health sector, noting that in FY 2019/20, the allocation was 6.7% of the total national budget, compared to 7% for FY 2017/18. The health budget as a share of GDP has declined from 1.8% in FY 2017/18 to 1.5% in 2019/20 (ibid.). According to the WHO (2017), the government's total expenditure on mental health as a proportion of total government health expenditure was just 4%.

Challenges around mental health knowledge and training

Inadequate mental health training is another important challenge. Ambikile and Iseselo (2017) note that mental healthcare providers and national coordinators face challenges in their capacity to provide professional care because they had no prior training in mental health, and were providing care to patients based on experience gained since they began working in mental health. Training in mental health for healthcare providers or on-the-job or refresher training happened rarely (ibid.), as confirmed by our key informants working at health centres.

Challenges around human resources for mental health

Ambikile and Iseselo (2017) also note that apart from receiving inadequate training in mental health, the number of healthcare providers was small, and they were generally overwhelmed by the increasing numbers of patients. Similarly, in our study, three key informants from local authorities added that their administrative regions lacked specialist mental health support services, and so health staff often referred cases to the local hospital.

Challenges around mental health facilities and associated services

Lack of mental health facilities and associated services has also been identified by the Tanzanian literature. Ambikile and Iseselo (2017) observed that lack of inpatient mental health and associated services was verbalised by healthcare providers as a major problem that made provision of care difficult as they were forced to refer patients who needed inpatient care to Muhimbili National Hospital. The same study also noted limited space for service provision, and worn-out buildings. Limited space made it difficult to provide services as privacy was compromised, and there was no security for healthcare providers who were seeing aggressive patients. Mbatia and Jenkins (2010) noted that the supply of essential psychotropic drugs did not meet demand in 17 of the 20 regions of the country, especially in rural areas, and patients were forced to either finance their own supplies or go without.

Challenges around service provision and medication

As shown in our data, in Mwanza and Morogoro, most of the formal mental health services available are not tailored to the needs of adolescents. The literature also identifies additional challenges around service provision. The study by Ambikile and Iseselo (2017) observed that patients and caregivers complained about long waiting times at the facility, which was attributed to care providers reporting to work late, or the presence of many clinical students. Patients were also dissatisfied with the time spent with care providers as they claimed it was too short. Care providers were asked about the support they received from higher authorities in the course of executing their daily duties. Responses revealed that at all levels of the care delivery system, mental health was not given due priority, reflected in low budgets (ibid.).

Challenges around demand for mental health services

In Tanzania, witch doctors and faith healers are often seen as obstacles to accessing professional treatment for mental health problems (Dillip et al., 2012). Visiting a mental health department was repeatedly conceptualised as a 'last resort', particularly for people in rural communities, and the social acceptability of seeking mental health treatment was low (Rolington, 2014). Our data confirm that demand for traditional healing is high among mental health patients and those with mental symptoms of ill-health. Similarly, our study found that adolescents and the population in general lack awareness about mental health, its symptoms, and the formal services available.

7.1 Recommendations

Addressing mental health among adolescents in Tanzania is a healthcare policy need, as shown by the findings of this report and echoed by the Tanzanian literature (Dow et al., 2016; Hall et al., 2019; Hill et al., 2017; Kutcher et al., 2017; 2019). On the basis these findings, we make the following recommendations for governments, development partners and civil society organisations or groups working on adolescent mental health.

Including mental health of adolescents in the policy framework

- Develop policies and regulations that explicitly address adolescents' mental health and psychosocial support needs. Although some health policies aim to address the health needs of adolescents (such as the 2018–2022 National Adolescent Health and Development Strategy and the 2007 National Youth Development Policy; see Annex 8), mental health is not their main focus. Likewise, existing mental health policies (for example, the 2008 Mental Health Act; Annex 8) do not provide a clear framwork that addresses adolescents' specific needs. The Tanzanian public authorities should consider developing policies and frameworks that explicitly address mental healthcare and psychosocial support for adolescents. The MoHCDGEC will have a critical role to play in ensuring an integrated approach to policy and programme implementation.
- Policy implementation will also necessitate providing clear guidance and mandates to all relevant agencies (including the Ministry of Labour, Employment and Youth Development, and the Ministry of Information, Culture, Youth and Sports) to ensure that the desired goals and targets are reflected in their respective policies and interventions.
- To ensure a holistic approach that is tailored to adolescents' mental health and psychosocial support needs, there should be linkages with the MoHCDGEC's Preventive Services Division, the Gender Development Division, the Children Development Unit, and the Community Development Division.

Budget allocations

- The MoHCDGEC, the National Council for Mental Health and other ministries responsible for youth affairs will need sufficient budget allocations for targeted investments in available services and resources to meet adolescents' mental health and psychosocial support needs. The Abuja Declaration (African Union, 2001) recommended a target allocation for health of at least 15% of national budgets among African Union member states. Mental health budget as a proportion of the general health budget varies, but countries such as Egypt have been able to target 9% to mental health services (WHO, 2003). Thus, Tanzania will need to increase its budget on mental health to meet SDG target 3.4.
- Budget allocations need to support an increase in the number of mental health professionals and community and school-based counsellors, as well as tailored training to ensure that these professionals are equipped to support adolescents' mental health.
- One significant and well-established institution that can be used to address various aspects of mental health (promotion, prevention and care) for young people is schools. There should be increased budget allocations to school-based strategies designed to prevent and identify mental health disorders among young people.
- Target budget allocations not only towards strategic mental health interventions but also to tackle the broader drivers of mental ill-health and psychosocial ill-being such as adolescents' experiences of poverty and inequality or violence within the home and beyond it.
- Ensure sufficient investment in appropriate physical infrastructure to provide adequate and specialised care for adolescents experiencing mental ill-health.

Using digital technologies to support adolescents' mental health and psychosocial well-being

- Government and development partners should consider piloting digital or 'blended' solutions (a combination of digital and face-to-face approaches) to address adolescents'

mental health needs. The content of such programmes should be developed jointly with teachers, mental health and psychosocial experts, from a youth perspective, and technology experts, drawing on international and regional best practices, but also tailoring solutions to the needs of Tanzanian adolescents and youth in different contexts (urban, rural, semi-urban, etc.).

- Local governments, working with development partners, should ensure that online information is available for adolescents if they wish to access this through mobile phones or computers. Likewise, it is important that adequate safeguards are developed to protect children from addictive behaviours or inadequate content on social media.
- Content and material for solutions and interventions should include an exploration of what constitutes mental ill-health, the drivers or risk factors for mental ill-health and psychosocial ill-being among youth and adolescents, and discussions about stigma, social norms and other context-specific factors that can lead to mental ill-health.
- Likewise, strategies to prevent and cope with mental ill-health and psychosocial ill-being are crucial for adolescents, along with information about available services when mental ill-health and psychosocial distress become sufficiently severe to require professional support.
- The development and sustainability of digital solutions that can support adolescents' mental health and well-being at district and/or national levels will require the involvement of the MoHCDGEC's Information and Communication Technologies Division, the Gender Development Division and the Children Development Unit to ensure that solutions are sufficiently tailored to adolescents' needs.

Mental health services and human resources

- Our findings show there is an urgent need to improve the quality of mental healthcare service providers (including nurses, doctors, other healthcare workers, counsellors, social workers, psychiatrists and psychologists), including a training package that provides resources and guidance on support for adolescents with the most common mental health disorders. It is essential to implement training programmes in each of these fields that cover the needs of children and young people.
- The content and modalities of training programmes need to be developed jointly by mental health experts with experience of working with adolescents and youth, and by those who will make use of the new knowledge (including mental healthcare workers, and community-based organisations offering mental health support to youths) to ensure that the knowledge needs of adolescents are met and that the particular realities of the Tanzanian context are considered.
- Further training should also be provided to teachers, as (according to our study) adolescents often approach teachers when they face mental health challenges. There should be dedicated school psychologists and counsellors with the required skills to support students, alongside adequate infrastructure for them to provide services (for example, counselling centres).
- There should be pilots and assessments of different models of providing support to adolescents at school (through different kinds of counsellors, staff delivering after-school clubs, collaboration with local health clinics or hospitals, etc.).
- Increase the funding and quality of mental health support services for adolescents, focusing on services to prevent mental ill-health, to treat mental ill-health symptoms and severe psychosocial distress.

Awareness of mental health and support services for adolescents, including among those most at risk

- Local government, schools and service providers need to prioritise the mental health and psychosocial well-being of vulnerable adolescents and those at highest risk of mental ill-health. Our study identified certain groups of adolescents as more likely to experience mental ill-health. These include: adolescents from poor households; those who live in unstable family situations (such as orphans, those living with one parent, and those living with relatives with alcohol addictions); those who face challenges at school (for instance, being bullied or unable to afford school materials or in unstable family situations); and those who face stigma (e.g. due to poverty, HIV status, or their mental health situation).
- Government at different levels, in partnership with community leaders, health workers and other stakeholders (such as schools, after-school clubs, or community-based organisations working on youth health matters) need to raise awareness of mental health and support services among adolescents, their parents/caregivers, support networks (teachers, care workers, after-school club staff, etc.) and communities in general.
- Awareness-raising activities in the Tanzanian context should focus on the drivers of mental ill-health, identifying mental ill-health symptoms (including less severe symptoms) and coping mechanisms, available suport services, stigma and other associated beliefs around mental distress.
- Awareness-raising should also highlight the role of discriminatory social norms (such as limited options for girls in rural areas to further their studies, difficulties combining school work and household chores, early sexual initiation and norms around masculinity) and their impact on adolescents' mental health.

Skills development for parents, teachers and adolescents

- Provide support to parents, caregivers and teachers to identify mental ill-health symptoms and to develop strategies (including parenting skills and communication skills) to enhance their confidence in discussing mental health with adolescents.
- Inform parents and caregivers about strategies that can help adolescents to prevent mental ill-health or to cope with pressures due to problems they may face at school, at home, with friends, in their neighbourhood, or due to difficulties linked to the biological and psychosocial characteristics of their life stage.
- Provide adolescents with information and strategies to support prevention of mental ill-health by teaching them the skills needed to cope with common mental health problems. This can be done through special sessions at school in relevant modules for primary and secondary education.

Coordination among stakeholders

- Local government needs to promote coordination among key stakeholders working with adolescents (including teachers, staff working in after-school clubs, local authorities, healthcare providers and NGOs) to address specific mental health issues. Examples of coordination include working with teachers to identify students displaying symptoms of mental ill-health, and to refer students to school counsellors or healthcare professionals.
- Key stakeholders providing formal and informal mental health services need to develop specific activities and set objectives to address prevention, coping mechanisms and treatment that can be delivered in coordination.
- There is a need to develop effective mechanisms to link parents and caregivers of adolescents with mental ill-health and psychosocial ill-being

to social protection services that have the skills to support these families.

- Due to parental preferences for seeking traditional healing for mental ill-health among adolescents, national- and district-level authorities need to improve linkages and collaboration between traditional healers and formal mental healthcare service providers. This will also require improving the capacity of both community healthcare providers and traditional healers to identify, diagnose and refer adolescents to formal services for treatment.

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