ODI Report Annexes

Mental health and psychosocial well-being among adolescents in Tanzania

Findings from a mixed-methods baseline study

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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

Annex 1 Details of the Tanzania education and health infrastructure in Morogoro and Mwanza

The Tanzanian educational system operates on the 2 – 7 – 4 – 2 – 3+ structure – that is, 2 years of pre-primary school, 7 years of primary school, 4 years of ordinary (lower) secondary school, 2 years of advanced (upper) secondary school and at least 3 years of higher education (tertiary level) (BEST, 2020). After the 13th year, at secondary school, students may take the Advanced Certificate Exam and attend either university college for 3–4 years or advanced vocational schools. Compulsory education (primary education) lasts 7 years from age 7–13. Overall, about 1 in 4 girls (24%) aged 6 and older have no formal education compared with about 1 in 5 boys (19%). However, once girls and boys enter school, their completion rates are similar: 1 in 3 girls and boys (32%) have completed primary school, 7%–8% of girls and boys have completed secondary education, and 1%–2% of girls and boys have completed beyond secondary education (MoHCDGEC et al., 2016).

Formal ages for secondary and tertiary levels of education are 14–19 years and 20–24 years, respectively (UNESCO, 2021). In terms of educational facilities in the two study sites, Morogoro region has a total of 915 (842 public and 73 private) pre-primary schools; 915 (845 public and 70 private) primary schools; and 250 (186 public and 64 private) secondary schools. Mwanza region has 997 (862 public and 135 private) pre-primary schools; 998 (861 public and 137 private) primary schools; and 293 (211 public and 82 private) secondary schools (BEST, 2020).

Regarding health infrastructure and services, Morogoro region is home to 383 dispensaries, 56 health centres, 18 hospitals, 18 clinics and 89 health labs. Of these, 321 are government-owned and 246 privately owned (Health Facility Registry, 2021). The region has an elaborate connection of road networks. Some parts can also be reached by railway and chartered flights (United Republic of Tanzania (URT), 2014). Mwanza region has 321 dispensaries, 51 health centres, 26 hospitals, 30 clinics and 118 health labs. Of these, 309 health facilities are government-owned, 254 are privately owned (Health Facility Registry, 2021). The region can easily be accessed by road, train, water and air from all the major cities of the East African Community (URT, 2017).

Annex 2 Monitoring, evaluation and learning

The text in this annex is derived from the monitoring, evaluation and learning (MEL) design document that was developed at the start of the project.

The project's MEL system aims to:

- provide accurate reporting to the funder and generate a 'paper trail' that can be accessed and used by an end-of-project evaluation;
- provide timely (quantitative and qualitative) information about project performance – what works and what does not work – to inform necessary adjustments and changes;
- facilitate reflection and experiential learning within the programme team and improve coordination across countries.

The design of the MEL system has involved the following activities:

- The project team and the funder collaboratively designing the project's Theory of Change to describe the changes (outcomes) the project wants to contribute to in the long term and medium term (i.e. during implementation) namely:
  - **Impact:** Local authorities have a better understanding and new evidence with which to inform policy and programming decisions to provide support to adolescents experiencing mental ill-health and psychosocial problems in selected sites in two secondary cities in Viet Nam and Tanzania.
  - **Outcome 1**: Adolescents and families have a better understanding of: (1) the drivers of adolescent psychosocial well-being; and (2) the opportunities provided by tech and non-tech solutions to address mental ill-health.
  - **Outcome 2**: Selected schools show a commitment to continue to support the use and iteration of the tech and non-tech solutions beyond the end of the project.
  - **Outcome 3**: Local authorities and other relevant actors (e.g. non-governmental organisations (NGOs), community-based organisations, the private sector, etc.) understand the importance of, and possibilities provided by, the tech and non-tech solutions that the project will test.

- The project team and the funder collaboratively designing a project results framework (logframe) to describe the indicators at the outcome and output levels that can help the team assess the activities and progress towards agreed outcomes. The collaborative work on the project logframe helped also to identify which indicators the research component of the project should assess and measure (i.e. the comparison between baseline and endline quantitative and qualitative research) and which indicators the MEL tools and system are best suited to monitor. The research will seek to capture changes in the knowledge, awareness and attitudes of project stakeholders. The MEL system focuses on outcome indicators linked to changes in attitudes and perceptions by relevant institutional stakeholders such as national/local government agencies and process indicators such as the number of knowledge products

published, web stats, requests to the project team for information, material publications, and signs of uptake and use of the knowledge products by other actors.
- Four MEL logs have been set up and are being kept up-to-date with records of outputs produced by the team, as well as mentions of the work of the project and requests to the project team, etc.

Although the objectives and key elements of the system will remain as the project enters the co-creation and implementation phases, the MEL system will continue to evolve. We are considering the design of additional MEL tools during the implementation phase to complement the existing tools and to help the sense-making and the recording of signs of outcomes. In doing so, we will seek the advice of the external team carrying out the mid-term review.

Annex 3 Overview of quantitative survey and testing

This annex provides an overview of the quantitative survey and testing that took place prior to and following baseline data collection. Section A3.1 discusses the scales we selected to measure key constructs in the quantitative survey and situates them in the existing literature. Section A3.2 discusses the piloting and psychometric testing of the survey measures to establish their validity and reliability, and briefly profiles our sample. The next three annexes present additional details: the survey questionnaire (Annex 4), detailed descriptive statistics on our sample and key indicators (Annex 5), and school-level results (Annex 6).

A3.1 Design of quantitative questionnaire

The quantitative survey is intended to gauge the mental health and psychosocial well-being of respondents, and the correlates of these outcomes – including characteristics of respondents and their households, engagement in or the experience of risky behaviours (e.g. violence from peers, teachers or parents, alcohol or drug consumption, gambling) and coping mechanisms (mental health awareness and coping or health-seeking behaviour).

We measure mental health through two key scales. The Strengths and Difficulties Questionnaire (SDQ) evaluates emotional and behavioural difficulties among youth.[1] The WHO-5 is 'among the most widely used questionnaires assessing subjective psychological well-being' (Topp et al., 2015: 167) in children aged nine and over; it also has adequate validity in screening for depression.[2] These two measures therefore provide complementary insights into mental ill-health. Both have been widely validated in diverse settings and among varied populations globally, including in Tanzania (for the SDQ, see Dow et al., 2016; Hermenau et al., 2011; 2015; Nyangara et al., 2009; Hoosen et al., 2018; for the WHO-5, see Nolan et al., 2018).

The survey included two measures of mental health awareness: (1) the Emotional Literacy scale developed by Carnegie School of Education, Leeds Beckett University (2018), used to inform a school-based mental health intervention in Cambridge, UK;[3] and (2) the knowledge of what is important for good mental health scale developed and validated by Bjørnsen et al. (2017) among Norwegian upper secondary school students. This latter scale fills an important gap as it is the first to quantify 'knowledge of good or positive mental health' as opposed to mental health disorders, stigma or health-seeking

1 See https://www.sdqinfo.org/a0.html

2 See https://www.corc.uk.net/outcome-experience-measures/the-world-health-organisation-five-well-being-index-who-5/

3 The scale is, in turn, an adaptation of the Mental Health Literacy Scale (O'Connor and Casey, 2015), which aims to assess both stigma and knowledge concerning mental health. The adaptations 'removed questions asking about specific, and often complex, mental health disorders as well as questions that were inappropriate for the age-group e.g. around employment' and added questions 'asking about the participants' sense of their own resilience, strategies for stress and social media use' (Carnegie School of Education, Leeds Beckett University (2018: 8).

behaviour.[4] We measure agency using the 4-item subscale on knowledge of where to seek information about mental health from the well-known Mental Health Literacy Scale (O'Connor and Casey, 2015). Finally, we assess help-seeking behaviour by exploring student attitudes towards seeking professional help to address mental health concerns as well as informal coping mechanisms. We measure the former using the Attitudes Toward Seeking Professional Psychological Help scale-Short Form (ATSPPH-SF) (Fischer and Farina, 1995; building on the original ATSPPH scale devised by Fischer and Turner, 1970), a widely cited measure of mental health treatment attitudes. Per Elhai et al. (2008: 321), this is the only 'standardized instrument assessing mental health treatment attitudes' that 'has been both psychometrically examined and used in a sizeable number of studies'.

We measure a diverse range of informal coping strategies using the Kidcope scale (Spirito et al., 1988) with minor contextual adaptations. The scale was originally designed to measure children's use of 10 behavioural and cognitive coping strategies following hospitalisation, but has subsequently been used widely to assess coping with respect to a range of stressors (Powell et al., 2019). The strategies included are distraction, social withdrawal, cognitive restructuring, self-criticism, blaming others, problem-solving, emotional regulation, wishful thinking, social support and resignation to cope with a major stressor.

A3.2 Psychometric assessment of data and sample description

The survey team conducted two rounds of pilot data collection with secondary school students in Morogoro. The first round included 100 students, the second had 80 students. The team input data from the questionnaires using tables programmed with the Open Data Kit application. On review of the scales for their psychometric properties including reliability (internal consistency), criterion validity and construct validity, the team made some improvements to the questionnaire. The team re-tested the psychometric properties of each scale following baseline data collection (Table A1).

4 Wei et al., 2015, cited in Bjørnsen et al., 2017: 2.

Table A1 Scale validation results for the final baseline survey

Mental health and psychosocial well-being	
Strengths and Difficulties Questionnaire (SDQ)	Two factors: 1) Positive SDQ: 10 items, Cronbach's alpha of 0.775 2) Negative SDQ: 14 items, Cronbach's alpha of 0.748
Well-being questionnaire (WHO-5)	5 items, Cronbach's alpha of 0.767
Self-efficacy scale	10 items, Cronbach's alpha of 0.708
Mental health awareness	
Emotional Literacy Scale	9 items, Cronbach's alpha of 0.610
Knowledge of what is important for good mental health scale	10 items, Cronbach's alpha of 0.706 (among secondary students, Cronbach's alpha of 0.749)
Help-seeking behaviour	
Attitudes Toward Seeking Professional Psychological Help scale	5 items, Cronbach's alpha of 0.525 (among secondary students, Cronbach's alpha of 0.656, but only 0.409 among primary students)
Agency in coping with mental health challenges	
Knowledge of where to seek information subscale	4 items, Cronbach's alpha of 0.649 (among secondary students, Cronbach's alpha of 0.680)
Ways of coping with mental health challenges scale (Kidcope)	Two factors: 1) Distraction: 13 items, Cronbach's alpha of 0.546 2) Self-blame: 7 items, Cronbach's alpha of 0.487

Notes: Indicators on the use of the internet to seek health and mental health information are not included under 'help seeking' in this table because we analyse them individually rather than as a scale. The Cronbach's alpha coefficient measures the internal consistency of a scale or the extent to which the individual components are measuring the same underlying construct. It can range between 0 and 1, with higher values indicating greater reliability. Generally, coefficient values of 0.6 or higher are considered acceptable and values 0.7 or higher are considered 'good'.
Source: Authors' calculations.

Annex 5 provides full details of the quantitative sample. As it describes, some 200 students were interviewed in each region, among whom half the sample attended a primary school (grades 5, 6 and 7) and half a secondary school (forms 2 and 3). Overall, males accounted for 51% of respondents and females 49%. However, there were considerably more boys in Nyamagana Primary School (64% of the sample), while girls made up 52% of the sample in the other three schools. The respondents were aged between 10 and 19 years (with a median of 14 years): 41% were 14–15 years old, 31% were 12–13 years old, 18% were 16 or older, and 10% were younger than 12 years.

We assigned socioeconomic status (SES) to students' households by constructing an asset index and dividing the sample into quartiles. Households in the highest socioeconomic quartile had greater asset ownership and greater access to IT (e.g. 95% own a television, 40% a computer, 44% a car or truck, 63% have a bank account, and 42% of the students in these households had used the internet with some

frequency in the past year).[5] By contrast, households in the lowest quartile owned few assets and had limited access to IT (e.g. hardly any owned a TV, a computer or a car/truck, or had a bank account, and 74% of students in these households had not used the internet during the past year).

There are considerable socioeconomic differences between schools. SUA Secondary School concentrates 71% of students in the upper half of the distribution (according to our index), compared with 40% or less in the other schools, while only 4% of its student population are in the lowest quartile of the distribution. The school's relative affluence is explained by its urban location and by the fact that most of its residents are employed by the local university. Mhovu Primary School is more unequal: 37% of students are in the lowest quartile and 22% in the highest.

Nearly one-quarter of students (23%) did not know their parents' education level while among those who did know, nearly two-thirds (63%) reported some primary school education only. Most of the students (71%) identified Christianity as their religion, and the remainder, Islam. The share of Christians ranged from 55% (SUA Secondary School) to 90% (Magu Secondary School).

Around three-quarters of respondents (77%) reported that their mother and father were both alive, while 3% reported that neither parent was alive. Just under half of students (46%) lived with both parents, while 28% lived only with their mother, 9% only with their father and 17% with 'another relative'. In Nyamagana Primary School, 40% of respondents lived with only their mother (compared with between 19% and 26% in the other schools), but a lower share lived with other relatives (10% compared with 17%–22% in the other schools). In Mhovu Primary School, by contrast, 15% of students lived with their father only, compared with 5%–9% of students attending the other three schools.

5 We did not ask students to specify where they used the internet, but given limited internet access within schools, we posit that this occurred at home, using mobile phone and/ or computer-based internet.

Annex 4 Survey questionnaire

This annex provides the original version of our survey. Some adjustments were made to conform to the country context and in the translation to Swahili and following the validation process (see Annex 3, A3.2 and Annex 5 for full details). The Swahili version of the survey we administered is available upon request.

Instructions

Thank you for completing this survey, which is about your mental health and things that you do that may affect your mental health. It will provide us with important information to develop better health programmes for young people like yourself. This information will be kept confidential. The answers you give must be true, based on what you really think and/or do. There is no right or wrong answer. If there is a question you don't want to answer, you can leave it blank. If you don't understand a question or need help, you can ask the fieldworker who gave you this questionnaire. Once you have completed the questionnaire, put it in an envelope and close it, this way you will be sure that the fieldworker will not read your answers. Please remember that your decision to participate is completely voluntary. This means that if you want you can participate and fill the questionnaire, and if you don't want there is no problem. Likewise, if you decide to participate and at some point, you don't want to continue, you can stop.

Unique identifier:	Name:
School name:	School number:
Grade:	Classroom:

Questions about you and your household

1. When is your birthday	Record date, including year |_____|	
2. How old are you today?	Indicate approximate age in years |_____| 98 = I don't know	
Please circle the correct answer:		
3. What is your gender?	00 = Male 01 = Female	02 = Other
4. Which of the following best describes your household?	01 = Very rich 02 = Rich 03 = Comfortable – manage to get by	04 = Never have quite enough, struggle to get by 05 = Poor 06 = Destitute 99 = I don't know
5. Have there been times in the last 12 months when you or your family have gone hungry?	01 = Yes 02 = No	99 = I don't know

6. How many people live in your household? Note: These are all those who normally sleep in your home and share meals with other members of your home and who have been living with the household for at least 6 months in the last year.	Record number |_____|

Please circle the correct answer:

7. Are both your mother and father alive?	1 = both alive 2 = mother alive 3 = father alive	4 = both not alive 99 = I don't know
8. Who are you currently living with?	01 = both mother and father 02 = only mother 03 = only father 04 = other relatives	05 = by myself 06 = with someone else [specify] |_____|
9. Who is the head of your household?	00 = Father 01 = Mother	02 = Someone else [specify] |_____|
10. What is the age of the head of your household?	Approximate age in years |_____|	98 = I don't know
11. What is the highest education attained by the head of your household?	00 = Pre-primary 01 = Primary 02 = Post-primary training 03 = Secondary 'O' level 04 = Post-secondary 'O' level training	05 = Secondary 'A' level 06 = Post-secondary 'A' level training 07 = University 99 = Don't know
12. What is the profession of the head of your household?	Indicate profession |_____|	
13. What is your religion? Please circle the correct answer.	01 Christian 02 Muslim	96 Other religion [specify] |_____| 97 No religion
14. How many rooms does your household have, including kitchen and living room?	Put number	
15. Of these rooms in your household, how many rooms are used for sleeping?	Put number	

Household asset ownership

Please indicate the correct answer.

16. Does your household have?	Yes	No	Don't know
[A] Television			
[B] Fixed phone			
[C] Refrigerator			
[D] Computer(s)			
[E] Bicycle			
[F] Motorcycle/scooter			
[I] Car(s) or truck			
[J] Bank account			

17. Does your household have a mobile phone?	01 = Yes 02 = No [Skip to 1.2]	99 = I don't know [Skip to 1.2]
18. If yes to 17, is it a smart phone that can access the internet?	01 = Yes 02 = No	99 = I don't know

Contextual factors

Individual education

1. Which grade/class are you in now?	Indicate grade/class |_____|

Please circle the correct answer:

2. How often in the last 7 days did you come to class without completing your homework or preparation for lessons?	01 = Always 02 = Usually 03 = Sometimes	04 = Rarely 05 = Never 06 = No homework is set
3. Now think about the other children in your class. How do you think you are doing academically compared to them?	1 = Worse 2 = About the same	3 = Better 98 = I don't know
4. Did you take the End of Term/Form II/Form IV Exam	0 = No	1 = Yes
5. If yes in 4: What percentile did you score on this exam?	PLEASE INSERT CODES	|_____|

Physical health

Please circle the correct answer

6. Compared with other children of the same age would you say your health is? the same, much better, better, worse or much worse?	01 = much worse 02 = worse 03 = same	04 = better 05 = much better

Family, friends and role models, support network

Please circle the correct answer.

7. In general, how many people can you rely on in time of need?	00 = None 01 = 1-2 people 02 = 3-5 people 03 = 6-10 people 04 = 11-15 people	05 = 16-20 people 06 = 21-30 people 07 = Over 30 people |__|
8. Do you have female friends, who are not members of your household, that you trust, and with whom you can talk about feelings and personal matters, or call on for help?	0 = no	1 = yes
9. Do you have male friends, who are not members of your household, that you trust, and with whom you can talk about feelings and personal matters, or call on for help?	0 = no	1 = yes
10. Is there a person that you respect, follow, look up to, or want to be like? This does not need to be someone that you know personally.	0 = no	1 = yes
11. Who is this person?	1 = Mother 2 = Father 3 = Grandmother 4 = Grandfather 5 = Sister 6 = Brother 7 = Aunt 8 = Uncle 9 = Other relative [specify] 10 = Girl program leader [specify program]	11 = Teacher 12 = Male friend 13 = Female friend 14 = Community leader 15 = Someone else in your community [specify] 16 = Someone famous [specify] |_____| 17 = Other [specify] |_____| 99 = Don't know
12. Are you a member of any school club?	0 = no	1 = yes

Mental health scales

Mental health literacy

Emotional literacy

Below are some statements about mental health. Please circle the answer that best describes your understanding.	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1. I am knowledgeable about the causes of poor mental health					
2. I know strategies to help me to be resilient when faced with difficult situations					
3. I recognise the signs of poor mental health					
4. I know strategies for dealing with stress					
5. I understand how social media impacts on my wellbeing					
6. A mental illness is not a real medical illness					
7. A mental illness is a sign of personal weakness					
8. People with a mental illness are dangerous					
9. I am willing to make friends with someone with a mental illness					
10. If I had a mental illness I would not tell anyone					
11. If I had a mental illness, I would not seek help from a mental health professional					
12. Seeing a mental health professional means you are not strong enough to manage your own difficulties					
13. People with a mental illness could snap out of it if they wanted					

What is important for good mental health?

For each statement, please indicate your level of agreement.	Strongly disagree	Disagree	Agree	Strongly agree
1. Handling stressful situations in a good manner				
2. Believing in yourself				
3. Having good sleep routines				
4. Making decisions based on your own will				
5. Setting limits for your own actions				
6. Feeling that you belong in a community				
7. Mastering your own negative thoughts				
8. Setting limits for what is OK for you				
9. Feeling valuable regardless of your accomplishments				
10. Experiencing school mastery				

Knowledge of sources of information seeking

For each statement, please indicate your level of agreement.	Strongly disagree	Disagree	Agree	Strongly agree
1. I am confident that I know where to seek information about mental illness				
2. I am confident using the computer or telephone to seek information about mental illness				
3. I am confident attending face to face appointments to seek information about mental illness (e.g., seeing a general practitioner)				
4. I am confident I have access to resources (e.g., general practitioner, internet, friends) that I can use to seek information about mental illness				

Strengths and Difficulties Questionnaire (SDQ)

Are the statements below: Not true, Somewhat true or are Certainly true?	Not true	Somewhat true	Certainly true
1. I try and be nice to other people and I care about their feelings			
2. I am restless, I cannot stay still for long			
3. I get a lot of headaches, stomach-aches or sickness			
4. I usually share with others, for example food or when playing games			
5. I get very angry and lose my temper			
6. I would rather by alone than with other people my age			
7. I usually do as I am told			
8. I worry a lot			
9. I am helpful if someone is hurt, upset or feeling ill			
10. I am constantly fidgeting or squirming			
11. I have one good friend or more			
12. I fight a lot; I can make other people do what I want			
13. I am often unhappy, depressed or tearful			
14. Other people my age generally like me			
15. I am easily distracted; I find it difficult to concentrate			
16. I am nervous in new situations; I easily lose confidence			
17. I am kind to younger children			
18. I am often accused of lying and cheating			

Are the statements below: Not true, Somewhat true or are Certainly true?	Not true	Somewhat true	Certainly true
19. Other children and young people pick on me or bully me			
20. I often volunteer to help others (parents, teachers, children)			
21. I think before I do things			
22. I take things that are not mine from home or from school or elsewhere			
23. I get along better with adults than children my own age			
24. I have many fears and I am easily scared			
25. I finish the work I am doing. My attention is good			

Self-efficacy

Are the following statements Not at all true, Hardly true, Moderately true or exactly true?	Not at all true	Hardly true	Moderately true	Exactly true
1. I can always manage to solve difficult problems if I try hard enough				
2. If someone opposes me, I can find the means and ways to get what I want				
3. It is easy for me to stick to my aims and accomplish my goals				
4. I am confident that I could deal efficiently with unexpected events				
5. Thanks to my resourcefulness, I know how to handle unforeseen situations				
6. I can solve most problems if I invest the necessary effort				
7. I can remain calm when facing difficulties because I can rely on my coping abilities				
8. When I am confronted with a problem, I can usually find several solutions				
9. If I am in trouble, I can usually think of a solution				
10. I can usually handle whatever comes my way				

(WHO-5) well-being questionnaire

Please indicate for each of the five statements which is closest to how you have been feeling over the last two weeks.

Over the last two weeks	All of the time	Most of the time	More than half of the time	Less than half of the time	Some of the time	At no time
1. I have felt cheerful and in good spirits						
2. I have felt calm and relaxed						
3. I have felt active and vigorous						
4. I woke up feeling fresh and rested						
5. My daily life has been filled with things that interest me						

Responding to mental health challenges

Adolescents' ways of coping with mental health challenges

We would like you to think about the last time you were feeling tense or facing a problem or difficulty. Please indicate the situation you are thinking about

Did you do this?	Yes	No
1. I just tried to forget it		
2. I did something like watch TV, listen to the radio, read a book, or played a game to forget it		
3. I went on the internet or used social media to distract myself		
4. I stayed by myself		
5. I kept quiet about the problem		
6. I tried to see the good side of things		
7. I blamed myself for causing the problem		
8. I blamed someone else for causing the problem		
9. I tried to fix the problem by thinking of answers		
10. I tried to fix the problem by doing something about it		
11. I tried to fix the problem by talking to someone		
12. I yelled, screamed, or got mad		
13. I tried to calm myself down		
14. I wished the problem had never happened		

Did you do this?	Yes	No
15. I wished I could make things different		
16. I tried to feel better by spending time with others like family, grownups, or friends		
17. I didn't do anything because the problem couldn't be fixed		
18. I prayed		
19. I went on the internet to get support		
20. I meditated		
21. I did some kind of sport or physical activity		
22. I wrote down my thoughts (e.g. in a diary)		
23. Other [please specify]		

Attitudes Toward Seeking Professional Psychological Help

For each statement, please indicate your level of agreement.	Strongly disagree	Disagree	Agree	Strongly agree	I prefer not to say
1. If I thought I was having a mental breakdown, my first thought would be to get professional attention					
2. Talking about problems with a psychologist seems to me as a poor way to get rid of emotional problems					
3. If I were experiencing a serious emotional crisis, I would be sure that psychotherapy would be useful					
4. I admire people who are willing to cope with their problems and fears without seeking professional help					
5. I would want to get psychological help if I were worried or upset for a long period of time					
6. I might want to have psychological counselling in the future					
7. A person with an emotional problem is not likely to solve it alone; he or she is more likely to solve it with professional help					

Use of technology

In the last 12 months, how often have you been using any of the following...	Never	Less than once a month	Monthly	Weekly	Daily
1. Computer or laptop					
2. Tablet					
3. Internet					
4. Mobile phone with internet access (e.g. smartphone)					

5. Do you have a mobile phone for your own personal use?	0 = No	1 = Yes
6. Are you able to access the internet or go online when you want or need to? This includes going online on any device and in any location	0 = Never [skip to Section 1.6] 1 = sometimes	2 = often 3 = always

How often have you done these things ONLINE in the past year?	1 = Once a week or more	2 = Once a month	3 = Every few months	4 = Less often	5 = Never
7. Looked for health information for yourself or someone you know?					
8. Looked for mental health information for yourself or someone you know					

Violence

Violence by peers and ways of dealing with it

In the past 12 months how many times have any peers...	Never	Once	More than once	I prefer not to say
1. Used words to hurt you, such as calling you names, making fun of you in an unpleasant way, spreading lies about you, or sharing embarrassing information about you (including in person, or not in person such as through texting or the internet)				
2. Left you out of their games or activities, or ignored you (including in person, or not in person such as through texting or the internet)				
3. Stole or damaged something of yours				
4. Physically hurt you (for instance, by pushing, hitting, or kicking)				

In the past 12 months how many times have any peers...	Never	Once	More than once	I prefer not to say
5. Made you do things that you didn't want to do (for instance, things you know to be against the rules, or things that make you feel uncomfortable), (including in person, or not in person such as through texting or the internet)				
6. Threatened you or someone close to you with harm (including in person, or not in person such as through texting or the internet)				
7. Have you talked with anyone or shared through other means about this treatment by your peers?	0 = no SKIP TO SECTION 1.6.2		1 = yes	
8. If yes in 7: With whom did you talk/share about this treatment by your peers? Circle all that apply.	1 = The peer who treated you this way 2 = Parent 3 = Other adult family member 4 = Child family member 5 = Friend 6 = Teacher or other school official		8 = Religious official 9 = A health care provider 10 = Police or Local 11 = Security 12 = Other (specify) |_____|	

Violence by parents and ways of dealing with it

Now we'd like to ask you about things that may have happened at home

How often in the last 12 months...	1 = Never happened	2 = Happened once	3 = Happened more than once	99 = I prefer not to say
9. Were you pushed, slapped, hit, beaten or otherwise physically hurt by a parent or other adult in your household?				
10. Did a parent or other adult in your household yell at you or call you names?				
11. Did a parent or other adult in your household treat you poorly in another way, such as withholding food from you when others in the family were fed?				
12. Have you seen or heard your father/male guardian hit or beat your mother/female guardian?				
13. Have you seen or heard your mother/female guardian being hit or beaten by any family member other than your father/male guardian?				

How often in the last 12 months...		
14. Have you talked with anyone about or shared with anyone through other means these things that happened at home?	0 = No SKIP TO Q. 16 1 = Yes	
15. With whom did you talk or share about these things that happened at home? Please circle the numbers of all that apply.	1 = Parent 2 = Other adult family member 3 = Child family member 4 = Friend 5 = Teacher or other school official	6 = Religious official 7 = Health care provider 8 = Police or local 0 = Other (specify) |_____|
16. When you do something wrong, usually what do your parents do to discipline you? Please circle the MAIN discipline that parents use.	1 = Talk to me 2 = Have me sit quietly alone 3 = Yell at me 4 = Spank me/hit me 5 = Give me work / chores to do 6 = Take away one of my possessions or something that I've been looking forward	7 = Pinch me 8 = Use a cane, belt, stick, etc 9 = Thrown out of house 10 = Not allowed to eat/skipped meal 11 = other |_____|

Violence by teachers and ways of dealing with it

Have you ever been...	Yes	No	I prefer not to say
17. Beaten, hit, whipped, or caned by a teacher at your school, or physically punished by a teacher in some other way?			
18. Punished at school in another way, like being forced to run around, stand on a bench, or kneel?			

Other behaviours

Have you ever engaged in the following behaviours?	Not at all	Occasionally	Frequently	Weekly	Daily
1. Smoking cigarettes or beedies (to be adjusted)					
2. Drug use (e.g. opium, cannabis or a harder drug)					
3. Self-harming (hurting your own body on purpose)					
4. Gambling					
5. Gang violence					
6. Alcohol					

Please indicate the correct answer.	Never	Seldom	Sometimes	Often	Very often
7. Have you ever gotten in trouble in class?					
8. Have you ever been in a fight?					
9. Have you ever skipped schoolwork assignments?					
10. Have you ever bullied someone at school?					
11. Has your school called home because you were in trouble for your behaviour?					

Please indicate the correct answer.	No	Yes	I prefer not to say
12. Does your father/male guardian drink alcohol?			
13. Does your mother/female guardian drink alcohol?			

Sexual activity [Older adolescents only]

Please circle the correct answer		
14. How many of your best friends have ever had sex?	0 - All of my friends 1 - Most of my friends 2 - A few of my friends	3 - None of my friends 99 - I don't know
15. How old were you when you had sex for the first time?	0 - 13 years old or younger 1 - 14 years old 2 - 15 years old 3 - 16 years old 4 - 17 years old	5 - 18 years old 6 - 19 years old 7 - I have never had sex 99 - I prefer not to say [If answer = 7 or 99, skip all the other questions in this section, END SURVEY]
16. The last time you had sex, what did you do to prevent getting pregnant or a disease?	You can choose more than one option: 1 - We used a condom 2 - Use after morning pill 3 - Use injections to prevent getting pregnant	4 - Don't know if use any method 5 - We did not use any method 6 - Other method, please say what: _____
17. How many partners have you EVER had intercourse with? This includes any person you had intercourse with, even if it was only once, or if you did not know him or her well.	1 - One 2 - Two	3 - Three 4 - Four or more
18. Have you ever had sex when you did not want to?	0 - Yes, one time 1 - Yes, more than once	2 – No
19. During your life, have you ever been drunk from alcohol while having sex?	1 - Yes, one time 2 - Yes, more than one time	3 - No, never

Do you have any comments about this questionnaire?

Please return the questionnaire to the enumerator.

Annex 5 Detailed descriptive statistics from survey

Table A2 Composition of survey sample

	Region		Name of school				School grade		Total
	Mwanza	Morogoro	Mhovu Primary	SUA Secondary	Nyamagana Primary	Magu Secondary	Primary	Secondary	
Total	200	201	101	100	100	100	201	200	401
Gender:									
Male	112 (56.0)	92 (45.8)	44 (43.6)	48 (48.0)	64 (64.0)	48 (48.0)	108 (53.7)	96 (48.0)	204 (50.9)
Female	88 (44.0)	109 (54.2)	57 (56.4)	52 (52.0)	36 (36.0)	52 (52.0)	93 (46.3)	104 (52.0)	197 (49.1)
Age group:									
Less than 12	29 (14.5)	12 (6.0)	12 (11.9)	0 (0.0)	29 (29.0)	0 (0.0)	41 (20.4)	0 (0.0)	41 (10.2)
12–13	55 (27.5)	71 (35.3)	71 (70.3)	0 (0.0)	54 (54.0)	1 (1.0)	125 (62.2)	1 (0.5)	126 (31.4)
14–15	91 (45.5)	72 (35.8)	18 (17.8)	54 (54.0)	15 (15.0)	76 (76.0)	33 (16.4)	130 (65.0)	163 (40.6)
16 or more	25 (12.5)	46 (22.9)	0 (0.0)	46 (46.0)	2 (2.0)	23 (23.0)	2 (1.0)	69 (34.5)	71 (17.7)
SES Index:									
Lower	54 (28.0)	64 (34.4)	37 (36.6)	4 (4.0)	25 (25.0)	29 (29.0)	62 (30.8)	33 (16.5)	95 (23.7)
Middle low	58 (30.1)	44 (23.7)	20 (19.8)	17 (17.0)	32 (32.0)	26 (26.0)	52 (25.9)	43 (21.5)	95 (23.7)
Middle high	51 (26.4)	37 (19.9)	15 (14.9)	29 (29.0)	26 (26.0)	25 (25.0)	41 (20.4)	54 (27.0)	95 (23.7)
High	30 (15.5)	41 (22.0)	22 (21.8)	42 (42.0)	15 (15.0)	15 (15.0)	37 (18.4)	57 (28.5)	94 (23.4)
Higher level of education head of household:									
Some level of primary education or similar	101 (50.5)	94 (46.8)	49 (48.5)	45 (45.0)	29 (29.0)	72 (72.0)	78 (38.8)	117 (58.5)	195 (48.6)

	Region		Name of school				School grade		Total
	Mwanza	Morogoro	Mhovu Primary	SUA Secondary	Nyamagana Primary	Magu Secondary	Primary	Secondary	
Some level of secondary education or similar	21 (10.5)	44 (21.9)	13 (12.9)	31 (31.0)	7 (7.0)	14 (14.0)	20 (10.0)	45 (22.5)	65 (16.2)
More than secondary (technical, university, etc)	17 (8.5)	33 (16.4)	17 (16.8)	16 (16.0)	8 (8.0)	9 (9.0)	25 (12.4)	25 (12.5)	50 (12.5)
Do not know / No response	61 (30.5)	30 (14.9)	22 (21.8)	8 (8.0)	56 (56.0)	5 (5.0)	78 (38.8)	13 (6.5)	91 (22.7)
Household composition:									
Both mother and father	93 (46.5)	93 (46.3)	49 (48.5)	44 (44.0)	45 (45.0)	48 (48.0)	94 (46.8)	92 (46.0)	186 (46.4)
Only mother	66 (33.0)	45 (22.4)	19 (18.8)	26 (26.0)	40 (40.0)	26 (26.0)	59 (29.4)	52 (26.0)	111 (27.7)
Only father	14 (7.0)	23 (11.4)	15 (14.9)	8 (8.0)	5 (5.0)	9 (9.0)	20 (10.0)	17 (8.5)	37 (9.2)
Other relatives	27 (13.5)	40 (19.9)	18 (17.8)	22 (22.0)	10 (10.0)	17 (17.0)	28 (13.9)	39 (19.5)	67 (16.7)
Other									
Mother and father alive:									
Both alive	156 (78.0)	151 (75.1)	71 (70.3)	80 (80.0)	76 (76.0)	80 (80.0)	147 (73.1)	160 (80.0)	307 (76.6)
Mother alive	33 (16.5)	23 (11.4)	14 (13.9)	9 (9.0)	20 (20.0)	13 (13.0)	34 (16.9)	22 (11.0)	56 (14.6)
Father alive	9 (4.5)	14 (7.0)	7 (6.9)	7 (7.0)	3 (3.0)	6 (6.0)	10 (5.0)	13 (6.5)	23 (5.7)
None of them is alive	1 (0.5)	12 (6.0)	9 (8.9)	3 (3.0)	0 (0.0)	1 (1.0)	9 (4.5)	4 (2.0)	13 (3.2)
Don't know	1 (0.5)	1 (0.5)	0 (0.0)	1 (1.0)	1 (1.0)	0 (0.0)	1 (0.5)	1 (0.5)	2 (0.5)
Religion:									
Christian	160 (80.4)	125 (62.2)	70 (69.3)	55 (55.0)	70 (70.0)	90 (90.0)	140 (69.7)	145 (72.5)	285 (71.1)
Muslim	39 (19.6)	76 (37.8)	31 (30.7)	45 (45.0)	29 (29.0)	10 (10.0)	60 (29.9)	55 (27.5)	115 (28.7)

Table A3 Baseline levels – key mental health indicators

	Awareness		Agency			Help-seeking behaviour					
	Emotional literacy	Knowledge of what is important for good mental health	Ways of coping with mental health challenges (Kidcope)		Knowledge of sources of information seeking	Attitudes Toward Seeking Professional Psychological Help		Looked online for health information for yourself or someone you know		Looked online for mental health information for yourself or someone you know	
			Distraction	Self-blame		Full sample	Population at risk of mental ill-health	Full sample	Population at risk of mental ill-health	Whole sample	Population at risk of mental ill-health
Total	2.62	3.03	0.59	0.70	2.94	2.98	2.75	2.28	2.22	2.27	2.07
Region:											
Mwanza	2.61	3.02	0.56	0.70	3.00	2.96	2.69	2.36	2.20	2.27	1.73
Morogoro	2.63	3.04	0.62	0.71	2.89	3.00	2.83	2.22	2.23	2.27	2.46
Gender:											
Male	2.64	3.06	0.59	0.73	3.01	2.94	2.67	2.37	2.56	2.31	2.33
Female	2.59	2.99	0.58	0.67	2.88	3.01	2.84	2.15	1.60	2.21	1.60
Age group:											
Less than 12	2.54	2.87	0.60	0.66	2.85	2.74	2.53	2.88	3.40	2.88	2.00
12–13	2.60	2.94	0.59	0.68	2.88	2.90	2.78	2.50	2.13	2.57	2.38
14–15	2.64	3.11	0.59	0.71	2.97	3.06	2.79	2.11	1.62	2.10	1.85
16 or more	2.66	3.11	0.58	0.76	3.06	3.09	2.87	2.07	3.50	1.93	2.50

	Awareness		Agency			Help-seeking behaviour					
	Emotional literacy	Knowledge of what is important for good mental health	Ways of coping with mental health challenges (Kidcope)		Knowledge of sources of information seeking	Attitudes Toward Seeking Professional Psychological Help		Looked online for health information for yourself or someone you know		Looked online for mental health information for yourself or someone you know	
			Distraction	Self-blame		Full sample	Population at risk of mental ill-health	Full sample	Population at risk of mental ill-health	Whole sample	Population at risk of mental ill-health
Name of school:											
Mhovu Primary School	2.58	2.85	0.63	0.66	2.76	2.85	2.85	2.55	2.22	2.89	2.78
Sua Secondary School	2.69	3.23	0.60	0.76	3.03	3.17	2.77	1.94	2.25	1.75	1.75
Nyamagana Primary School	2.60	3.01	0.57	0.70	2.94	2.88	2.63	2.60	2.57	2.52	2.00
Magu Secondary School	2.61	3.02	0.56	0.69	3.05	3.03	2.81	2.23	1.88	2.13	1.50
School grade:											
Primary	2.59	2.93	0.60	0.68	2.85	2.87	2.73	2.57	2.38	2.75	2.44
Secondary	2.65	3.13	0.58	0.73	3.04	3.10	2.79	2.08	2.00	1.93	1.58
Socioeconomic status index:											
Lower	2.47	2.92	0.58	0.70	2.70	2.95	2.71	2.38	3.00	2.19	2.00
Middle low	2.62	3.00	0.56	0.67	2.93	2.89	2.83	2.16	2.29	2.17	2.00
Middle high	2.63	3.05	0.59	0.73	3.05	3.01	2.78	2.02	2.00	2.27	2.11
Higher	2.75	3.13	0.62	0.73	3.06	3.04	2.68	2.52	2.40	2.39	2.20

	Awareness		Agency			Help-seeking behaviour					
	Emotional literacy	Knowledge of what is important for good mental health	Ways of coping with mental health challenges (Kidcope)		Knowledge of sources of information seeking	Attitudes Toward Seeking Professional Psychological Help		Looked online for health information for yourself or someone you know		Looked online for mental health information for yourself or someone you know	
			Distraction	Self-blame		Full sample	Population at risk of mental ill-health	Full sample	Population at risk of mental ill-health	Whole sample	Population at risk of mental ill-health
Higher level of education head of household:											
Some level of primary education or similar	2.61	3.02	0.58	0.70	2.95	3.00	2.86	2.15	2.00	2.23	1.69
Some level of secondary education or similar	2.70	3.12	0.62	0.74	2.99	3.03	2.56	2.19	2.50	1.94	3.00
More than secondary (technical, university, etc)	2.65	3.04	0.60	0.70	2.96	3.09	2.90	2.42	2.67	2.55	2.33
Household composition:											
Both mother and father	2.63	3.03	0.59	0.69	2.94	3.01	2.82	2.43	2.46	2.40	2.46
Only mother	2.56	3.06	0.57	0.69	2.91	2.95	2.68	1.90	2.33	2.10	1.67
Only father	2.59	2.96	0.56	0.69	2.85	2.79	2.53	2.60	2.25	2.36	2.25
Other relatives	2.70	2.99	0.62	0.75	3.04	3.04	2.79	2.21	1.40	2.04	1.40

	Awareness		Agency			Help-seeking behaviour					
	Emotional literacy	Knowledge of what is important for good mental health	Ways of coping with mental health challenges (Kidcope)		Knowledge of sources of information seeking	Attitudes Toward Seeking Professional Psychological Help		Looked online for health information for yourself or someone you know		Looked online for mental health information for yourself or someone you know	
			Distraction	Self-blame		Full sample	Population at risk of mental ill-health	Full sample	Population at risk of mental ill-health	Whole sample	Population at risk of mental ill-health
Mother and father alive:											
Both alive	2.62	3.03	0.59	0.70	2.98	2.99	2.74	2.32	2.42	2.23	2.00
Mother alive	2.57	3.02	0.57	0.73	2.79	2.90	2.80	1.79	1.20	2.05	1.40
Father alive	2.63	3.00	0.58	0.66	3.13	3.00	2.67	2.29	2.00	3.14	3.33
None of them is alive	2.77	2.95	0.67	0.71	2.75	2.96	2.85	3.00	4.00	2.83	3.00
Religion:											
Christian	2.62	3.01	0.58	0.69	2.91	2.96	2.72	2.31	2.23	2.31	2.14
Muslim	2.62	3.08	0.61	0.74	3.03	3.03	2.80	2.20	2.17	2.17	1.83

Table A4 Baseline levels of key mental health indicators disaggregated by to digital devices and the internet

	Awareness		Agency			Help-seeking behaviour					
	Emotional literacy	Knowledge of what is important for good mental health	Ways of coping with mental health challenges (Kidcope)		Knowledge of sources of information seeking	Attitudes Toward Seeking Professional Psychological Help		Looked online for health information for yourself or someone you know		Looked online for mental health information for yourself or someone you know	
			Distraction	Self-blame		Full sample	Population at risk of mental ill-health	Full sample	Population at risk of mental ill-health	Full sample	Population at risk of mental ill-health
How often uses a computer or laptop in the last 12 months:											
Never	2.60	3.01	0.57	0.69	2.87	2.94	2.76	2.17	1.86	2.17	1.64
At least once in a month	2.65	3.07	0.63	0.72	3.08	3.04	2.74	2.37	2.57	2.35	2.50
How often uses a tablet in the past 12 months:											
Never	2.61	3.03	0.58	0.71	2.90	2.98	2.80	2.10	1.67	2.05	1.60
At least once in a month	2.65	3.04	0.62	0.69	3.06	2.98	2.65	2.58	2.85	2.63	2.62
How often uses internet in the past 12 months:											
Never	2.60	3.00	0.56	0.69	2.87	2.98	2.86	1.97	1.29	2.05	1.14
At least once in a month	2.66	3.08	0.64	0.73	3.08	2.97	2.59	2.49	2.52	2.42	2.38
How often uses a mobile phone with Internet in the past 12 months:											
Never	2.58	2.98	0.57	0.68	2.82	2.95	2.82	1.88	1.43	2.03	1.71
At least once in a month	2.66	3.07	0.61	0.73	3.06	3.00	2.68	2.41	2.48	2.35	2.19

	Awareness		Agency			Help-seeking behaviour					
	Emotional literacy	Knowledge of what is important for good mental health	Ways of coping with mental health challenges (Kidcope)		Knowledge of sources of information seeking	Attitudes Toward Seeking Professional Psychological Help		Looked online for health information for yourself or someone you know		Looked online for mental health information for yourself or someone you know	
			Distraction	Self-blame		Full sample	Population at risk of mental ill-health	Full sample	Population at risk of mental ill-health	Full sample	Population at risk of mental ill-health
Have a mobile phone for personal use:											
No	2.61	3.02	0.58	0.70	2.92	3.00	3.02	2.14	2.00	2.12	1.95
Yes	2.68	3.05	0.64	0.72	3.09	2.88	2.71	2.70	2.67	2.70	2.33
Access to the internet when in need:											
Never	2.57	2.97	0.55	0.67	2.84	2.93	2.80	1.80	–	2.00	–
Sometimes, often or always	2.68	3.11	0.64	0.75	3.08	3.04	2.65	2.29	2.21	2.28	2.07

Table A5 Baseline levels of key mental health indicators disaggregated by to digital devices and the internet, statistical significance testing

	Computer	Tablet	Internet	Smartphone	Own mobile phone	Access when needed	Look for health information	Look for mental health information
Emotional literacy	Not significant	Not significant	Not significant	Not significant	Not significant	F = 4.374, df=3, p<0.005	Not significant	Not significant
Knowledge of what is important for good mental health	Not significant	Not significant	Not significant	Not significant	Not significant	F = 3.901, df=3, p<0.010	Not significant	Not significant
Distraction coping	F = 4.753, df=4, p<0.001	F = 3.841, df=4, p<0.005	F = 6.634, df=4, p<0.001	F = 2.628, df=4, p<0.05	F = 8.553, df=4, p<0.005	F = 12.821, df=4, p<0.001	Not significant	F = 2.575, df=4, p<0.05
Self-Blame	Not significant	F = 2.041, df=4, p<0.1	Not significant	F = 2.848 df=4, p<0.05	Not significant	F = 5.222 df=4, p<0.002	Not significant	Not significant
Knowledge of sources of information seeking	F = 2.681, df=4, p<0.05	F = 2.095, df=4, p<0.1	F = 3.330, df=4, p<0.05	F = 4.138, df=4, p<0.005	F = 4.026, df=4, p<0.05	F = 5.818, df=3, p<0.001	Not significant	Not significant
Attitudes Toward Seeking Professional Psychological Help	F = 2.159, df=4, p<0.1	F = 2.236, df=4, p<0.1	Not significant	Not significant	Not significant	Not significant	Not significant	F = 2.465, df=4, p<0.05
Looked online for health information for yourself or someone you know	Not significant	ALL SAMPLE F = 2.282, df=4, p<0.1 High risk SDQ F = 2.976, df=4, p<0.05	ALL SAMPLE F = 3.559, df=4, p<0.01 High risk SDQ F = 2.240, df=4, p<0.1	ALL Not significant High risk SDQ F = 2.276, df=4, p<0.1	ALL SAMPLE F =6.792, df=4, p<0.01	Not significant	N/A	ALL SAMPLE F = 19.519, df=4, p<0.001 High risk SDQ F = 5.494, df=4, p<0.005
Looked online for mental health information for yourself or someone you know	Not significant	ALL SAMPLE F = 2.195, df=4, p<0.1 High risk SDQ F = 2.217, df=4, p<0.1	ALL Not significant High risk SDQ F = 5.372, df=4, p<0.05	Not significant	ALL SAMPLE F = 5.769, df=4, p<0.05 High risk SDQ Not significant	Not significant	ALL SAMPLE F = 15.002, df=4, p<0.001 High risk SDQ Not significant	Not significant

Table A6 Baseline levels of use of technology disaggregated by region, school name and school type

	Region		Name of the school				Type of school		Total
	Mwanza	Morogoro	Mhovu Primary	Sua Secondary school	Nyamagana Primary School	Magu Secondary School	Primary	Secondary	
How often uses a computer or laptop in the last 12 months:									
Never	130 (67.7)	115 (57.8)	56 (55.4)	59 (60.2)	61 (61)	69 (72.6)	117 (59.1)	128 (66.3)	245 (62.7)
Less than once a month	42 (21.9)	46 (23.1)	23 (22.8)	23 (23.5)	21 (21)	21 (22.1)	44 (22.2)	44 (22.8)	88 (22.5)
Monthly	8 (4.2)	7 (3.5)	6 (5.9)	1 (1.0)	4 (4)	4 (4.2)	10 (5.1)	5 (2.6)	15 (3.8)
Weekly	6 (3.1)	23 (11.6)	14 (13.9)	9 (9.2)	5 (5)	1 (1.1)	19 (9.6)	10 (5.2)	29 (7.4)
Daily	6 (3.1)	8 (4)	2 (2.0)	6 (6.2)	6 (6.2)	0 (0.0)	8 (4.0)	6 (3.1)	14 (3.6)
How often uses a tablet in the past 12 months:									
Never	138 (71.9)	146 (73.7)	74 (74.0)	72 (73.5)	66 (68.0)	72 (75.8)	140 (71.1)	144 (74.6)	284 (72.8)
Less than once a month	28 (14.6)	29 (14.6)	16 (16.0)	13 (13.3)	10 (10.3)	18 (19.0)	26 (13.2)	31 (16.1)	57 (14.6)
Monthly	12 (6.3)	9 (4.5)	3 (3.0)	6 (6.1)	11 (11.3)	1 (1.0)	14 (7.1)	7 (3.6)	21 (5.4)
Weekly	9 (4.7)	6 (3)	4 (4.0)	2 (2.0)	6 (6.2)	3 (3.2)	10 (5.1)	5 (2.6)	15 (3.9)
Daily	5 (2.6)	8 (4)	3 (3.0)	5 (5.1)	4 (4.1)	1 (1.1)	7 (3.6)	6 (3.1)	13 (3.3)
How often uses internet in the past 12 months:									
Never	129 (66.8)	116 (58.6)	67 (67.0)	49 (50.0)	62 (63.9)	67 (69.8)	129 (65.4)	116 (59.8)	245 (62.7)
Less than once a month	30 (15.5)	33 (16.7)	20 (20.0)	13 (13.3)	13 (13.4)	17 (17.7)	33 (16.8)	30 (15.5)	63 (16.1)
Monthly	12 (6.2)	4 (2)	0 (0.0)	4 (4.1)	8 (8.3)	4 (4.2)	8 (4.1)	8 (4.1)	16 (4.1)
Weekly	13 (6.7)	21 (10.6)	6 (6.0)	15 (15.3)	7 (7.2)	6 (6.3)	13 (6.6)	21 (10.8)	34 (8.7)
Daily	9 (4.7)	24 (12.1)	7 (7.0)	17 (17.4)	7 (7.2)	2 (2.1)	14 (7.1)	19 (9.8)	33 (8.4)

	Region		Name of the school				Type of school		Total
	Mwanza	Morogoro	Mhovu Primary	Sua Secondary school	Nyamagana Primary School	Magu Secondary School	Primary	Secondary	
How often uses a mobile phone with internet in the past 12 months:									
Never	107 (55.2)	79 (39.7)	43 (42.6)	36 (36.7)	51 (53.1)	56 (57.1)	94 (47.7)	92 (46.9)	186 (47.3)
Less than once a month	34 (17.5)	47 (23.6)	24 (23.8)	23 (23.5)	17 (17.7)	17 (17.4)	41 (20.8)	40 (20.4)	81 (20.6)
Monthly	7 (3.6)	12 (6)	10 (9.9)	2 (2.0)	2 (2.1)	5 (5.1)	12 (6.1)	7 (3.6)	19 (4.8)
Weekly	16 (8.2)	17 (8.5)	5 (5.0)	12 (12.2)	8 (8.3)	8 (8.2)	13 (6.6)	20 (10.2)	33 (8.4)
Daily	30 (15.5)	44 (22.1)	19 (18.8)	25 (25.5)	18 (18.8)	12 (12.2)	37 (18.9)	37 (18.9)	74 (18.8)
Have a mobile phone for personal use:									
No	176 (90.7)	160 (80.8)	86 (85.1)	74 (74.3)	88 (91.7)	88 (89.8)	174 (88.3)	162 (83.1)	336 (85.7)
Yes	18 (9.3)	38 (19.2)	15 (14.9)	23 (23.7)	8 (8.3)	10 (10.2)	23 (11.7)	33 (16.9)	56 (14.3)
Can go online or access the internet when in need:									
Never	114 (59.7)	97 (50)	55 (56.7)	42 (43.3)	68 (70.8)	46 (48.4)	123 (63.7)	88 (45.8)	211 (54.8)
Sometimes	66 (34.6)	82 (42.3)	35 (36.1)	47 (48.5)	24 (25.0)	42 (44.2)	59 (30.6)	89 (46.4)	148 (38.4)
Often	5 (2.6)	5 (2.6)	4 (4.1)	1 (1.0)	1 (1.0)	4 (4.2)	5 (2.6)	5 (2.6)	10 (2.6)
Always	6 (3.1)	10 (5.2)	3 (3.1)	7 (7.2)	3 (3.1)	3 (3.2)	6 (3.1)	10 (5.2)	16 (4.2)

Annex 6 Results of the multivariate analysis

This annex presents results of the multivariate analysis exploring predictors of the mental health outcome variables. For the continuous dependent variables – the SDQ score and WHO-5 score – we use an ordinary least squares regression (and report the coefficients for each independent variable); whereas for the binary dependent variables – SDQ high risk, WHO top performers and WHO at risk of depression – we use a logistic regression and report the odds ration associated with each regressor relative to the base category.

Table A7 Multivariate analysis of mental health outcomes as a function of demographic variables and drivers of ill-health

Variables	(1) Coeff SDQ	(2) OR SDQ bottom quartile	(3) OR WHO top quartile	(4) OR WHOdep	(5) Coeff WHO-5	(6) Coeff SDQ	(7) OR SDQ bottom quartile	(8) OR WHO top quartile	(9) OR WHOdep	(10) Coeff WHO-5
Female	1.022	1.059	0.648	1.220	0.917	1.025	1.154	0.618*	1.113	0.937
	(0.0266)	(0.266)	(0.173)	(0.362)	(0.107)	(0.0244)	(0.335)	(0.177)	(0.349)	(0.112)
Morogoro	1.005	0.714	1.588	1.019	1.102	1.023	0.834	1.538	1.110	1.059
	(0.0277)	(0.189)	(0.448)	(0.305)	(0.137)	(0.0265)	(0.247)	(0.477)	(0.353)	(0.135)
Muslim	1.003	1.079	0.725	1.144	0.941	1.013	1.313	0.676	0.969	0.988
	(0.0278)	(0.305)	(0.219)	(0.377)	(0.124)	(0.0280)	(0.427)	(0.238)	(0.335)	(0.132)
Lives with both parents	1.021	1.187	1.106	1.435	0.996	1.013	1.106	1.234	1.395	1.030
	(0.0270)	(0.303)	(0.291)	(0.421)	(0.117)	(0.0251)	(0.323)	(0.352)	(0.432)	(0.122)
Secondary school	0.894***	0.376***	0.926	0.807	1.143	0.960	0.547*	0.683	1.039	0.975
	(0.0232)	(0.0990)	(0.239)	(0.255)	(0.135)	(0.0248)	(0.171)	(0.200)	(0.380)	(0.126)
Experience of hunger	1.022	1.362	0.398***	2.221**	0.537***	1.009	1.312	0.431**	2.182**	0.587***
	(0.0304)	(0.390)	(0.137)	(0.689)	(0.0744)	(0.0291)	(0.435)	(0.161)	(0.727)	(0.0843)
Top socioeconomic quartile	0.963	0.846	1.251	0.344**	1.389**	0.955	0.748	1.135	0.399*	1.310**
	(0.0317)	(0.293)	(0.374)	(0.172)	(0.181)	(0.0279)	(0.292)	(0.352)	(0.211)	(0.174)
Mother drinks alcohol						1.104***	2.038*	1.313	0.972	0.990
						(0.0391)	(0.770)	(0.500)	(0.500)	(0.175)

Variables	(1) Coeff SDQ	(2) OR SDQ bottom quartile	(3) OR WHO top quartile	(4) OR WHOdep	(5) Coeff WHO-5	(6) Coeff SDQ	(7) OR SDQ bottom quartile	(8) OR WHO top quartile	(9) OR WHOdep	(10) Coeff WHO-5
Witness of physical violence against mother						1.057**	1.390	0.428**	1.854*	0.732**
						(0.0284)	(0.422)	(0.148)	(0.646)	(0.102)
Engagement in at least one risky behaviour						1.148***	2.635**	0.348*	0.842	0.845
						(0.0515)	(1.100)	(0.201)	(0.484)	(0.172)
Experience of verbal violence from parents						1.006	0.591	0.500	1.232	0.766
						(0.0334)	(0.257)	(0.213)	(0.746)	(0.130)
Experience of physical violence from parents						1.002	0.644	0.415**	3.370**	0.621**
						(0.0364)	(0.313)	(0.174)	(1.938)	(0.126)
Experience of verbal and physical violence from parents						1.016	0.867	0.308***	2.177	0.580***
						(0.0311)	(0.320)	(0.107)	(1.123)	(0.0873)
Experience of being bullied						1.155***	3.261***	0.806	1.237	0.869
						(0.0297)	(1.051)	(0.244)	(0.469)	(0.113)
Someone to rely on										
Role model										
Emotional literacy										
Knowledge of good mental health										
Confidence in seeking information on mental illness										
Attitudes toward professional psychological help										

Variables	(1) Coeff SDQ	(2) OR SDQ bottom quartile	(3) OR WHO top quartile	(4) OR WHOdep	(5) Coeff WHO-5	(6) Coeff SDQ	(7) OR SDQ bottom quartile	(8) OR WHO top quartile	(9) OR WHOdep	(10) Coeff WHO-5
Use of distraction as a coping strategy										
Use of self-blame as a coping strategy										
Some access to technology										
Constant	5.020***	0.459***	0.351***	0.118***	95.36***	4.205***	0.134***	1.191	0.0437***	172.2***
	(0.148)	(0.132)	(0.111)	(0.0416)	(12.70)	(0.158)	(0.0669)	(0.468)	(0.0267)	(31.06)
Observations	372	372	371	374	371	355	355	354	355	354
R^2	0.061				0.106	0.235				0.174

Notes: Robust see form in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Coeff, coefficient; OR, Odds Ratio; WHOdep, WHO at risk of depression

Table A8 Multivariate analysis of mental health outcomes as a function of demographic variables, drivers of ill-health and protective factors

Variables	(11) Coeff SDQ	(12) OR SDQ high risk	(13) OR WHO-5 top quartile	(14) OR WHOdep	(15) Coeff WHO-5	(16) Coeff SDQ	(17) OR SDQ bottom quartile	(18) OR WHO-5 top quartile	(19) OR WHOdep	(20) Coeff WHO-5
Female	1.027	1.117	0.650	1.171	0.935	1.019	1.101	0.753	1.190	0.996
	(0.0251)	(0.332)	(0.188)	(0.378)	(0.115)	(0.0242)	(0.350)	(0.245)	(0.414)	(0.122)
Morogoro	1.022	0.732	1.695	1.092	1.087	1.029	0.738	1.539	1.597	0.958
	(0.0273)	(0.218)	(0.552)	(0.355)	(0.143)	(0.0277)	(0.242)	(0.541)	(0.586)	(0.126)
Muslim	1.010	1.280	0.664	0.893	1.017	1.022	1.453	0.487*	0.751	0.983
	(0.0287)	(0.420)	(0.241)	(0.313)	(0.140)	(0.0291)	(0.532)	(0.200)	(0.310)	(0.133)
Lives with both parents	1.010	1.071	1.149	1.439	1.025	1.022	1.224	1.093	1.920*	0.969
	(0.0260)	(0.323)	(0.337)	(0.451)	(0.125)	(0.0255)	(0.384)	(0.337)	(0.669)	(0.115)
Secondary school	0.961	0.595	0.631	1.110	0.950	0.981	0.767	0.514**	1.400	0.876
	(0.0256)	(0.190)	(0.187)	(0.407)	(0.124)	(0.0251)	(0.274)	(0.165)	(0.558)	(0.111)
Experience of hunger	1.010	1.315	0.411**	2.390***	0.568***	1.016	1.392	0.498*	2.924***	0.573***
	(0.0293)	(0.442)	(0.155)	(0.782)	(0.0820)	(0.0292)	(0.497)	(0.195)	(1.044)	(0.0832)
Top socioeconomic quartile	0.957	0.833	1.131	0.398*	1.296*	0.980	1.056	1.094	0.493	1.139
	(0.0289)	(0.328)	(0.358)	(0.209)	(0.177)	(0.0287)	(0.440)	(0.351)	(0.288)	(0.146)
Mother drinks alcohol	1.101***	1.904*	1.306	0.941	1.005	1.102***	1.906*	1.400	0.639	1.127
	(0.0392)	(0.723)	(0.495)	(0.485)	(0.178)	(0.0353)	(0.720)	(0.564)	(0.324)	(0.176)
Witness of physical violence against mother	1.057**	1.338	0.449**	1.847*	0.738**	1.055**	1.257	0.414**	1.826	0.734**
	(0.0291)	(0.417)	(0.156)	(0.644)	(0.105)	(0.0276)	(0.408)	(0.155)	(0.696)	(0.0982)

Variables	(11) Coeff SDQ	(12) OR SDQ high risk	(13) OR WHO-5 top quartile	(14) OR WHOdep	(15) Coeff WHO-5	(16) Coeff SDQ	(17) OR SDQ bottom quartile	(18) OR WHO-5 top quartile	(19) OR WHOdep	(20) Coeff WHO-5
Engagement in at least one risky behaviour	1.148***	2.685**	0.331*	0.808	0.846	1.137***	2.406**	0.335*	0.697	0.913
	(0.0516)	(1.141)	(0.193)	(0.467)	(0.174)	(0.0484)	(1.041)	(0.200)	(0.380)	(0.173)
Experience of verbal violence from parents	1.007	0.590	0.483*	1.242	0.756	1.018	0.692	0.540	1.145	0.782
	(0.0345)	(0.261)	(0.213)	(0.753)	(0.132)	(0.0358)	(0.347)	(0.249)	(0.821)	(0.136)
Experience of physical violence from parents	1.002	0.612	0.411**	3.359**	0.616**	1.024	0.793	0.378**	5.000**	0.596**
	(0.0365)	(0.294)	(0.175)	(1.943)	(0.126)	(0.0348)	(0.393)	(0.187)	(3.404)	(0.125)
Experience of verbal and physical violence from parents	1.016	0.854	0.293***	2.275	0.568***	1.022	1.089	0.260***	2.408	0.570***
	(0.0322)	(0.326)	(0.105)	(1.163)	(0.0865)	(0.0319)	(0.482)	(0.103)	(1.488)	(0.0880)
Experience of being bullied	1.159***	3.728***	0.778	1.333	0.843	1.159***	4.638***	0.624	1.964	0.790*
	(0.0304)	(1.245)	(0.241)	(0.504)	(0.112)	(0.0276)	(1.746)	(0.207)	(0.840)	(0.102)
Someone to rely on	0.975	0.411*	1.231	1.417	0.890	0.999	0.483	0.719	2.349	0.704
	(0.0583)	(0.214)	(1.156)	(0.870)	(0.272)	(0.0596)	(0.260)	(0.789)	(1.815)	(0.218)
Role model	0.981	0.548*	2.083	0.850	1.302	1.002	0.608	1.499	0.875	1.159
	(0.0368)	(0.195)	(1.034)	(0.366)	(0.239)	(0.0356)	(0.223)	(0.781)	(0.357)	(0.209)
Emotional literacy						0.984	0.900	0.842	0.780	1.104
						(0.0343)	(0.402)	(0.368)	(0.379)	(0.188)
Knowledge of good mental health						0.923**	0.486*	1.412	0.626	1.182
						(0.0337)	(0.197)	(0.535)	(0.261)	(0.188)
Confidence in seeking information on mental illness						0.967	0.706	2.086**	0.655	1.218*
						(0.0246)	(0.192)	(0.613)	(0.194)	(0.129)

Variables	(11) Coeff SDQ	(12) OR SDQ high risk	(13) OR WHO-5 top quartile	(14) OR WHOdep	(15) Coeff WHO-5	(16) Coeff SDQ	(17) OR SDQ bottom quartile	(18) OR WHO-5 top quartile	(19) OR WHOdep	(20) Coeff WHO-5
Attitudes toward professional psychological help						0.929***	0.340***	0.655	0.479*	1.036
						(0.0225)	(0.116)	(0.204)	(0.185)	(0.140)
Use of distraction as a coping strategy						0.898	1.240	11.03**	0.00677***	7.740***
						(0.0833)	(1.459)	(11.59)	(0.00880)	(3.292)
Use of self-blame as a coping strategy						1.111*	1.879	1.883	2.653	0.948
						(0.0640)	(1.378)	(1.311)	(2.161)	(0.271)
Some access to technology										
Constant	4.380***	0.526	0.540	0.0329***	156.9***	7.336***	94.56***	0.0516*	16.55	18.16***
	(0.354)	(0.394)	(0.546)	(0.0326)	(58.93)	(1.005)	(154.5)	(0.0861)	(30.07)	(11.63)
Observations	345	345	344	345	344	336	336	335	336	335
R^2	0.237				0.185	0.322				0.279

Notes: Robust see form in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Coeff, coefficient; OR, Odds Ratio; WHOdep, WHO at risk of depression

Table A9 Multivariate analysis of mental health as a function of demographic variables, drivers of ill-health, protective factors and coping mechanisms

Variables	(21) Coeff SDQ	(22) OR SDQ bottom quartile	(23) OR WHO-5 top quartile	(24) OR WHOdep	(25) Coeff WHO-5
Female	1.020	1.111	0.764	1.178	1.011
	(0.0241)	(0.354)	(0.249)	(0.412)	(0.123)
Morogoro	1.028	0.732	1.410	1.567	0.932
	(0.0278)	(0.239)	(0.498)	(0.580)	(0.122)
Muslim	1.023	1.458	0.517	0.749	1.004
	(0.0294)	(0.537)	(0.213)	(0.301)	(0.134)
Lives with both parents	1.022	1.221	1.097	2.013*	0.959
	(0.0255)	(0.382)	(0.343)	(0.727)	(0.114)
Secondary school	0.981	0.768	0.500**	1.310	0.873
	(0.0252)	(0.274)	(0.163)	(0.529)	(0.112)
Experience of hunger	1.015	1.377	0.472*	3.128***	0.564***
	(0.0292)	(0.494)	(0.190)	(1.170)	(0.0804)
Top socioeconomic quartile	0.977	0.993	0.890	0.705	0.998
	(0.0303)	(0.421)	(0.316)	(0.412)	(0.132)
Mother drinks alcohol	1.100***	1.874*	1.295	0.669	1.075
	(0.0355)	(0.712)	(0.534)	(0.344)	(0.165)
Witness of physical violence against mother	1.055**	1.268	0.415**	1.846	0.734**
	(0.0275)	(0.411)	(0.157)	(0.721)	(0.0979)

Variables	(21) Coeff SDQ	(22) OR SDQ bottom quartile	(23) OR WHO-5 top quartile	(24) OR WHOdep	(25) Coeff WHO-5
Engagement in at least one risky behaviour	1.136***	2.322*	0.309*	0.832	0.867
	(0.0488)	(1.033)	(0.187)	(0.415)	(0.158)
Experience of verbal violence from parents	1.015	0.662	0.461*	1.383	0.713*
	(0.0367)	(0.342)	(0.212)	(1.050)	(0.123)
Experience of physical violence from parents	1.023	0.770	0.340**	5.675**	0.567***
	(0.0351)	(0.381)	(0.178)	(4.146)	(0.121)
Experience of verbal and physical violence from parents	1.021	1.054	0.231***	2.831	0.540***
	(0.0318)	(0.466)	(0.0966)	(1.851)	(0.0841)
Experience of being bullied	1.161***	4.742***	0.657	1.743	0.823
	(0.0282)	(1.787)	(0.221)	(0.781)	(0.108)
Someone to rely on	0.998	0.471	0.677	2.718	0.676
	(0.0601)	(0.252)	(0.833)	(2.209)	(0.211)
Role model	1.002	0.614	1.505	0.871	1.179
	(0.0359)	(0.227)	(0.790)	(0.360)	(0.209)
Emotional literacy	0.984	0.897	0.829	0.766	1.109
	(0.0343)	(0.395)	(0.366)	(0.381)	(0.187)
Knowledge of good mental health	0.923**	0.493*	1.453	0.612	1.201
	(0.0335)	(0.200)	(0.558)	(0.258)	(0.187)
Confidence in seeking information on mental illness	0.966	0.692	1.965**	0.717	1.161
	(0.0249)	(0.188)	(0.591)	(0.218)	(0.125)

Variables	(21) Coeff SDQ	(22) OR SDQ bottom quartile	(23) OR WHO-5 top quartile	(24) OR WHOdep	(25) Coeff WHO-5
Attitudes toward professional psychological help	0.929***	0.344***	0.677	0.444**	1.061
	(0.0228)	(0.118)	(0.203)	(0.168)	(0.135)
Use of distraction as a coping strategy	0.895	1.134	9.028**	0.00887***	6.767***
	(0.0851)	(1.365)	(9.286)	(0.0118)	(2.802)
Use of self-blame as a coping strategy	1.112*	1.894	2.139	2.852	0.970
	(0.0644)	(1.387)	(1.520)	(2.341)	(0.271)
Some access to technology	1.010	1.204	1.859*	0.379**	1.465***
	(0.0292)	(0.401)	(0.650)	(0.156)	(0.190)
Constant	7.332***	92.92***	0.0490*	16.46	17.75***
	(1.006)	(151.5)	(0.0862)	(29.73)	(11.09)
Observations	336	336	335	336	335
R^2	0.322				0.299

Notes: Robust see form in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Coeff, coefficient; OR, Odds Ratio; WHOdep, WHO at risk of depression

Annex 7 Socio-demographic details of qualitative sample

Table A10 Interview type and number by location

	Morogoro	Mwanza	Total
IDIs	20	20	40
IDIs aged 11–14	10	10	20
IDIs aged 15–19	10	10	20
FCS	6	7	13
FGDs	10	10	20
KIIs	10	10	20
Total	46	47	93

Notes: IDI, in-depth interview, FCS, family case study; FGD, focus group discussion; KII, key informant interviews.

Table A11 In-depth interviews: socio-demographic data by site

	Morogoro		Mwanza		Total		Total both sites
	Female	Male	Female	Male	Female	Male	
Age							
11	1	–	1	2	2	2	4
12	1	1	–	1	1	2	3
13	–	3	4	–	4	3	7
14	3	1	–	1	3	2	5
15	1	1	2	3	3	4	7
16	–	1	1	2	1	3	4
17	–	1	1	–	1	1	2
18	3	2	1	–	4	2	6
19	1	–	–	–	1	–	1
20	–	–	–	–	–	–	–
21	–	–	–	1	–	1	1
School year							
Primary class 4	–	–	1	–	1	–	1
Primary class 5	1	–	1	1	2	1	3
Primary class 6	1	3	3	3	4	6	10
Primary class 7	3	2	–	–	3	2	5

	Morogoro		Mwanza		Total		Total both sites
	Female	Male	Female	Male	Female	Male	
Secondary form 1	–	–	–	1	–	1	1
Secondary form 2	2	1	2	4	4	5	9
Secondary form 3	1	2	2	1	3	3	6
Secondary form 4	2	2	1	–	3	2	5
Religion							
Christian	3	4	5	4	8	8	16
Muslim	1	1	–	–	1	1	2
Unknown	6	5	5	6	11	11	22

Regarding the characteristics of IDI adolescent participants, there was an equal number of males and females (20 each). Most females interviewed were 13 and 18 years (4 participants respectively) and 14 and 15 years (3 participants respectively). Two females were 11 years, and the rest of the female participants were 12, 16, 17 and 19 (one participant respectively). Most males interviewed were 15 years (4 participants), 13 and 16 years (3 participants respectively). This was followed by males aged 11, 12, 14 and 18 years (2 participants each), and one male participant aged 21 years. Most adolescents, male and female, were enrolled in primary class 6 (10 participants), and secondary form 2 (9 participants); followed by adolescents enrolled in secondary form 3 (6 participants), primary class 7 (5 participants), secondary form 4 (5 participants), primary class 5 (3 participants) and one student enrolled in primary class 4.

The religion of most IDI adolescent participants is unknown, while 16 are Christian (from different denominations) and 2 are Muslim. A few adolescents lived in female-headed households (6 in Morogoro and 8 in Mwanza) that were usually led by mothers and, in a couple of cases, by aunts. There were two cases of male single-headed households (led by fathers), both in Mwanza. Some adolescents lived with relatives other than their parents (6 in Morogoro and 5 in Mwanza), and one adolescent in Morogoro lived in a child-headed household. Regarding relationship status, the vast majority of adolescents indicated being single, a small minority reported having a boyfriend or a girlfriend, and none were married or had children. Finally, regarding paid work, few were engaged in paid work out of school, but most, particularly girls, had significant domestic responsibilities. A couple of boys reported undertaking occasional, casual work.

Table A12 Family case study intergenerational trios: socio-demographic data by site

	Morogoro		Mwanza		Total	
	Female	**Male**	**Female**	**Male**	**Female**	**Male**
Relationship to adolescent interviewee						
Mother	2	–	2	–	4	–
Father	–	1	–	–	1	1
Guardian	–	–	2	–	2	–
Sister	1	–	1	–	2	–
Brother	–	1	–	2	–	3
Aunt	1	–	–	–	1	–
Age						
15	–	–	–	1	–	1
16	–	1	–	–	–	1
17	–	–	–	–	–	–
18	–	–	1	1	1	1
19	–	–	1	–	1	–
29	1	–	–	–	1	–
30	–	–	–	–	–	–
31	1	–	1	–	2	–
37	–	1	–	–	–	1
41	1	–	–	–	1	–
45	1	–	1	–	2	–
49	–	–	1	–	1	–
Education completed						
Primary class 7	3	2	–	–	3	2
Secondary form 1	–	–	1	1	1	1
Secondary form 2	–	–	2	1	2	1
Secondary form 3	–	–	1	–	1	–
Secondary form 4	1	–	–	–	1	–
Unknown	–	–	1	–	1	–
Occupation						
Student	–	–	1	2	1	2
Business person	1	–	2	–	3	–
Farmer	1	–	–	–	1	–
Day worker / labourer	–	1	1	–	1	1

	Morogoro		Mwanza		Total	
	Female	Male	Female	Male	Female	Male
Janitor	1	–	–	–	1	–
Housewife	1	–	1	–	2	–
None	–	1	–	–	–	1
Marital status						
Single	1	1	–	2	1	2
Married	2	1	1	–	3	1
In a relationship		–	3	–	3	–
Separated / divorced	1	–	1	–	2	–
Religion						
Christian	1	2	5	1	6	3
Muslim	3	–	–	1	3	1

Notes: no relations age 20–28, 30–36, 38–40, 42–44, 46–48 were interviewed.

Table A13 Focus group discussions: socio-demographic data by site

	Morogoro				Mwanza				Total			
	Adolescents		Parents		Adolescents		Parents		Adolescents		Parents	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Age												
9	–	1	–	–	–	–	–	–	–	1	–	–
10	–	–	–	–	2	–	–	–	2	–	–	–
11	1	1	–	–	2	–	–	–	3	1	–	–
12	3	3	–	–	–	3	–	–	3	6	–	–
13	6	2	–	–	4	3	–	–	10	5	–	–
14	5	7	–	–	–	1	–	–	5	8	–	–
15		2	–	–	1	4	–	–	1	6	–	–
16	2	3	–	–	3	1	–	–	5	4	–	–
17	6	4	–	–	3	–	–	–	9	4	–	–
18	–	–	–	–	1	–	–	–	1	–	–	–
19	–	2	–	–	–	–	–	–	–	2	–	–
20	–	–	–	–	–	–	–	–	–	–	–	–
21	–	–	–	–	–	–	1	–	–	–	1	–
28	–	–	–	–	–	–	–	–	–	–	–	1
29	–	–	–	–	–	–	–	1	–	–	–	–
30	–	–	–	–	–	–	–	–	–	–	–	–

	Morogoro				Mwanza				Total			
	Adolescents		Parents		Adolescents		Parents		Adolescents		Parents	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
31	–	–	1	–	–	–	–	–	–	–	1	–
32	–	–	2	–	–	–	1	–	–	–	3	–
33	–	–	–	–	–	–	–	1	–	–	–	1
34	–	–	1	–	–	–	2	–	–	–	3	–
35	–	–	–	–	–	–	–	–	–	–	–	–
36	–	–	–	–	–	–	–	–	–	–	–	–
37	–	–	–	–	–	–	–	1	–	–	–	1
38	–	–	–	–	–	–	–	–	–	–	–	–
39	–	–	–	1	–	–	–	–	–	–	–	1
40	–	–	2	2	–	–	–	–	–	–	2	2
41	–	–	–	–	–	–	1	–	–	–	1	–
42	–	–	2	–	–	–	–	–	–	–	2	–
43	–	–	–	–	–	–	–	–	–	–	–	–
44	–	–	–	1	–	–	–	–	–	–	–	1
45	–	–	1	1	–	–	1	1	–	–	2	2
46	–	–	–	–	–	–	–	–	–	–	–	–
47	–	–	–	1	–	–	–	–	–	–	–	1
48	–	–	1	–	–	–	–	1	–	–	1	1
49	–	–	3	–	–	–	1	–	–	–	4	–
55	–	–	–	2	–	–	–	–	–	–	–	2
56	–	–	–	–	–	–	–	–	–	–	–	–
57	–	–	–	–	–	–	1	1	–	–	1	1
58	–	–	–	–	–	–	–	1	–	–	–	1
59	–	–	–	1	–	–	–	–	–	–	–	1
60	–	–	–	1	–	–	–	–	–	–	–	1
61	–	–	–	–	–	–	–	1	–	–	–	1
62	–	–	–	–	–	–	–	–	–	–	–	–
63	–	–	–	–	–	–	–	–	–	–	–	–
64	–	–	–	–	–	–	–	1	–	–	–	1
65	–	–	–	1	–	–	–	–	–	–	–	1
72	–	–	–	–	–	–	1	–	–	–	1	–
77	–	–	–	–	–	–	1	–	–	–	1	–
85	–	–	–	–	–	–	–	1	–	–	–	1
Education completed												
No education	–	–	–	–	–	–	1	–	–	–	1	–
Primary class 4	1	4	–	–	–	–	–	–	1	4	–	–
Primary class 5	1	4	–	–	3	–	–	–	4	4	–	–
Primary class 6	4	3	–	–	5	5	–	–	9	8	–	–
Primary class 7	6	2	13	6	–	2	–	–	6	4	13	6

	Morogoro				Mwanza				Total			
	Adolescents		Parents		Adolescents		Parents		Adolescents		Parents	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Primary education	–	–	–	–	–	–	7	5	–	–	7	5
Secondary form 1	1	1	–	–	–	5	–	–	1	6	–	–
Secondary form 2	2	4	–	–	–	–	–	–	2	4	–	–
Secondary form 3	3	1	–	–	4	–	–	–	7	1	–	–
Secondary form 4	5	6	–	–	4	–	–	–	9	6	–	–
Secondary education	–	–	–	–	–	–	2	3	–	–	2	3
College / degree	–	–	–	2	–	–	–	2	–	–	–	4
Unknown	–	–	–	3	–	–	–	–	–	–	–	3
Occupation												
Business person	N/A	N/A	7	–			5	1			12	1
Farmer	N/A	N/A	3	10			5	5			8	15
Construction worker	N/A	N/A	–	–	N/A	N/A	–	–	N/A	N/A	–	–
Government official	N/A	N/A	–	–	N/A	N/A	–	1	N/A	N/A	–	1
Teacher	N/A	N/A	–	–	N/A	N/A	–	1	N/A	N/A	–	1
Accountant	N/A	N/A	–	–	N/A	N/A	–	1	N/A	N/A	–	1
Security guard	N/A	N/A	–	–	N/A	N/A	–	1	N/A	N/A	–	1
Housewife	N/A	N/A	3	–	N/A	N/A	–	–	N/A	N/A	3	–
Unknown	N/A	N/A	–	1	N/A	N/A	–	–	N/A	N/A	–	1
Marital status												
Single	22	25	5	–	16	12	2	–	38	37	7	–
Married	–	–	7	11	–	–	4	9	–	–	11	20
In a relationship	1	–	–	–	–	–	–	–	1	–	–	–
Separated / Divorced	–	–	1	–	–	–	–	–	–	–	1	–
Widowed	–	–	–	–	–	–	4	1	–	–	4	1
Number of children												
None	23	25	–	–	16	12	1	1	39	37	1	1
1	–	–	3	–	–	–	–	1	–	–	3	1
2	–	–	2	1	–	–	–	1	–	–	2	2
3	–	–	3	5	–	–	5	3	–	–	8	8

	Morogoro				Mwanza				Total			
	Adolescents		Parents		Adolescents		Parents		Adolescents		Parents	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
4	–	–	3	2	–	–	1	2	–	–	4	4
5	–	–	2	2	–	–	–	–	–	–	2	2
6	–	–	–	–	–	–	1	–	–	–	1	–
7	–	–	–	–	–	–	1	1	–	–	1	1
8	–	–	–	–	–	–	–	–	–	–	–	–
9	–	–	–	1	–	–	–	1	–	–	–	2
10	–	–	–	–	–	–	1	–	–	–	1	–
Religion												
Christian	17	12	8	5	15	5	9	9	32	17	17	14
Muslim	6	12	5	3	1	7	1	1	7	19	6	4
Unknown	–	1	–	3	–	–	–	–	–	1	–	3

Notes: no relations age 22–27, 50–54, 66–71, 73–76, 78–84 participated.

Annex 8 National legislation and policies relevant to MHPSS of adolescents in Tanzania

Table A14 Main national legislation and policies relevant to MHPSS of adolescents in Tanzania

Policy / law and status	Date	Overview	Content / limitations
International commitments			
The Commonwealth Plan of Action for Youth Empowerment (PAYE) Active until 2015	2006–2015	Tanzania is a signatory of The Commonwealth Plan of Action for Youth Empowerment (PAYE) 2006–2015 (youthpolicy.org, 2014).	It aimed to assist member governments in establishing and maintaining the enabling conditions that will allow young men and women in the Commonwealth to be empowered through to the next decade and beyond.
African Youth Charter Active	2006	Tanzania has signed and ratified the African Youth Charter (2006) (youthpolicy.org, 2014).	It addresses key issues affecting youth, including employment, sustainable livelihoods, education, skills development, health, youth participation, national youth policy, peace and security, law enforcement, youth in the diaspora and youth with disabilities.
Party to Framework Convention for Tobacco Control (Tobacco WHO/ FCTC) Active	2004 (Ratified 2007)	Tanzania is party to the WHO Framework Convention for Tobacco Control.	The WHO FCTC represents a paradigm shift in developing a regulatory strategy to address addictive substances; in contrast to previous drug control treaties, the WHO FCTC asserts the importance of demand reduction strategies as well as supply issues.
Mental Health Act (and amendment) Active	2008	A broad piece of legislation providing comprehensively on all matters related to mental disorders. Emphasises access to quality services and the rights of the people with mental ill-health.	Provides for the care, protection and management of persons with mental disorders and for their voluntary or involuntary admission. The Act has established the Mental health board, mandated to supervise and monitor the provision of mental healthcare services and assurance of quality by inspecting facilities within the mental healthcare facilities. Also defines the roles and responsibilities of mental health practitioners.

Policy / law and status	Date	Overview	Content / limitations
Policy guidelines for Mental Health Care in Tanzania Active	2006	Goals: Equitable, affordable, acceptable mental health services with community participation in planning and implementation. Strategy: Mental health as an essential component of comprehensive healthcare, and as part of a national package of essential health interventions in primary, secondary and tertiary care (Kaaya, 2014).	Key activities: Training, supervision, sustainable supply of psychotropic drugs, cooperation with community leaders and traditional healers. Targets: 20 mental healthcare beds in each district and a psychiatry rehabilitation facility in each region. Integration of mentalhealth care in primary healthcare packages the best option for Tanzania (Kaaya, 2014).
National Mental Health Programme Active	1980	This DANIDA/WHO-supported programme was launched at the beginning of the government's decentralisation policy and was meant to extend general health services (mental health inclusive) to the periphery in order to make facilities available to all citizens (Tomov et al., 1991).	Limitations: no defined profile for the service component, no provisions for continuity of care and no systematic outline of the country's mental health policy; meagre mental healthcare; very poor staffing of the psychiatric services; inadequate level of psychiatric knowledge and the skills of medical school graduates (Tomov et al., 1991).
National Health Policy Active	2017	Adolescent health identified as a prioritised health service.	It outlines that mental health is important at every stage of life and should be traced or determined from childhood through to adolescence, youth until adulthood.
National Health Policy Superseded / expired	2007	Goals: Equitable, affordable, acceptable mental health services with community participation in planning and implementation. Strategy: Mental health as an essential component of comprehensive healthcare, and as part of a national package of essential health interventions in primary, secondary and tertiary care.	Key activities: Training, supervision, sustainable supply of psychotropic drugs, cooperation with community leaders and traditional healers. Targets: 20 mental healthcare beds in each district and a psychiatry rehabilitation facility in each region. Integration of mental healthcare in primary healthcare packages the best option for Tanzania (youthpolicy.org, 2014).
National Health Policy Superseded / expired	2003	Mental health is identified as a key component of the National Health Policy.	The Policy was a revision of the 1990 Health Policy, which emphasised the need for increasing community involvement in health development, and improved access and equity in health and health services.

Policy / law and status	Date	Overview	Content / limitations
Health Sector Strategic Plan (HSSP) Active until 2020	2015–2020	Fourth iteration of the Health Sector Strategic Plan.	Content on adolescent health focuses on SRH (Government of Tanzania, 2016): Adolescent-Friendly Sexual and Reproductive Health Services (AFSRHS) will be expanded. Focusing on adaptation and use of adolescent-friendly guidelines and standards, demand creation and utilisation of AFSRHS, adolescents and youth will be encouraged to access Voluntary Male Medical Circumcision (VMMC), STI diagnosis and treatment, condoms and other contraceptives, and HIV testing and counselling services through age-appropriate information, education and communication (IEC), peer education and mobilisation of young people. Risks of multiple sexual partners, unprotected sex and predisposing factors such as alcohol and substance abuse, unsafe injections and unsafe blood shall be key messages in IEC and peer education. VMMC will also be considered as an entry point to engaging with adolescent boys more broadly on adolescent SRH and HIV-related health promotion, preventive and treatment interventions, and services. Other aspects of adolescent health will also be addressed through linkages with other programmes, including HIV, immunisation, mental health services and school health services, as avenues to expand health services and increase adolescents' access to and use of health services. Health workers will become advocates of AFSRHS.
Strategic and action plan for the prevention and control of non-communicable diseases in Tanzania 2016–2020 Active until 2020	2016–2020	It outlines the promotion of mental health and well-being as an objective. Other goals to be achieved by 2020 include: to reduce depression by 10% from the baseline; and to increase by 20% from the baseline provision of comprehensive, integrated and responsive mental health and social care services in the community.	The purpose of the plan is to set a course for the MoHCDGEC, collaborating ministries, other relevant governmental and non-governmental agencies, all interested partners and the public at large, to help achieve national goals for the prevention and control of non-communicable diseases in Tanzania.
Medium-Term Expenditure Framework Superseded / expired	2003	Formal mental health policy guidelines were included in the Medium-Term Expenditure Framework of 2003 (Mbatia and Jenkins, 2010).	It sets out the medium-term expenditure priorities and hard budget constraints against each sector.
National Package of Essential Health Interventions Superseded / expired	2001	Formal mental health policy guidelines support the Tanzanian health policy and were included in the National Package of Essential Health Interventions of 2001.	Mental health appears as an integral component of healthcare at all levels, with defined interventions from primary care to tertiary hospitals (Mbatia and Jenkins, 2010).

Policy / law and status	Date	Overview	Content / limitations
Health Sector Reform Plan Superseded / expired	2001	Integration of mental health into the health sector reform plan from 2001 onward.	Designed to improve the functioning and performance of the health sector and ultimately the health status of the population.
National Adolescent Health and Development (ADHD) Strategy Active until 2022	2018–2022	The ADHD Strategy marks the first step of an expanded and holistic focus by the MoHCDGEC on the issues affecting adolescents in the country.	The strategy takes a comprehensive approach that equally addresses the demand and supply sides, as well as critical enablers for adolescent health. It also aims to ensure that there is continuous, active and meaningful engagement of adolescents (MoHCDGEC, 2018).
National Roadmap Strategic Plan to improve reproductive, maternal, newborn, child & adolescent health One Plan II Active until 2020	2016–2020	Financing facility – The plan takes into account Sustainable Development Goals (SDGs) that aim to end preventable maternal, newborn, child and adolescent deaths by 2035. It will build those interventions that were missed in One Plan I such as reproductive health, as well as those that influence access and quality of reproductive, maternal, newborn, child and adolescent healthcare services such as gender-based violence, violence against children, human rights, integration of services and community engagement (Government of Tanzania, 2016). Key strategies include (Government of Tanzania, 2016): Strengthen and improve visibility of adolescent reproductive health services including strengthening the adolescent health programme, improving its visibility; and developing and implementing a comprehensive strategy for adolescent health. No references to mental health.	The One Plan II strategy focuses on reducing maternal, newborn, child and adolescent morbidity and mortality by offering high-quality equitable services, offered by skilled attendants, in an enabling environment and in an integrated manner along the continuum of care by taking into consideration both community and facility factors.
One Plan I Active until 2015	2008–2015	First financing facility / plan for achieving SDGs on preventable maternal, newborn, child and adolescent deaths (Government of Tanzania, 2016).	The first National Road Map Strategic Plan to Accelerate Reduction of Maternal, Newborn and Child Deaths in Tanzania, 2008–2015 (One Plan) was developed in 2008 with the aim to provide guidance on the implementation of Maternal, Newborn and Child Health programmes across different levels of service delivery and to ensure coordination of interventions and high-quality service delivery across the continuum of care.

Policy / law and status	Date	Overview	Content / limitations
National Adolescent Reproductive Health Strategies Superseded / expired	2011–2015	The second strategy (2011–2015) focused on sexual and reproductive health of adolescents (MoHCDGEC, 2018).	The strategy is an important guiding document in addressing the various sexual and reproductive health needs of adolescents. Both documents envision healthy adolescents living in an environment that enables them to access high-quality information, services and life skills for the realisation of their full potential.
	2004–2008	The first strategy (2004–2008) focused on extending the reach of adolescent-friendly health services (MoHCDGEC, 2018).	
National Adolescent Health and Development Strategy Active until 2022	2018–2022	Marks the first step of an expanded and holistic focus by the MoHCDGEC on the issues affecting adolescents in the country. The strategy builds on the foundation of the previous National Adolescent Reproductive Health Strategies and other relevant policy documents.	Strategic priorities: 1. Demand: Engage adolescents to better understand their issues and develop effective and sustainable solutions while also strengthening schools and working with communities and adolescent gatekeepers to address negative socio-cultural norms and promote adolescent health and well-being. 2. Supply: Ensure availability of holistic, appropriate and cost-effective adolescent-friendly health services with a well-trained workforce and promote public–private partnerships to address the gap in public health service delivery. 3. Policies, legislation and commitments: Elevate adolescents as a critical demographic segment in policy and legislation, ensure policy and legislation alignment on ADHD and monitor and evaluate the implementation of policies and legislation. 4. Financing: Increase the value and sustainability of funding for national health priorities, including ADHD, increase health insurance coverage and reduce inefficiencies in public spending. 5. Data and access to information: Ensure efficient collection and use of national health management information system data to continuously improve the quality of care and service delivery to adolescents and improve access to relevant and standardised information to users. 6. Coordination: Strengthen intersectoral coordination and cooperation among stakeholders and enhance their role in promoting adolescent health and well-being.

Policy / law and status	Date	Overview	Content / limitations
National Youth Development Policy Active	2007	This is a second version of the National Youth Development Policy in Tanzania. Creates an enabling environment that builds the capacity of young people and promotes employment opportunities and access to social security. The policy focuses on a number of areas including employment, healthcare, education, the role of local agencies, HIV and AIDS, disability, equality, financial services, juvenile justice, the informal sector and ICTs. Critiques have focused on the hurried development of the policy, with the result that it is 'not thoroughly informed by what the youth on the ground really demands'" (youthpolicy.org, 2014).	The policy does not explicitly reference mental health. Health-related content is as follows: Inadequate Health Services for the Youth: Most health services are a basic requirement for the well-being of young people. Most young people do not have access to youth-friendly health services. The situation is worse in rural areas. Young women are particularly vulnerable because they are given less priority. Most programmes focus on the mother and child, disregarding young women. Policy Statement: The government in collaboration with other development partners shall promote the establishment of youth-friendly health services at all levels.
National Youth Development Policy Superseded / expired	1996	This is the first version of the National Youth Development Policy.	Health-related content is as follows (MoLYD, 1996): The Ministry should: • Involve youths in preparing, planning and implementing health programmes geared to promote youth health. • Ensure the availability of health services which will be accessible to youth without fear, intimidation or discrimination of any kind. • Animate youths and the community in general to identify health problems which affect them, especially STIs, AIDS and drug abuse. • Institute special programmes to combat the spread of STDs, HIV and AIDS, and drug abuse. • Strengthen sexual health education to youth, both boys and girls. • Prepare a curriculum on youth health which will be used to train professionals and health workers at various levels.

Policy / law and status	Date	Overview	Content / limitations
Digital health			
Digital Health Strategy Active until 2024	July 2019–June 2024	Outlines how Tanzania intends to leverage digital health technologies, build on the achievements (including improvements in quality of health services delivery, human resource management, supply chain management of health commodities, health information management, etc.), and experience from the implementation of the National eHealth Strategy 2013–2018.	Vision: Better health outcomes through a digitally enabled health system. Mission: To accelerate the transformation of the Tanzanian healthcare system through innovative, data-driven, client-centric, efficient, effective and integrated digital health solutions. Only refers directly to adolescent health once: adolescent health identified as a prioritised health service in Health Policy 2019. Mental health is not referenced explicitly (MoHCDGEC, 2018).
Tanzania National eHealth Strategy (technology for administration of health services) Superseded / expired in 2018	2013–2018	Vision: By 2018, eHealth will enable a safe, high-quality, equitable, efficient and sustainable health system for all citizens by using ICT to enhance planning, managing and delivery of health services. Mission: To support the transformation of the Tanzanian healthcare system by leveraging ICT to improve the health and social welfare of all citizens. Neither adolescents nor mental health referenced (MoHSW, 2013).	Strategic Goals: (1) Enable more efficient use of healthcare resources through replacing paper-intensive processes and providing better information management; (2) Enable the health sector to operate more effectively as a connected system, overcoming fragmentation and duplication of service delivery; (3) Make patient care safe and effective by ensuring that the correct information is available in a timely manner, where it is needed and to whom it is needed; (4) Enable electronic access to appropriate healthcare services for patients in remote, rural and disadvantaged communities; (5) Support improved multi-way communication and sharing of information among clinicians, patients and caregivers within the health sectors and across partner agencies; (6) Support evidence-based policy, investment and research decisions through access to timely, accurate and comprehensive reporting of healthcare system information.
Tobacco Products Regulations Active	2014	A seller of a tobacco product shall post at a conspicuous place signs at the point of sale stating the following: tobacco products are not sold or given to persons under the age of 18 and to a non-smoker.	Tobacco control legislation has been passed, and there is a longstanding inter-ministerial drug strategy. The Tobacco Products Regulations control public smoking, tobacco advertising, promotion and sponsorship, and tobacco packaging and labelling.
Tobacco Products (Regulation) Act Superseded / expired	2003	The Tobacco Products (Regulation) Act was the first law to regulate public smoking, tobacco advertising, promotion and sponsorship, and tobacco packaging and labelling.	It states that no person under the age of 18 shall smoke or famish tobacco product.

Policy / law and status	Date	Overview	Content / limitations
Alcohol laws Active	Formulation ongoing	Tanzania has a range of laws in place to regulate alcohol production, marketing and consumption. The government had been developing an overarching national alcohol policy, but the process had lacked evidence on the health and social repercussions of alcohol consumption.	Implementation and enforcement have been limited both at national and local levels. Responsibility for enforcing alcohol laws is spread across a number of government agencies and ministries, with limited coordination. In 2017, the government issued a ban on the import, manufacturing, sale and consumption of alcohol sachets. In defending the ban, the government cited the need to protect youth from harmful alcohol use (STRIVE, 2017).
ICT			
ICT policy guidelines Active	2016	The guidelines seek 'to enhance nation-wide economic growth and social progress by encouraging beneficial ICT activities in all sectors through providing a conducive framework for investments in capacity building and in promoting multi-layered co-operation and knowledge sharing locally as well as globally.'	Policy objectives include: 'giving special attention to providing new learning and ICT access opportunities for women and youth, the disabled and disadvantaged, particularly disenfranchised and illiterate people, in order to address social inequities.'
National information and communications technology policy Active	2016	Offers a strategic direction for enhancing the ICT sector. Focuses on creating an enabling environment to facilitate the acquisition, utilisation and exploitation of ICT for social and economic development in Tanzania.	No reference to adolescents or youth.
Information & communication technology policy for basic education Superseded / expired	2007	Vision: a well-educated and learning knowledge society. Mission: Integrate ICT to enhance access, equity, quality and relevance of basic education, while stimulating and improving teaching and lifelong learning.	The integration of ICT is expected to improve access and equity to, and quality and relevance of, basic education. ICT will be used to increase the number and quality of teachers, through improved pre-service and in-service training and better provision of teaching and learning materials. The use of ICT is also expected to enhance the acquisition and use of knowledge and skills for all learners, including those with special needs.

Between 1999 and 2009, a sustainable mental health policy was introduced across Tanzania, led by the Ministry of Health and Social Welfare, using an integrated approach, which combined situation appraisal, integrated mental health policy and planning, mechanisms for sustainable implementation with largely local resources integrated into local systems, and monitoring (Mbatia and Jenkins, 2010). Key policy developments included the integration of mental health into the health sector reform plan from 2001 onward. Formal mental health policy guidelines were included in the National Package of Essential Health Interventions of 2001, the Medium-Term Expenditure Framework of 2003 and the National Strategy for Non-Communicable Disease of 2009–2015 (ibid.). Mental health appeared as an integral component of healthcare policy at all levels, with defined interventions from primary care to tertiary hospitals. In addition, the National Essential Drugs List outlined the type of psychotropic medicines to be provided from tertiary to primary care treatment settings (and these are now generally available). Mental health legislation and tobacco control legislation were passed, and a longstanding inter-ministerial drug strategy was developed (ibid.).

Key organisational and operational interventions pursued since 2001 also included the following, as also identified by Mbatia and Jenkins (2010):

- Establishment of the Section of Mental Health within the Directorate of Curative Services and National Mental Health Resource Centre of Tanzania.
- Coordination of district mental health services was strengthened through establishment of regional oversight and improvements at the district level. The coordination of primary care district mental health services was also strengthened, and supervision levels were established to build in oversight and accountability.
- District training and transportation budgets were revised to include mental healthcare needs in these areas, and a rolling fund was established to facilitate supply of psychotropic medication.
- Management information systems for the health sector also were modified to include mental healthcare services.
- The national mental hospital was transformed into a national training hospital (reduced from 1,000 to 500 beds), with responsibility for advanced training of nurses and assistant medical officers. WHO primary healthcare guidelines for mental healthcare were adapted and distributed, and training toolkits were constructed and disseminated.

The Ministry then integrated mental health into primary care in most regions in mainland Tanzania, working through the Mental Health Association of Tanzania, various donors and NGOs. Training of general health workers in primary care in identification and management of common mental disorders was followed up by supervision, monitoring and evaluation by district mental health coordinators. Training for regional and district mental health coordinators to train, support and supervise primary care workers was initiated in 2004, coordinated by the Ministry in dialogue with the WHO Collaborating Centre Institute of Psychiatry (ibid.).

Training was initiated in the regions of Arusha, Kilimanjaro, Manyara and Tanga, and then expanded to the Lake Zone regions (Kagera, Mara, Mwanza and Shinyanga) with support from the Catholic Organization for Relief and Development Aid, the Mental Health Association of Tanzania, demand-driven district initiative funding through the Danish International Development Agency, local government and the

Ministry of Health and Social Welfare. This training included developing competency in integrating mental health budgets into comprehensive district health plans, which has resulted in enhanced funding. In addition, the local government of Vaasa, Finland, funded training of staff in Morogoro, while BasicNeeds funded training in some wards in Mtwara and the Dar es Salaam regions. By mid-2009, a total of 3,895 primary care health workers had received at least five days of training in identification and management of severe and common neuropsychiatric disorders (ibid.).

Factors that have influenced the success of developing mental healthcare policies and programmes in Tanzania, according to Mbatia and Jenkins (2010), include: the revision of the overall health policy to recognise mental health as an integral component of comprehensive primary healthcare services; the national goal of equitably providing health services that meet or exceed standards of quality; and improved health budgets over time (e.g. the health sector budget was approximately 3% of the total national budget in 2001, compared with 9% in FY 2006–2007).

Regarding stakeholders, the main ministries/central government relevant to MHPSS of adolescents in Tanzania are presented in Table A15.

As mentioned above, in Tanzania, mental health services are provided under theMoHCDGEC. The ministry's role in relation to mental health is: to facilitate the development of mental health and substance abuse guidelines; to facilitate the integration of mental health and substance abuse into primary care services; and to promote mental health for children and youth.

Table A15 Ministries/central government relevant to MHPSS of adolescents in Tanzania

Ministry	Overview
Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC)	The Tanzania health sector is centrally organised, with the parent ministry monitoring and coordinating national health priorities and plans, and the regional and district hospitals implementing those priorities (Mwambingu et al., 2019).
Mental Health Association of Tanzania (MEHATA)	MEHATA is the national organisation of psychiatrists and psychiatric nurses, and is involved in training and education in the mental health field.
National Council for Mental Health	Established by the 2008 amendment of the Mental Health Act. Should include a senior representative from the ministry responsible for youth development.
National Mental Health Resource Centre	The government is reported to have established a resource centre for mental health. However, this is not currently accessible online.[6]
Ministry of Labour, Employment and Youth Development	One of two ministries responsible for youth policy and affairs. According to the National Youth Development Policy, the Ministry of Labour, Employment and Youth Development is responsible for youth policy. Little information about either ministry is available online (youthpolicy.org, 2014).
The Ministry of Information, Culture, Youth and Sports	The second of the two ministries responsible for youth policy and affairs. Within this ministry sits the Youth Development Division. Little information about either ministry is available online (youthpolicy.org, 2014).

6 May be under development or paper-based.

Annex 9 Mental health services available to adolescents

Table A16 summarises the mental health services available to adolescents, according to key informants.

Table A16 Mental health services available to adolescents

Type of institution (and KII reference)	Service type(s)	Description of mental health services provided	Target	Funded by
Morogoro				
School (KII 6, Morogoro)	Health education Counselling Referrals to medical providers 'Spiritual services'	Counselling unit Referrals to hospitals for check-ups, physical and mental health problems, and in cases of pregnancy	Mixed age group of students	Not referenced
School (KII 1, Morogoro)		Teachers trained in counselling, monitor students and provide support Spiritual services provided by visiting religious leaders	Mixed age group of students	Not referenced
School (KII 2, Morogoro)		General health advice as well as counselling offered by teachers Health education, including personal hygiene and HIV	Mixed age group of students	Not referenced
Local authority (KII 8, Morogoro)	Medical Health Department	Coordination of different departments and centres including hospital, health centre and dispensaries	Whole community	Basket fund Grants and other charges help run activities and projects
NGO / community-based organisation (KII 10, Morogoro)	Service provision (charity-based organisation supporting vulnerable people including orphaned and HIV-positive adolescents)	Education on mental health issues in primary and secondary schools Receive information from schoolteachers about students' 'abnormalities' Counselling team visits schools and meets with students, provides support and referrals if required	Children and youth	Securing sufficient funding is challenging Receive funds from various organisations

Type of institution (and KII reference)	Service type(s)	Description of mental health services provided	Target	Funded by
NGO / community-based organisation (KII 4, Morogoro)	Service provision (rehabilitation centre for recovering addicts)	12-step programme for drug addicts, modelled on Alcoholics Anonymous Four centres (two are located in Zanzibar, south and north, another in Dar es Salaam)	Drug users and drug addicts of various ages Presently most clients 18–22 years of age	Not referenced
Mwanza				
Hospital / health clinic (KII 18, Mwanza)	Healthcare	Providing mental health support and treatment Outpatient department (also for mental health patients)	Whole community	Not referenced
Hospital / health clinic (KII 16, Mwanza)	Healthcare	Not referenced	Whole community – primarily outpatients – male and female	Not referenced
Hospital / health clinic (KII 14, Mwanza)	Healthcare	Not referenced	Not referenced	Funded through grants
Local authority (KII 19, Mwanza)	Administration and service provision	Engage local groups to visualise and address emerging challenges within the neighbourhood	Elderly, adults and youths	Monthly expenses of 50,000 shillings paid by the Executive Director of District Council
NGO / community-based organisation (KII 13, Mwanza)	Institution caring for children who have been abandoned or from difficult social backgrounds	Providing shelter and basic needs for children referred by the district Social Welfare Office Counselling for youth with mental health problems Referrals to district hospital for those seriously affected	Children and youth	Not referenced
NGO / community-based organisation (KII 20, Mwanza)	Organisation providing services to adolescent girls and young women who become pregnant or are survivors of domestic violence	Referrals to social welfare officer for counselling Legal services	Adolescent girls and young women aged 10–24	Not referenced

Teachers shared insights as providers of *school-based services*. They explained that they are approached directly by students or they identify students who may require support to then provide them with advice and counselling at school in a sensitive and supportive environment. In Morogoro, one teacher mentioned the school had a counselling unit where students were referred to 'responsible' teachers. One teacher also explained that through establishing professional and supportive relationships with students through teaching and counselling them, teachers can successfully intervene to support the students with various mental health and familial challenges. Some teachers are aware of the drivers of mental ill-health, reflected by one teacher in Morogoro who indicated the importance of encouraging parents to reduce student workloads/domestic responsibilities to create a positive impact on their mental well-being.

Local authority services are also available to adolescents, according to key informants working at different government departments. These informants offered their perceptions about the support they provide to adolescents from advice, intervention and referrals. They indicated there is coordination between different departments and representatives (e.g. the Community Development Officer, the Village Executive Officer, the Agricultural Officer, the village government committee) when dealing with cases of adolescents with mental health issues. Local government departments also liaise with other service providers (health, education or the Community Development Department) to identify students with mental health issues and refer them to the hospitals. Ward Health Officers also highlighted that they refer severe cases (alcohol or drug abuse) to the hospitals. Local government informants noted that the provision of local authority services in general has increased, helping to highlight mental health issues within the community. However, no details were given about specific mental health programmes provided at the local level.

Key informants working at *NGO and community-based organisations* noted that mental health is not their organisation's main objective. These organisations provide different services such as education or shelter support to children and adolescents living in poverty, support to people living with HIV or AIDS, and support to those with alcohol or drug addictions. Key informants working at these organisations mentioned that they sometimes provide mental health help and support (mainly counselling and referrals to the hospital) when needed – for example, to orphans or to people living with HIV or AIDS.

In both sites these informants shared insights about the factors that they consider important when providing services. For example, two key informants (one working at a sober house and the other working at a charity for abandoned children) explained that understanding the traditions of local communities was key to providing an effective and supportive service. One of these key informants indicated that they speak with the community to know certain traditions (such as from their tribe, their clothing, teachings transmitted from parents), so they can better support their clients. Demonstrating qualities of care and empathy were highlighted as an important factor by another key informant for successful mental health service delivery among youths, especially those who may have an alcohol addiction and become violent.

Two key informants explained that through successful interventions by their NGOs, they were able to bring about positive changes among their target groups, such as giving up alcohol or finding employment

after receiving counselling. Another key informant from an NGO explained that through support to girls experiencing early pregnancy, their socioeconomic prospects were improved, which probably also had a positive effect on their mental health.

Key informants providing *mental health services at health facilities* did not mention having a special unit or tailored support for adolescents. For example, a clinical psychiatrist based at Morogoro referral hospital explained that they do follow-up of patients of all ages who were hospitalised to make sure they recover fully. This same informant added that often, during follow-up visits, conflicts and abuse within the household are brought to light and can be successfully addressed with the support of local authorities. Likewise, a nurse in Morogoro explained that if patients with mental health issues do not come for their appointments to the clinic, then a home visit is made to provide support and treatment. One clinical psychiatrist in Mwanza noted that alongside providing medical support, relatives of patients are encouraged to engage the patient with more social and familial support structures to provide a holistic approach to their mental well-being. Some key informants at health clinics mentioned using certain websites for information or support on mental health issues, although they did not specify which ones, and no adolescents mentioned being aware of such online services.

Annex 10 Stakeholder analysis

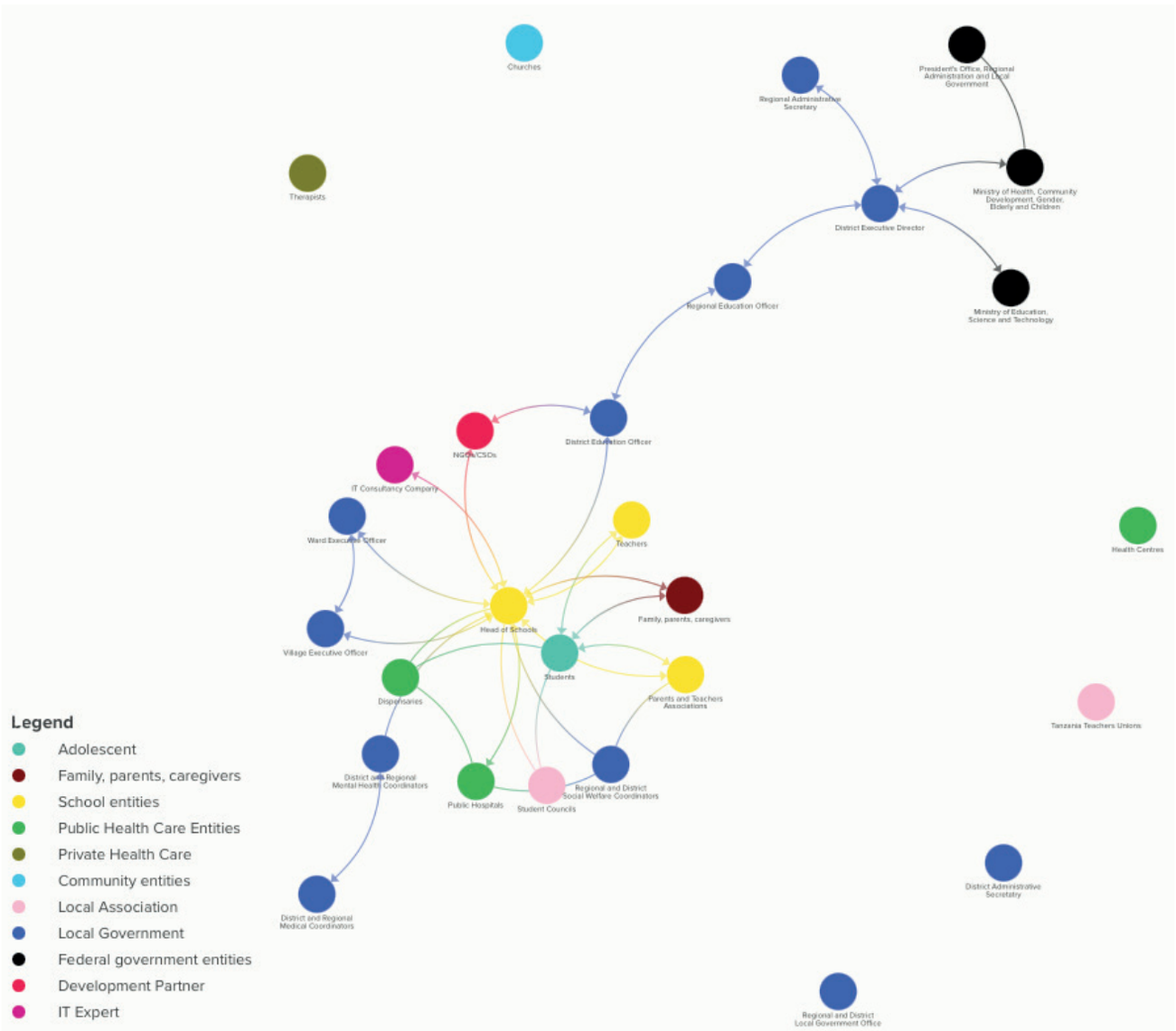
As part of the MEL system set-up, we conducted a stakeholders' mapping exercise to:

- identify the stakeholders in the project locations and organise them into stakeholders' groups, distinguishing between primary and secondary stakeholders depending on whether the project is likely to engage with them directly or not;
- assess the stakeholders' relationships with one another and identify which stakeholders are most central to the networks due to the number of connections that they have with the other local stakeholders in terms of communication and flows of information about adolescents' mental well-being;
- assign a degree of interest and power to influence change on the issue of adolescents' mental well-being to the stakeholders in the project locations and see how those manifest in the network visualisation;
- test the features of the analysis and visualisation software platform Kumu.

The visualisation of the map is limited by the layout of the Word document. Kumu provides a better visualisation online, which can be changed depending of the parameters that are being displayed. It is therefore a useful tool for workshop and team discussions.

In the project locations in Tanzania, we have identified 28 stakeholders (individuals and organisations) and have clustered them into 11 groups (see Figure A1). The groups include stakeholders within communities and schools, civil society organisations, government agencies (both in education and health), NGOs and private sector actors. For a better visualisation we recommend that you view the map online.

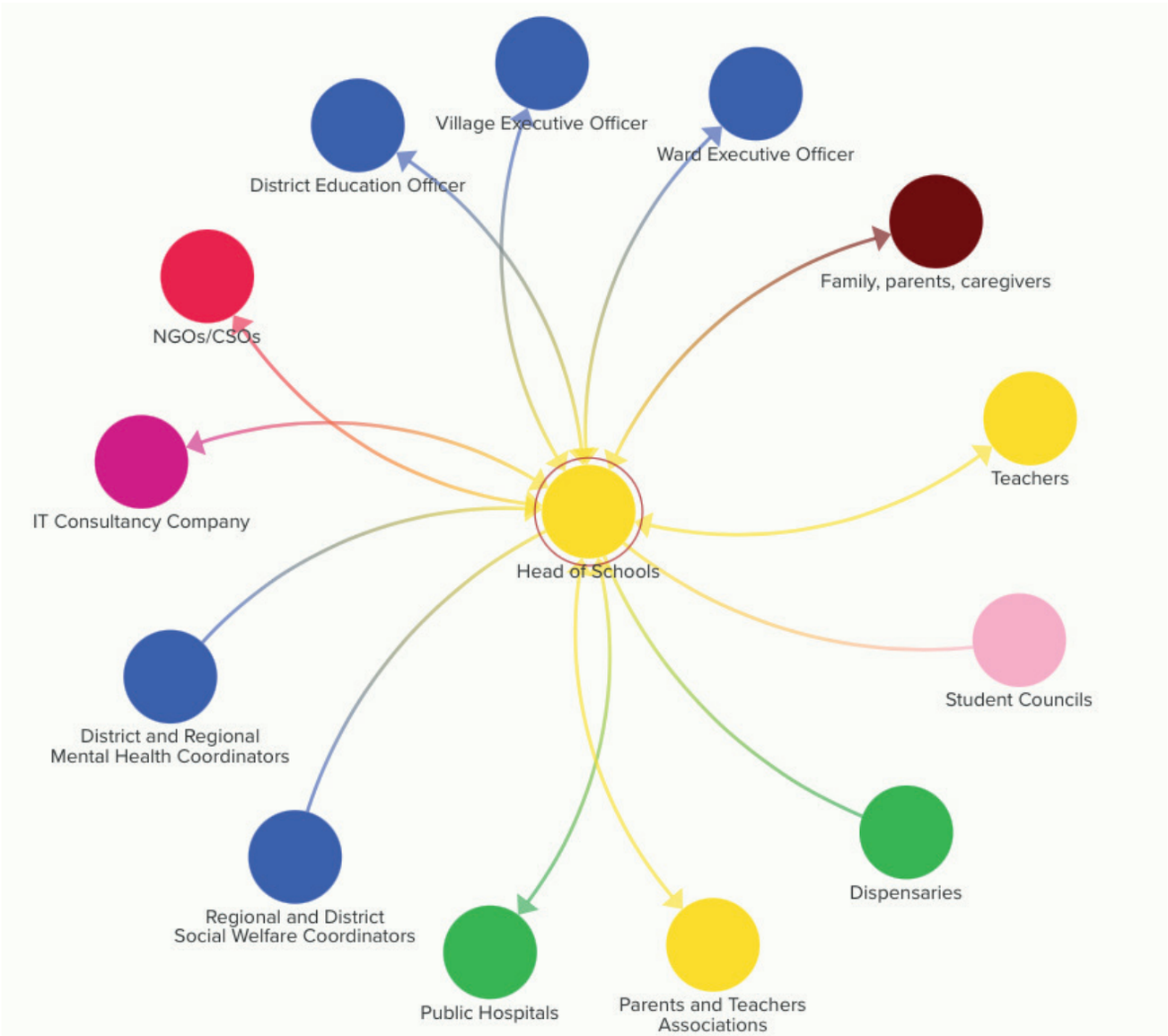
Figure A1 Stakeholders identified in Tanzania within the sphere of influence for this project



The stakeholders at the centre of the map in terms of number of connections with other stakeholders are heads of schools. Connections are determined by line of communication and information flows between stakeholders and can be one-directional or bi-directional. Heads of schools have connections with different groups of primary stakeholders such as parent–teacher associations, families, parents and caregivers, and school staff – all of whom have a strong interest in adolescents' mental well-being. Heads of schools are also linked to secondary stakeholders such as district education and health agencies.

The mapping exercise has confirmed that the heads of the four schools chosen for our study (Mhovu Primary School and SUA Secondary School in Morogoro, and Nyamagana Primary School and Magu Secondary School in Mwanza) are all key stakeholders in terms of facilitating the space for co-creating and testing the tech and non-tech solutions developed by the project, and in the uptake and dissemination of the findings that will emerge from the testing to primary and secondary stakeholders (see Figure A2).

Figure A2 Key stakeholders for co-creation, testing and dissemination of findings



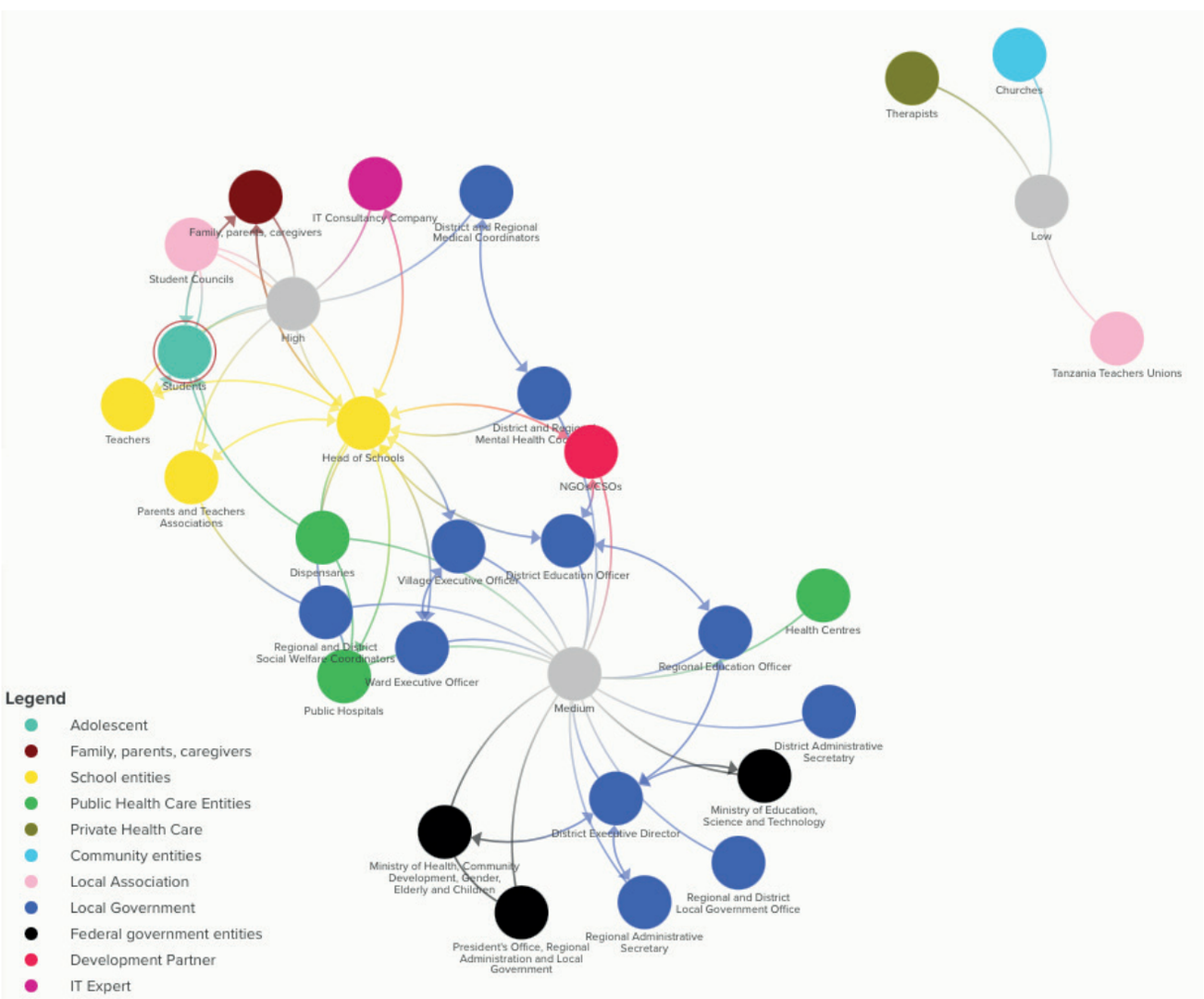
Government stakeholders such as the Regional and District Education Officers and District Executive Director are secondary stakeholders for the project. They are linked to each other along administrative and bureaucratic lines that reach schools but may involve communication about instruction for higher levels of administration and reporting from schools.

Some stakeholders such as therapists, health centres, regional and district local government offices, churches, etc. are isolated and thus displayed at the outskirts of the map. The implication is that these actors do not seem to have ongoing communication and exchanges (and, in some cases, limited interest) in adolescents' mental well-being. This is often because these stakeholders provide a range of services and adolescents' mental well-being is not a priority. Health centres provide basic health services and have other health priorities or limited capacity to provide mental well-being support.

Not all stakeholders have the same level of interest in adolescents' mental well-being. Figure A3 rearranges the stakeholders in terms of level of interest (high, medium or low) in adolescents' mental well-being that we have assigned to them. The map shows that the stakeholders linked to the heads of schools all have high interest in adolescents' mental well-being. Education line agencies, as mentioned above, have a medium level of interest because they have other policy implementation or service delivery priorities (Figure A3).

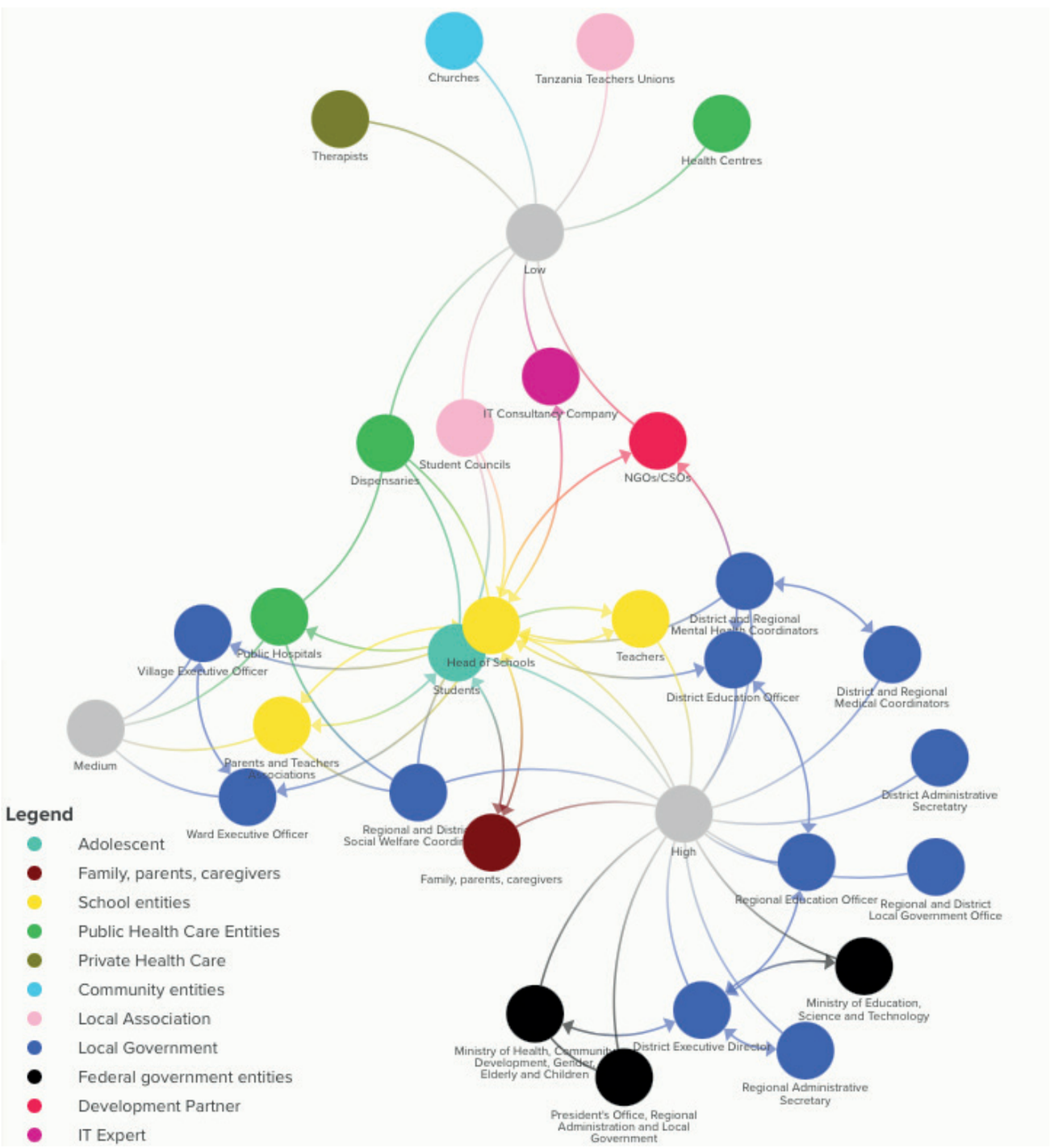
The implication here is that the project will not need to strategize how to convince stakeholders with high interest about the importance of the issue. These stakeholders can be important intermediaries to disseminate the findings of the project and sustain the results and changes to which the project has contributed. However, the project will need to identify strategies to engage and involve stakeholders whose interest is not high but have the power to influence the sustainability of solutions if the issue is moved up their list of priorities. For example, as shown in Figure A3, the regional and district education agencies are tagged as having a medium (rather than high) level of interest in the issues, mainly due to their other priorities.

Figure A3 Actors and their degree of interest and engagement with the issue of adolescents' mental well-being



In Figure A4, the same stakeholders are tagged as potentially having a high degree of influencing power on decisions to find and sustain solutions to adolescents' mental well-being. The strategic question for the project, therefore, is with which of the high-power secondary stakeholders to engage to have a greater chance to influence decisions and local debates about adolescents' mental well-being, with the knowledge generated by the project research and experimentation.

Figure A4 Actors and their potential for influencing decisions about the mental well-being of adolescents



What have we learned by testing the use of Kumu to generate stakeholders' maps from the project locations in Tanzania?

- The software offers interesting visualisation options. It allows the generation of more than one map, depending on the parameters and criteria being used to filter the stakeholders.
- For this exercise we have touched on some basic functions and would need to invest more time to learn about other visualisation possibilities.
- The data we have used has been generated by a small team (i.e. the two MEL focal points). The data should be validated at least once by more colleagues in the country to confirm or change some of the attributes of the stakeholders in terms of their level of interest and power.
- There is more that we could do in terms of analysis and visualisation of the communication channels between stakeholders. The analysis could be more refined than the one we did here and could highlight interesting information that might help in the development of strategies for the dissemination and engagement approach of the project. We need some more time to learn some of these features.
- It would be interesting to overlay the interest map with the one on stakeholder power, but we currently could not do that as it requires more technical knowledge on the software.
- The dynamic feature of the maps would be useful in a workshop setting where team members and colleagues could navigate the maps. Different configurations could lead to discussions about strategy and intent about reaching and engaging key stakeholders to sustain the results and impact of the project.
- As a monitoring tool, the maps could be used mid-way through or at the end of the implementation phase of the project, and after the dissemination phase, to assess whether the power and interest of some stakeholders has shifted, resulting in different configurations and map layouts.

Annex 11 Phone/computer ownership and access, their use and social media

Table A17 Adolescents' phone ownership (in-depth interviews)

Site	Phone ownership / access							
	Smartphone	Non-smartphone ownership	Owns a phone but unclear on type	No ownership, but have access to a smartphone	No ownership, and do not have access to a smartphone	No ownership, but access to phone (type unclear)	No ownership and challenges accessing	Unknown
Mwanza	1	1	1	5	4		8	0
Morogoro	2	0	0	4	4	1	6	3
Total	3	1	1	9	8	1	14	3

Table A18 Reasons why adolescents use a phone

Site	Use phone for...									
	Communicating with friends	Communicating with relatives	'Entertainment'	Listening to music	Watching videos	Watching films	Studying	Communicating with teachers	Playing games	Looking for and sharing info
Mwanza	1	9	3	3	2	0	2	0	0	1
Morogoro	1	7	1	0	1	0	3	1	1	1
Total	2	16	4	3	3	0	5	1	1	2

Table A19 Computer ownership and access among adolescent In-depth interview participants

Sites	Computer ownership / access					
	Desktop	Laptop	Tablet	Do not own but have access	No ownership and challenges accessing	Unknown
Mwanza	0	0	0	6	8	6
Morogoro	2	0	0	8	4	6
Total	2	0	0	14	12	12

Table A20 Social media usage among adolescent In-depth interview participants

Sites	Social media usage			
	Uses social media	Has heard of but not used	Has not heard of	Unknown
Mwanza	2	12	0	6
Morogoro	1	8	1	10
Total	3	20	1	16