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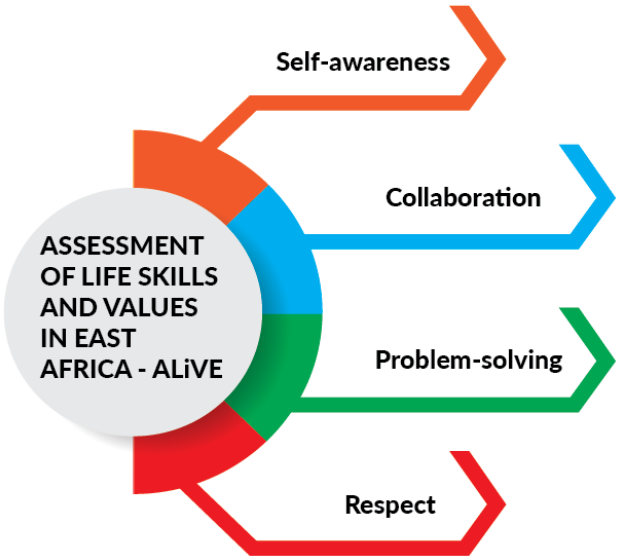
Regional Education Learning Initiative



UNDERSTANDING PROBLEM SOLVING IN THE TANZANIAN CONTEXT: AN ETHNOGRAPHIC STUDY

A Report for the Assessment of Life Skills and Values in East Africa (ALiVE) Project

PROBLEM SOLVING - TANZANIA

This report is a product of the Regional Education Learning Initiative (RELI). RELI, through the Values and Life Skills (VaLi) thematic group, aimed to collaborate with local leaders to cocreate and develop contextualized assessments in Kenya, Tanzania, and Uganda. The RELI project, Assessment of Life Skills and Values in East Africa (ALiVE), has three main objectives: (a) develop contextualized, open-source tools for the assessment of life skills and values in the East African context; (b) generate large-scale data on life skills and values across the three countries; and (c) use this data to inform change and build capacities within the VaLi-ALiVE member organizations.

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1.1 Brief Description of the Project

The Regional Education Learning Initiative (RELI), through the Values and Life Skills (VaLi) thematic group, intends to collaborate with local leaders to cocreate and develop contextualized assessments in Uganda, Kenya, and Tanzania. The initiative, Assessment of Life Skills and Values in East Africa (ALiVE), will achieve three objectives: gathering information (and knowledge), building community, and advocacy. These three broad objectives mirror RELI's three pillars: being a hub for knowledge, transforming member organizations, and influencing policy. Over three years (2020–2023), ALiVE will do the following: (a) develop contextualized, open-source tools for the assessment of life skills and values in the East African context; (b) generate large-scale data on life skills and values across the three countries; and (c) use this data to inform change and build capacities within the VaLi-ALiVE member organizations. These organizations will advocate for the three national education systems to focus on and produce these competencies, to inform regional policy throughout the East African Community, and to inform global thinking on how to measure life skills and values as *relevant and effective* learning outcomes.

ALiVE will be a context-relevant, summative assessment. The assessment will target adolescent boys and girls from ages 13 through 17 years, both in school and out of school, focusing on three competencies and one value: *self-awareness, problem solving, collaboration,* and *respect*. Embracing the Sustainable Development Goals (SDG) spirit of *leaving no one behind*, the initiative will conduct the assessment at the household level. The aspiration is that this will be a simple and easy-to-use tool, making it feasible and affordable to conduct an assessment on a national scale.

The first phase in developing the contextualized assessment tools was to conduct ethnographic interviews across the three countries with three categories of informants: adolescents, parents, and key persons such as teachers, social workers, youth patrons or matrons, among others. The interviews were to gauge participant perceptions and understandings of the selected ALiVE competencies: *self-awareness, collaboration, problem solving,* and *respect*.

1.2 The General Objective of the Contextualisation Study

The study was to achieve a contextualised understanding of *problem solving* in Tanzania to determine the skill structure and derive the best tools for a large-scale assessment of *problem solving* in the three countries.

1.3 Research Questions

The study sought to answer the following questions:

(i) How do adolescents, parents, and other key actors in Tanzania define and understand *problem solving?*
(ii) How do the common definitions differ across the participants' categories (adolescents, parents, and key persons), genders, and locations?
(iii) Which subskills emerge from the common understanding of this skill, and how do they vary across the participants' categories, genders, and locations?
(iv) What are the common dispositions and values identified by the different categories of the participants based on gender and location?
(v) Which support systems and other factors help the adolescents develop *problem-solving* skills?
(vi) What are the common methods identified and used by the participants to assess *problem-solving* skills in adolescents?

2 METHODOLOGY

2.1 Study Design

Since the purpose of this study is to learn about and reflect on a certain social group's way of life and understanding, a qualitative approach and an ethnographic design was adopted to explore and collect participants' perceptions and understandings of the selected ALiVE competence in the local context of Tanzania. Ethnography is a widely used research tradition in the social sciences. It can be defined as the study of social interactions, behaviours, and perceptions that occur within social groups, teams, organizations, and communities (Hammersley & Atkinson, 2007). Therefore, the ultimate goal of this tradition is to analyse and form a detailed understanding of the particularities of a given social group. That is why we considered this as the most appropriate design for conducting the present study.

2.2 Study Sites

The study was conducted in 5 districts of Tanzania, which were sampled based on their status as rural or urban, their economic activity (pastoralist, core-urban, agricultural), and their distance from Dar es Salaam. Two villages in each district were randomly sampled. Table 1 summarizes the five locations.

Table 1: Data Collection Regions, Sites, and Selection Criteria

Criteria	Region and district
Core urban characteristics, low-income areas within the capital city	Region: Dar es Salaam District: Ilala
Core rural characteristics, agriculture-rich, and within 100 km from the capital city	Region: Morogoro District: Mvomero
Core rural, agriculture-rich, 300–400 km from the capital city	Region: Tabora District: Uyui
Core rural, pastoralist areas, 400–800 km from the capital city	Region: Arusha District: Ngorogoro
With different characteristics from all mentioned above	Region: Zanzibar District: North-A

2.3 Study Population

The study population consisted of adolescent boys and girls from 13 through 17 years of age (both in and out of school), parents, and key persons (people close to the adolescents such as teachers, social workers, and youth patrons or matrons in religious communities, among others). Given that the study was conducted during the COVID-19 pandemic period, researchers specifically selected districts in which RELI members were working, due to ease of contact, logistics, and observance of the COVID-19 health protocols.

2.4 Study Population, Sampling, and Sample

The study population consisted of adolescent boys and girls from 13 through 17 years of age (both in and out of school), parents, and key persons (people close to the adolescents such as teachers, social workers, and youth patrons or matrons in religious communities, among others). Research assistants selected interview participants using systematic sampling based on a list of target participants per category in each village.

In each sampled village, researchers targeted at least 4 interviews with 2 adolescents of each gender (combining those in primary, secondary, vocational training centre, and out of school); 4 interviews with 2 parents of the sampled adolescents and 2 of non-sampled adolescents (while combining fathers and mothers); and 4 interviews with key persons (teachers, social workers, and others who consistently work with adolescents, from both genders). This resulted in a target of 24 participants per district for the one-on-one interviews. The sample totalled around 120 participants for the interviews. Given the prevailing challenges, however, the study reached a total of 132 participants in the interviews. The foregoing information is summarized in Table 2 below.

Table 2: Number of Participants per Category and Site

District	Adolescents		Key persons		Parents		Total		
	Boys	Girls	Men	Women	Men	Women	Men	Women	Overall
Ilala	02	06	04	04	01	07	07	17	24
Mvomero	03	05	04	04	03	05	10	14	24
Ngorogoro	04	04	04	04	04	04	12	12	24
North-A	04	04	06	02	05	03	15	09	24
Uyui	07	05	06	06	06	06	19	17	36
Total	20	24	24	20	19	25	63	69	132

Notably, out of 132 participants for the one-on-one interviews, only 55 (28 men and 27 women) were interviewed on *problem solving*.

In addition to the interviews, 21 focus group discussions (FGDs)—(10 FGDs for adolescents and 11 FGDs for parents)—were conducted. For the FGDs, 3 participants (adolescents or parents) were selected to join the other 4 who participated in the interviews. Ultimately, FGDs in each village consisted of 5 to 7 participants.

2.5 Data Collection Methods and Tools

- **Interviews**: One-on-one interviews with adolescents, parents, and key persons were conducted to determine their understanding of *problem-solving* skills in Tanzania's context. Researchers used an interview guide that was developed prior to data collection.

- **Focus Group Discussion (FGD)**: Discussions with adolescents and parents were conducted in order to cultivate a deeper understanding of the issues that emerged from the interviews. Researchers developed and used specific FGD guides for each site and its interviews.

2.6 Training of Research Teams and Fieldwork

In each district, there was need for an experienced qualitative researcher to take the lead in interviewing and for a research assistant to provide support in terms of logistics, recording, and note taking. At least one of the researchers needed to be fluent in the language of the study location. To ensure the collection of quality data, a 2-day researcher-training session (covering 4 hours per day) was conducted via Zoom on October 19 and 21, 2020. The training emphasised the background and objectives of the ALiVE project, the research approach and methodology, data collection methods and tools, recording and note-taking techniques, ethical issues, and more.

Before going into the field, the research assistants were provided with resources to finalize preparatory work that included notifying local authorities, listing, sampling, and notifying the sampled participants. Data collection was conducted in the 5 districts between November 2 and 6, 2020. The exercise lasted two days in each village. The first day was spent on the in-depth interviews, while the second day was reserved for the FGDs, which were conducted at a safe and central location within the village. Interviews and FGDs were audio-recorded and hand-written for backup and to ensure accuracy during translation or transcription.

2.7 Coding System and Data Analysis

A coding system was established to analyse the 55 interviews on *problem solving* following the method of thematic analysis. Thematic analysis is "a method for identifying, analysing and reporting patterns (themes) within data" (Braun & Clarke, 2006, p. 79).

The analysis was centrally conducted for all the interviews and FGDs from the three countries. For the analysis of the interviews, we established a coding system based on *contextual (descriptive) variables*, including (a) category of informants, (b) sex of the participants, (c) country, and (d) district. In *quantitative* terms, the contextual variables were analysed descriptively (in terms of frequency and percentage) using Microsoft Excel and Dedoose.

The coding system also considered *content variables* related to (e) definition and process described by the participants, (f) subskills, (g) dispositions and values, (h) behaviours, (i) related skills, (j) support systems and factors for enhancing *problem solving* skills, and (k) methods for assessing the skill in adolescents. In *qualitative* terms as recommended by Gibbs (2018) and using the Dedoose program (version 8.3.41.), we performed an analysis of the understanding of *problem solving* presented in the interviews, paying specific attention to elements of contextualisation in contrast with what was found in the literature review.

These predetermined categories emerged from the analysis of five interviews (at least 1 from each category) conducted by nine research assistants to achieve an inter-rater reliability in the coding system. Apart from these predetermined categories, others emerged from the main topic of *problem solving*; this report thus addresses the local perspective of the skill structure. The analysis process involved the identification of patterns of similar ideas, concepts, or topics to establish the connection and integration of information with the theoretical foundation (Miles & Huberman, 1994) as well as a suggested indication or evidence for contextualisation. The codes were created following the criteria for qualitative evaluation: dependency, transferability, credibility, and verifiability (Duffy, 1987).

Furthermore, the *synthetic analysis* followed the three stages pointed out by Thomas and Harden (2008): the free "line-by-line" coding of the primary interviews, including sentences or

paragraphs as the analysis unit, the organization of these “free codes” into related areas to construct “descriptive themes,” and the development of “analytical themes” (p. 4). The analytical themes go beyond the findings of the primary interviews and develop additional concepts, understandings, or hypotheses. The analytical themes are then related to the recommendations for assessment, intervention, and policymaking to contextualise *problem solving* skills in East Africa.

In addition, the researchers used the *triangulation* technique (Flick, 1992, 2004) to search, identify, select, evaluate, and summarise data from interviews, based on pre-defined criteria and emergent categories.

Finally, *data reduction* was applied through a mixed-method analysis: (a) the initial subgroup classification of the interviews is based on each participant’s category (adolescents, parents, and key persons), sex, and district; and (b) data reduction involves techniques of extracting and coding data. These mixed-method analyses were carried out using the Dedoose program, which allows for the analysis of the frequency of the codes in terms of the participants’ demographic information and allows for the integration of qualitative and quantitative data. In this regard, three types of descriptive analysis were conducted: code co-occurrence, cross-tabulation of the code and participants’ characteristics, and cross-tabulation of the code and 2 or more participants’ characteristics.

Notably, for each of the quotations in the findings, we have included a code that helps in identifying the category of the participant. In each code, the first letter represents the country (Tanzania), the second letter represents the category of participants (e.g., ‘A’ for adolescent, ‘P’ for parent, and ‘K’ for key person), and the number represents the number assigned to the participant.

2.8 Ethical Considerations

The research team upheld approaches that address ethical considerations in dealing with different categories of participants. These include obtaining informed consent, ensuring the confidentiality of information obtained from the participants, compensating the participants (both monetarily and non-monetarily), and ensuring voluntary participation. Precautions were taken to adhere to the COVID-19 guidelines issued by the Ministry of Health at that time, especially those of not exceeding 15 persons for every gathering, wearing masks, physical distancing, and the washing and sanitizing of hands.

3 FINDINGS

3.1 General Characteristics of the Participants

Overall, 55 participants (28 boys/men and 27 girls/women) were interviewed on problem-solving skills. Seventeen (17) of these were adolescents (10 boys and 7 girls), 18 were parents (7 men and 11 women), and 20 were key persons (11 men and 9 women). The average ages (in years) of the participants were 16.1 for adolescents (15.9 for boys and 16.4 for girls; SD=1.0), 41.7 for parents (47.6 for men and 38.4 for women; SD=9.0), and 33.9 for key persons (31.3 for men and 37.1 for women; SD=7.1).

3.2 Codes and Central Themes in Problem Solving

3.2.1 Definition and Process

The first category identified in the coding process was the contextualised definition of problem solving, including the local language definition and the process involved in dealing with challenges. This thematic area includes the codes that emerged from the analysis of the definitions of collaboration as presented by the participants.

Almost all the participants (53) defined problem solving based on their understanding of the concept and on personal experience. Most commonly, problem solving was defined as "an act of proving solution to a problem facing one person or many people" (T-A-32).[1] This was mentioned by 22 participants: 5 adolescents, 5 parents, and 12 key persons. A synonym of the word *problem* is "challenge" (T-K-09, T-K-18, T-K-31, T-K-32, T-K-38, T-K-42), as another participant expressed: "To solve, what I know is to explain or deal with the challenges facing you, the challenge from the environment you live in" (T-K-15). Looking at the problem as a challenge suggests a willingness to deal with it, to face it, and it does not have the negative connotation of some other expressions that the participants use, like to "get rid" of (T-A-29, T-P-10), "remove" (T-K-39, T-K-43), "eliminate" (T-K-42, T-P-18), or "eradicate" (T-K-02, T-P-01) the problem. The use of these synonyms might have been influenced by the diverse ways of viewing a problem or by the perception of the problem according to the local culture. In some cases, it is also possible that the expressions used in the local languages to define problem solving might have fostered a negative understanding of the word *problem*. The phrase *facing a challenge* suggests a positive attitude toward the problem and hints at the possibility that the challenge can become an opportunity, and thus is not necessarily a negative aspect of life that needs to be eradicated or avoided.

A total of 27 quotes refer to problem solving as an act of resolving conflicts between people (11 participants), helping community members overcome a difficult situation (14 participants), or preventing others from making regrettable choices (2 participants). Several definitions were

[1] The first letter represents the country (Tanzania). The second letter represents the category of participants (e.g., 'A' for adolescent, 'P' for parent, and 'K' for key person), and the number represents the number assigned to the participant.

related to the "resolution" of a conflict (T-A-11, T-K-34) or "reconciliation" (T-A-11, T-K-07, T-P-07, T-P-13, T-P32). Some of the participants explained, "To solve a conflict when you meet people fighting" (T-A-01), "Problem solving is resolving conflicts" (T-K-34), or "Problem solving can be about teaching other people the way to live with other people to avoid conflict" (T-P-17).

It is also quite relevant to mention how the participants refer to problem solving as the process of helping others resolve their challenging situations (mentioned by 5 adolescents, 1 key informant, and 5 parents): "Help someone solve a problem" (T-A-5), "Helping to solve a problem that you may have encountered" (T-A-23), or "To help someone over something or on the action that was affecting his/her life" (T-A-24). One of the key informants elaborated, "Problem solving is the situation of . . . help[ing] someone so that they can get what they need" (T-K-43). This explains why "cooperation" is relevant when solving problems (T-A-38, T-P-18, T-P-42) as well as the need for stronger relationships among members of the community (T-P-42).

According to a few parents (T-P-3, T-P-15, T-P-16), problem solving is a key attribute that young people should acquire through education: "[Problem solving] is educating" (T-P-03); "[It] means bringing them [children] up in a right way" (T-P-16). Other participants (T-K-04, T-K-11, T-K-14, T-K-34, T-P-16) explained problem solving differently, as the "ability to know the bad and the good" (T-K-11), drawing a connection between problem solving and other related skills such as critical thinking.

In summary, according to the Tanzanian participants, problem solving is the process of finding a solution to the challenges one faces in life. Some participants link this to the eradication of the problem, while several explicitly refer to resolving a conflict between people. Interestingly, participants refer to this aspect of conflict resolution not as an example but as a way of defining what problem solving means to them. This resonates in the words of those who perceive this skill as being key to helping people in the community confront and resolve the challenges they face.

Table 3 presents the list of codes related to solving problems, as highlighted by the participants.

Table 3: Codes That Emerged as Processes of Problem Solving

Category: Definition/Process Codes	**Participants (sources)**	**%**	**Excerpts**	**%[2]**
Asking for advice	12	21.82	17	10.49
Choosing or Evaluating (Judgement)	9	16.36	12	7.41
Facing problems	11	20.00	15	9.26
Fear of God	2	3.64	2	1.23
Finding solutions	50	90.91	106	65.43
Identifying the problem	15	27.27	15	9.26
Knowing or Understanding the problem	21	38.18	30	18.52
Knowing or Understanding self	2	3.64	2	1.23
TOTAL	**55[3]**		**162[4]**	

As mentioned above, the participants often presented problem solving as synonymous with finding solutions to challenges or problems. The analysis of the interviews highlights other important procedural aspects of problem solving. To reach a decision on the viable solution to the challenge, the participants identified the following important steps (see Table 3 above for the number of quotations related to each element): (a) identifying the problem (9.3% of the total excerpts), (b) knowing and understanding the problem (18.5%), (c) asking for advice (10.5%), (d) evaluating the options and choosing among them (7.4%), and (e) finding the best solution (65.4%). Only a few participants mentioned additional elements like knowing and understanding oneself (T-A-15, T-K-26) and praying or worshiping God (T-A-38, T-K-32).

[2] The percentage of the excerpts per code was calculated based on the total number of excerpts that emerged from the theme of definition/process of problem solving. It is important to note that the sum of all the percentages is not 100, since one excerpt could contain more than one of these codes.

[3] This refers to the total number of participants who were interviewed about problem solving. It is not the sum of the observed frequencies, as more than one code in the theme could emerge from the same participant.

[4] This refers to the total number of excerpts that emerged in the definition/process of problem solving. It is not the sum of observed frequencies, as one excerpt could contain more than one of these codes.

Figure 1: Word Cloud on the Percentage of Excerpts on the Various Process Codes

Figure 2 presents a disaggregation of the number of excerpts by gender and category. It is quite evident that participants refer to the step of finding solutions as the key step in the process.

Figure 2: Frequency of Excerpts Including Process Codes by Gender and Category

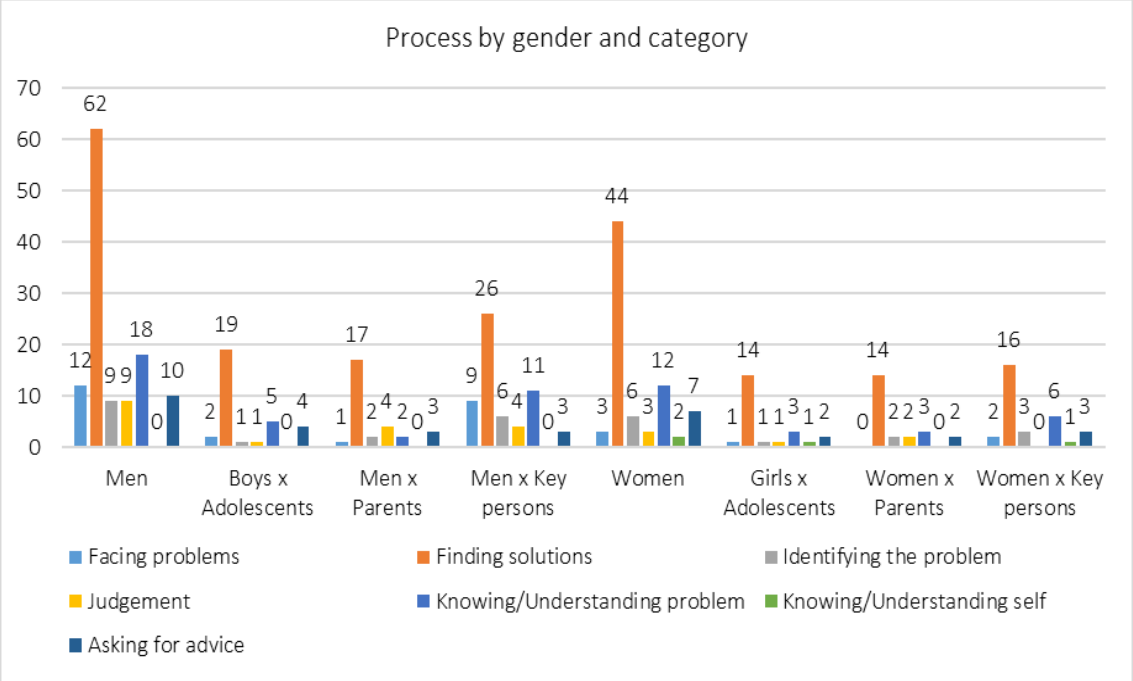
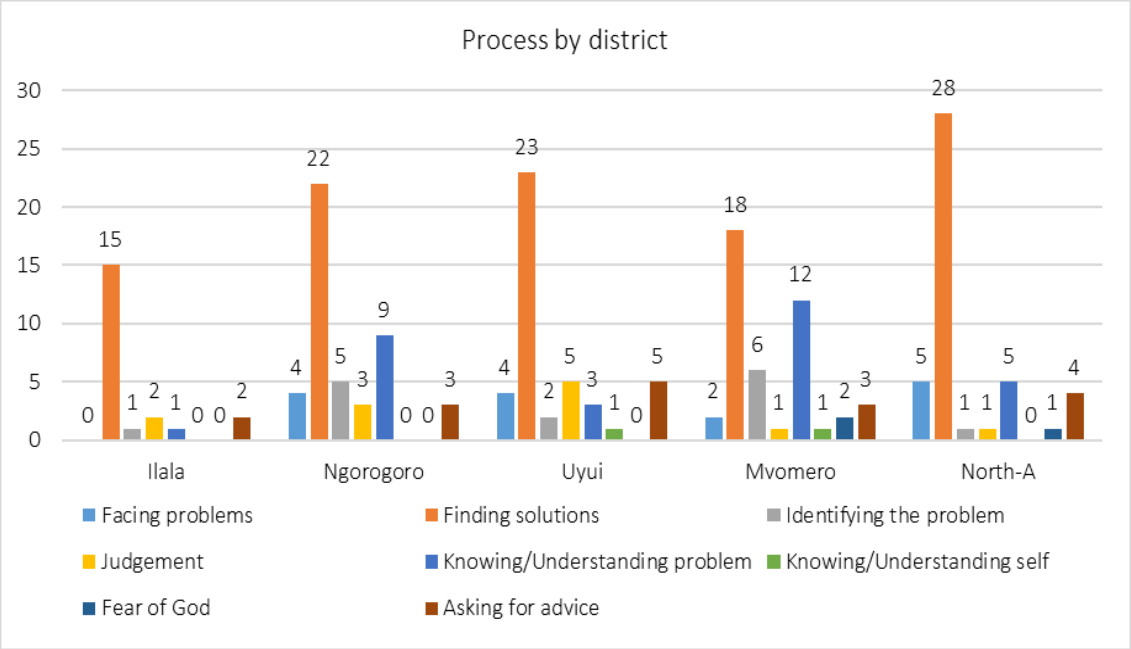


Figure 3: Frequency of Excerpts Including Process Codes by District



Identifying the problem is considered the first step in the problem-solving process (T-A-09, T-K-06). Two participants specify that identifying the problem means to "look at the source of that problem" (T-A-27, T-K-15). A key informant elaborates further and links this to awareness of the problem:

> First, he should be aware that there is a problem . . . but also he should know the source of a problem . . . and characters if they are present . . . and after that, after knowing the source of a problem, he can predict and he can have possibilities, that maybe it has happened because of one two three. (T-K-26)

Knowing and understanding the problem first requires the person to become aware of its source (T-K-26). Once the problem is correctly identified, a good problem solver will "sit back and solve it well, for example, what way will you use and what way to find that way . . ." (T-A-42). In striving to "[find] the way" (T-K-11), the adolescent should seek "more information on the problem" (T-K-06) by "doing research; knowing the problem will help to know the way how the problem started" (T-K-14). This step requires analytical skills (T-K-28) to "arrange alternative methods that can be used [to solve the problem]" (T-K-28). Problems can be complex, and they may require cooperation among those affected:

> If the problem concerns the students, then we call his/her parents, whom we sit together and see how we can solve that problem. We can involve parents or both

> parents and teachers to see in what terms can be used to solve the problem. (T-K-42)

In line with this, asking for guidance or help in finding a solution is considered an important step for young people to take. This is linked to the communitarian vision of problems and of problem solving. Sharing personal problems and asking for advice on how to approach them is considered an important step. It is considered important for two main reasons: (a) youth are too inexperienced to face the problems alone, they lack the skills, and referring to an adult is part of the learning process (T-K-13, T-K-15, T-K-32); and (b) the community has a responsibility to help individuals (T-A-24, T-A-42, T-P-10), and a challenge faced by one person is a challenge faced by the whole community (T-K-07, T-K-42, T-P-40). A key informant says the following:

> Here at school, most children have no self-awareness because of being a student, they may have a problem, but only a few will come to report, others have family problems, some of them can solve their problems, but most of them cannot. (T-K-13)

Similarly, another participant says, “Since we are talking about youth who are not adults, therefore, parents and relatives who live with them must be nice to them to save them, to know their groups and friends who they normally have. They should help to solve their challenges” (T-K-15). Family and community should “advise me on how to solve the problems. They give me good guidance on how to solve the problems affecting [me]” (T-A-24). Speaking about a friend, another adolescent says this:

> Sometimes, if it is a big problem, I will tell him to share it with his brother or his mother, his father is dead, but he has a brother who stays with her at Kitunda. For example, to go and get advice from him at Kitunda. (T-A-42)

What follows is one of the key moments of the problem-solving process, which despite its importance, only a few participants (T-A-09, T-A-10, T-K-04, T-K-06, T-K-28, T-P-15, T-P-16, T-P-17, T-P-42) briefly elaborate on: “He will compare them to choosing the best and lighter approaches” (T-K-28). A parent also shares that the son knows “if I do this, it is not good” (T-P-15), while another says the following:

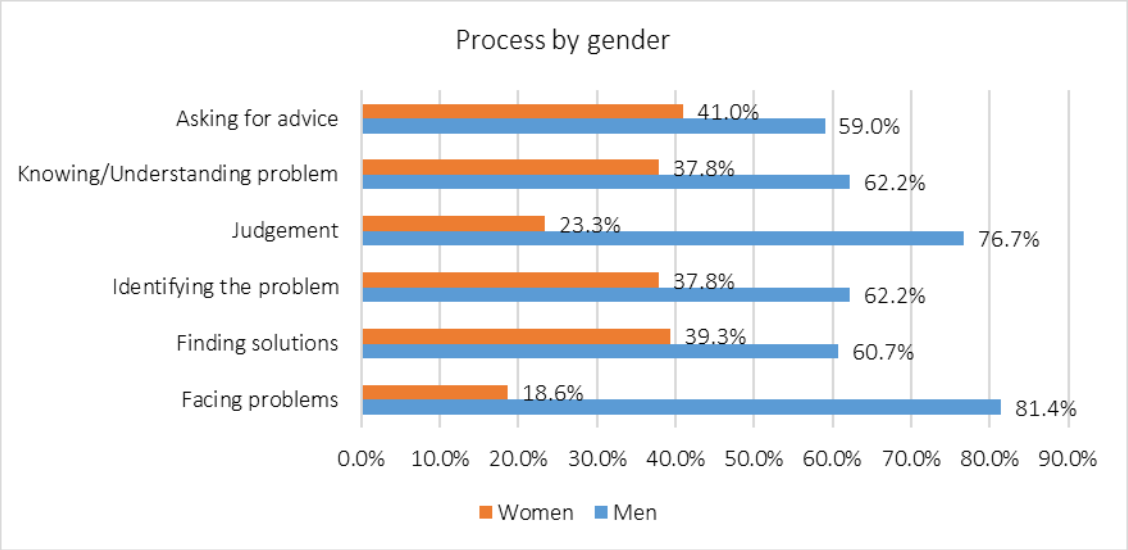
> She is a grown person now so she can solve problems. She is intelligent so when you tell her something it is easy for her to understand you! It’s easy for her to distinguish between good and bad things. She takes into account the good things while leaving the bad things behind. (T-P-16)

Being such a decisive element of the process, evaluating the possible solutions requires further exploration. It is only after all these aspects have been carefully considered that the person is in a position to “[come] up with a complete solution to the problem” (T-A-10). This

aspect was mentioned in the interviews by 50 participants. As was stated, finding solutions to the problem has various connotations in the interviews, and its meaning is linked to the participants' understandings of the meaning of problem solving, depending on whether it is a "resolution or reconciliation" (T-A-11, T-A-40, T-K-7, T-K-34, T-K-43, T-P-07, T-P-28, T-P-10, T-P-11, T-P-37), "eradication" (T-A-36, T-K-02, T-K-14, T-P-01), or "[overcoming] difficulties" (T-K-38).

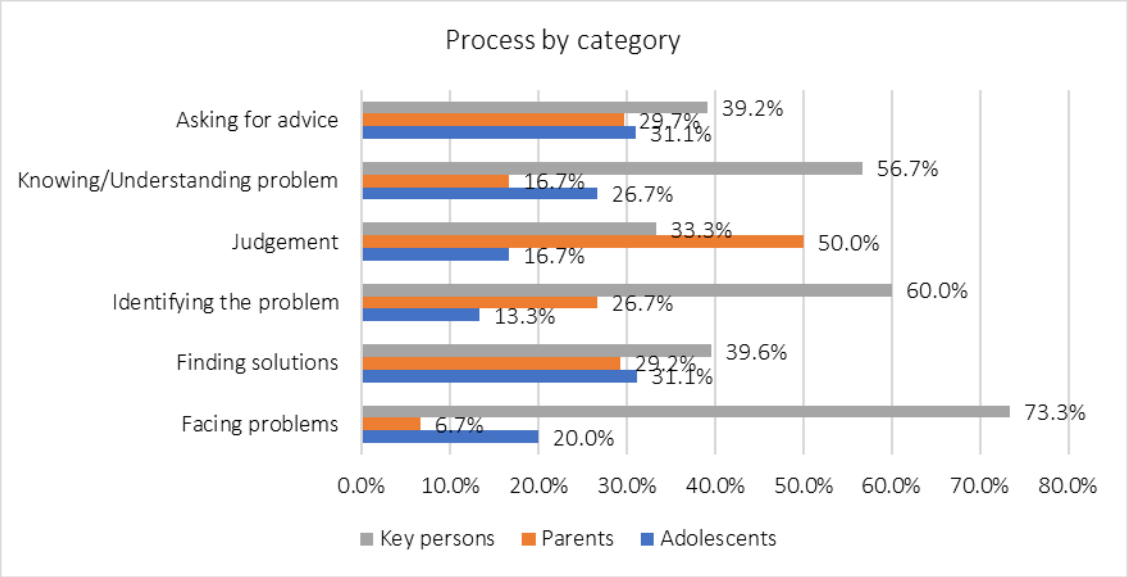
There is a uniform distribution of the percentage of boys'/men's and girls'/women's excerpts across the various codes related to the process. However, male participants contributed more to almost all the codes.

Figure 4: Percentage of Excerpts That Include the Most-Cited Process Codes by Gender



Across the districts, participants contributed quite evenly to the various codes (see the appendix). Adolescents' excerpts tend to focus on what can be considered the final step of problem solving, which is to find solutions to the challenges. Similarly, across all the categories of participants, the final step is the most cited. On the other hand, while key persons tend to elaborate more on the other aspects of the process, adolescents hardly mention anything beyond the understanding of the problem or finding solutions. Parents, for their part, have a keener interest in judgment, which for them means mostly evaluating or choosing between the good and the bad.

Figure 5: Percentage of Excerpts That Include the Most-Cited Process Codes by Category



In conclusion, what emerges from the interviews is that finding solutions to a problem or challenge is the final step of a structured process. Sometimes implicit, the steps of the problem-solving process consist of identifying the problem, understanding the causes and consequences of the problem, asking community members for advice and views on the problem, evaluating the possible solutions, and adopting the most suitable solution.

3.2.2 Subskills

Table 4: Categories and Codes That Emerged as Subskills of Problem Solving

Category: Subskills	Codes	Participants (sources)	%	Excerpts	%
Social skills	Expressive communication	6	10.91	6	5.31
	Receptive communication	6	10.91	6	5.31
	Cooperation or Collaboration	15	27.27	32	28.32
	Empathy	2	3.64	2	1.77
	Guidance and counselling	24	43.64	57	50.44
	Leadership	4	7.27	5	4.42
	Relationship skills	21	38.18	25	22.12
Self-awareness	Self-awareness	5	9.09	6	5.31
	Self-confidence	14	25.45	20	17.70
	Self-control	4	7.27	6	5.31
	Taking care of self	3	5.45	3	2.65
Self-management	Planning or Goal setting	2	3.64	4	3.54
TOTAL		**55**		**113**	

Based on the data analysis, several subskills are mentioned by the participants as being key to a person who is a good problem solver. Looking at the table, it appears that the most relevant codes are the ones about relationships with the others (see the table above for details on quotations): relationship skills (22.1% of the excerpts), cooperation and collaboration (28.3%), guidance and counselling (20.4%), communication (10.6%), leadership (4.4%), and empathy (1.8%).

Another area of interest is related to self-identity skills. Only a minority of the participants mention that these skills are key to nurturing an independent problem solver, and mostly, they refer to self-confidence as being an important skill. In contrast, a few others refer to self-awareness, self-control, taking care of self, and self-respect (see the table above).

Only a couple of participants mentioned planning as a relevant skill that a young person should possess to successfully face life's challenges.

Figure 6 shows the proportion of excerpts disaggregated by gender and category and highlights the relevance of the relationship skills, guidance and counselling, and cooperation to both men and women. Women also consider self-confidence to be key.

Figure 6: Frequency of Excerpts Including Subskills Codes by Gender and Category

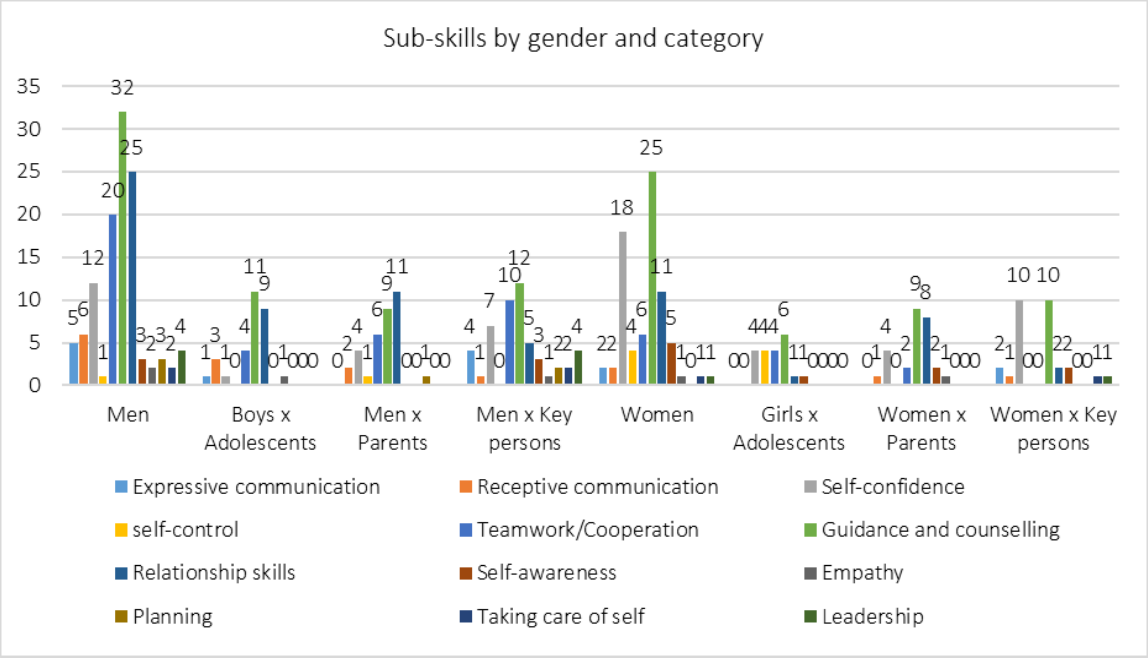
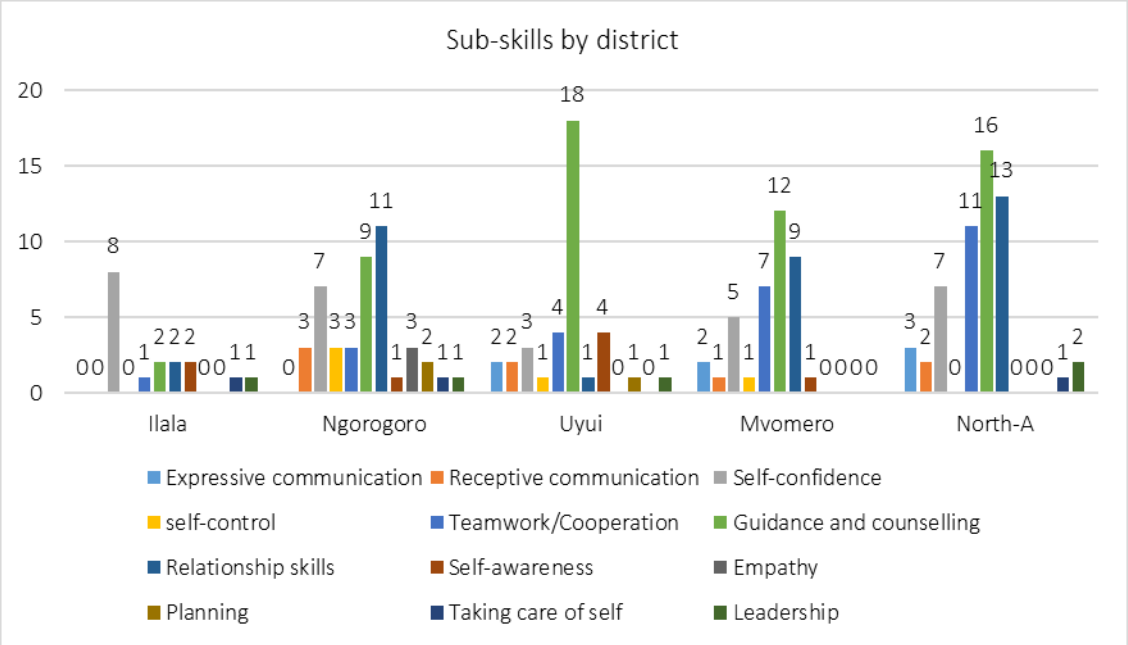


Figure 7: Frequency of Excerpts Including Subskills Codes by District



Based on the previous sections, it is quite apparent that Tanzanians' perception of the self is closely related to their perception of their community. Problems seem to affect not just the individual, but the whole community, family, or group of friends with whom people share their lives. This is also reflected in the list of subskills the participants highlight as relevant to problem-solving skills. Relationship skills are mostly linked to the abilities of young people to "mediate a conflict" (T-P-07, T-P-37) between people or help them to reconcile with friends in case of a dispute (T-A-11, T-A-36, T-K-07, T-K-42, T-P-13, T-P-28, T-P-37). A teacher recalls this experience:

> One day, a problem happened in his class, where some of the kids were fighting, and he was outside the classroom. Teachers were in the offices ready to go, but since he was near, he went there. Immediately he arrived, the students stopped fighting! Others who were in the class got angry because they wanted the kids to continue with the fight. So, by this, I know he can solve problems. (T-K-42)

This example suggests that relationship skills are related to the authoritativeness of the person, and in this case, the boy showed leadership skills. This is not a unique case; several other examples of relationship skills present this characteristic of leadership (T-A-36, T-A-11, T-K-04, T-K-07, T-K-13, T-K-31, T-K-42). A different perspective emerges from some participants who emphasize the importance of involving other people, maybe adults or community members (T-K-07, T-P-10), to resolve a conflict. Another parent says that problem solving is linked to cooperation, and for this reason, it is important to have strong relationship

skills: “The cooperation between families or between persons without good relationships, problems cannot be solved” (T-P-42).

As one adolescent participant presents it, “They say that where there are people, there is a lot you will find out. Therefore, it will help building cooperation” (T-P-27). It sounds like a proverb that is actually highlighting the importance of cooperating with others: people are a valuable addition, and they may contribute in a meaningful way to solving others’ problems. Similarly put by another participant, “To solve a problem you need to cooperate with everyone” (T-A-29). For this, “cooperating with the fellows” (T-K-07) is a skill that teachers should nurture in young people who are striving to become adults capable of dealing with life’s issues (T-K-15, T-P-18, T-P-37). According to another key informant, “Problem solving means using different minds in solving challenges in the community” (T-K-42).

> You can also find that they are great partners in their communities, there is a problem or something that needs to be done in the community, they work together to try to solve the challenges they face. Second, if there is a problem in the community, they are at the forefront, but you also find the same young people solving that problem. (T-K-38)

Similarly, a few participants (T-K-09, T-K-28, T-P-10) mention collaboration as an important skill for effectively solving problems. This aspect is also linked to guidance and counselling; a good problem solver is called to help the community and, to do so, should be able to guide and advise their friends or family members on the matter at stake (T-A-11, T-A-16, T-K-02, T-K-09, T-K-32, T-K-38, T-K-39, T-K-42, T-P-07, T-P-15, T-P-18, T-P-28, T-P-30, T-P-37). In some cases, youth participants put it in a very simple way: “[For] example, if a student does not want to attend school, I can solve that problem by advising him/her that he or she is supposed to go to school” (T-A-16); or “Gathering for a dispute, listening to the dispute, advise them not to quarrel” (T-A-11).

Thus, problem solvers require good communication skills (T-A-29, T-K-13, T-K-15, T-K-31, T-K-39, T-K-42).

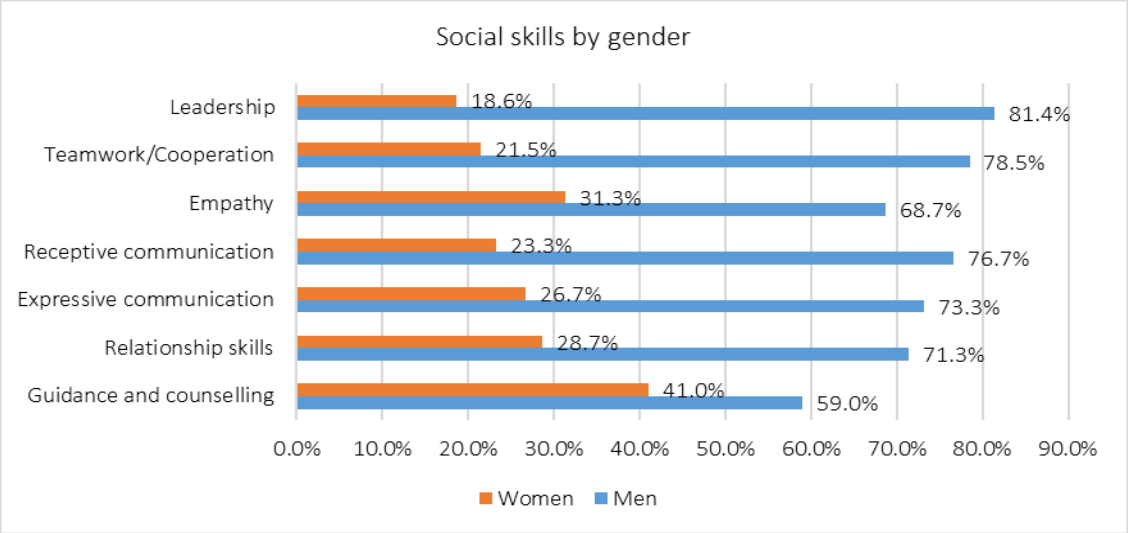
> I think the biggest indicator that shows that the teen has a higher level of problem solving skills it’s because he can talk, he can be an influencer, he can make his fellows do things correctly. He has a high level of influence; they respect him and listen to him when he instructs in class. (T-K-42)

This kind of person needs to be a good listener (T-P-10) and ought to show empathy or “compassion” (T-K-07, T-P-13). Dealing with people to guide them requires a certain capacity for openness and attentiveness to their needs while respecting their perspectives.

Given the importance of relationship skills and the need for the young people to be willing to receive advice when they need help overcoming a difficult situation, the young people should listen to others' suggestions and develop receptive communication skills (T-A-23, T-A-24, T-K-07, T-K-11, T-P-42).

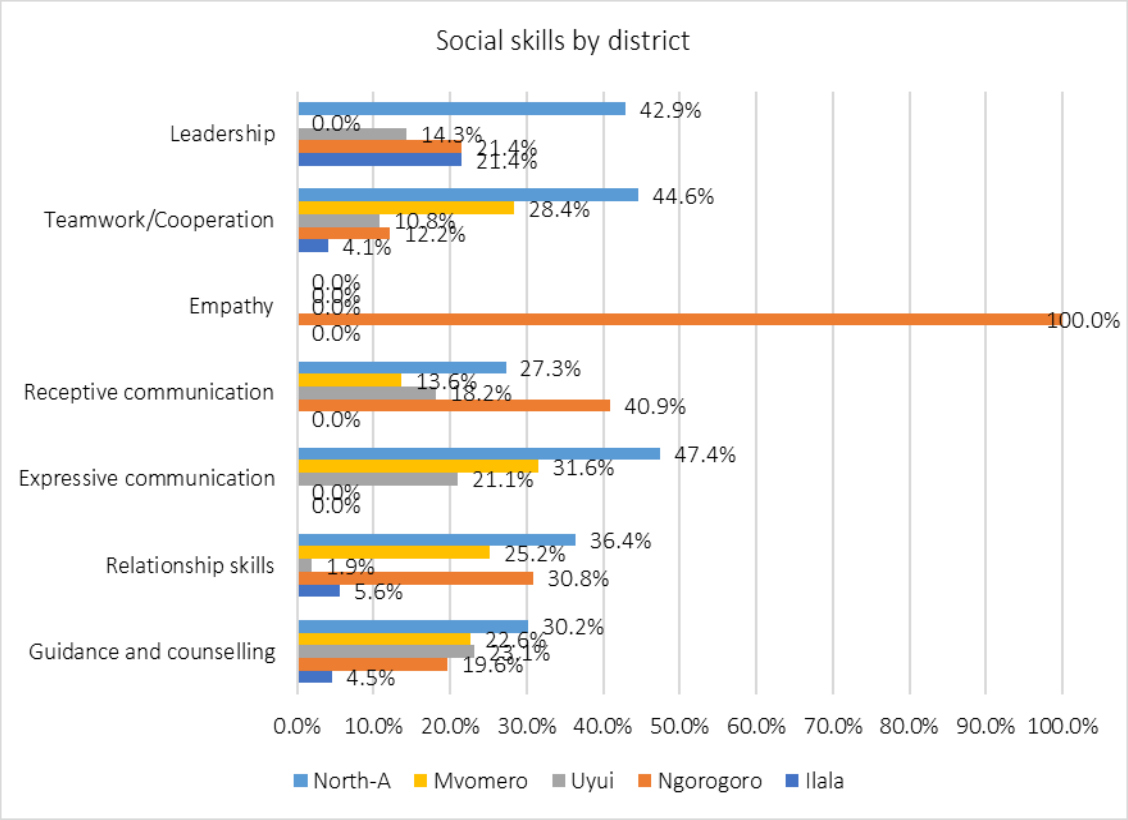
Among the social skills, men and boys are more likely than women and girls to mention guidance and counselling (59.0%), teamwork or cooperation (78.5%), and relationship skills (71.3%) as the skills that best describe a good problem solver. Several women and girls (41.0%) also mentioned that guidance and counselling is relevant, but in general the girls'/women's contribution to these codes is less prominent than that of the boys/men.

Figure 8: Percentage of Excerpts That Include Social Skills Codes of by Gender



Looking at the disaggregation of data by districts, what is clear is that in Ilala district participants mentioned very few social skills, focusing mostly on leadership. The few participants who mentioned empathy are from Ngorogoro district.

Figure 9: Percentage of Excerpts That Include Social Skills Codes by District



The skills related to self-awareness were mentioned only by a minority of participants (14 for self-confidence and only 5 for self-awareness). It is also important to emphasize that none of the young people referred to either of the two attributes. Overall, these skills were deemed significant by the key persons. It is paramount to note that the concepts that are considered self-awareness skills are quite complex, even more so for people who use mostly local languages and were interviewed in *Kiswahili* or other local languages. The fact that sometimes local languages do not even have a direct translation of these concepts is also meaningful and denotes the communitarian conception of the self, as opposed to the individualist view of the person in Western cultures.

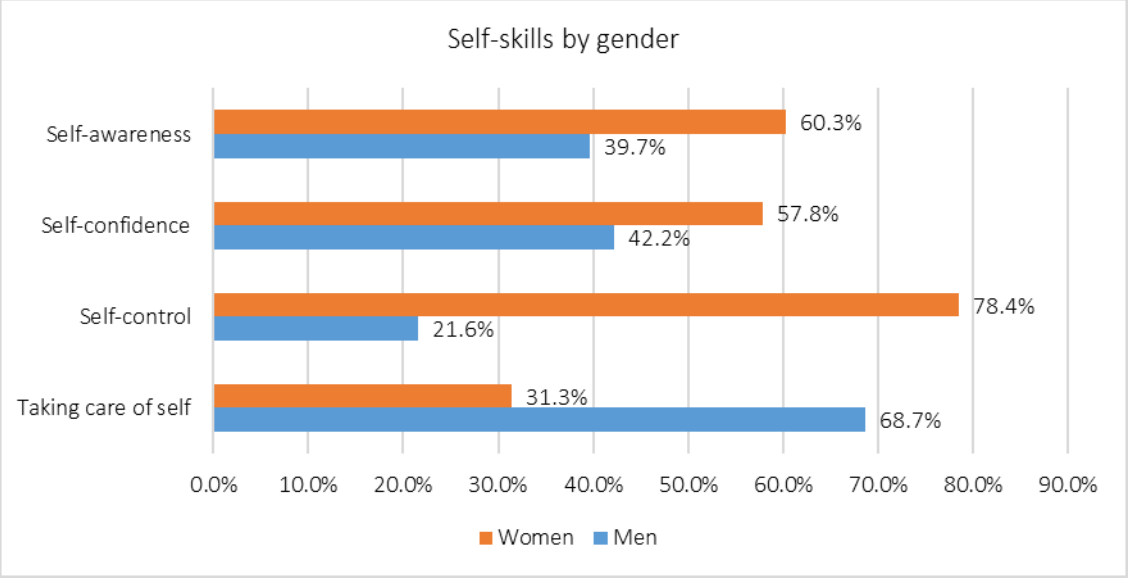
Nevertheless, key persons suggested that problem solvers were more self-confident (T-K-02, T-K-06, T-K-11, T-P-03) and self-aware (T-K-06, T-K-15, T-P-03) than others: “They are confident . . . they have a positive attitude that everything is possible, they have self-awareness and confidence” (T-K-06). The participants usually did not elaborate much further, though some of them specified that confident people could “manage activities and can stand for what [they] want” (T-P-01) and, if they are young people, they try to solve problems themselves before asking others for help (T-P-18).

As presented in the findings of the previous section, adolescents usually link problem solving to relationship issues with friends. This may explain why the only skill related to the sphere of the self that can be found in their interviews is self-control (T-A-10, T-A-27, T-P-15). Speaking about a friend, one adolescent participant said, “She has great family challenges but she has the ability to control herself and think about school first” (T-A-10).

Young people with problem-solving skills are also capable of “taking care of themselves” (T-K-04); they are “self-reliant” (T-K-11). They are also expected to plan for their future and implement strategies that will help them achieve their goals (T-K-09, T-P-15).

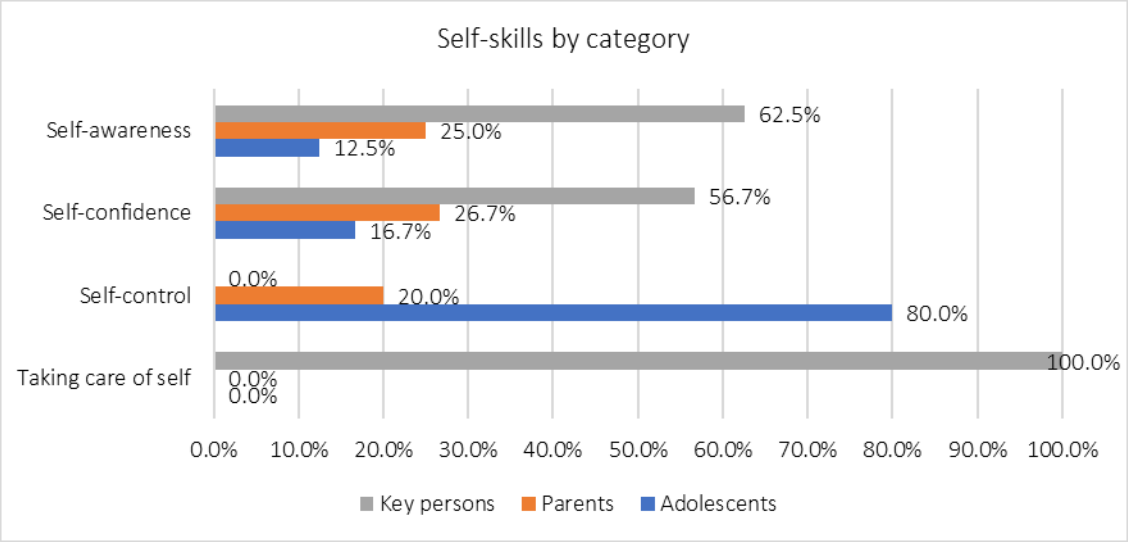
It is interesting to note that more women/girls than men/boys contribute to the codes of skills related to the self.

Figure 10: Percentage of Excerpts That Include Self-Skills Codes by Gender



Self-confidence, the most cited skill under this category among skills related to the self, is evenly distributed across the districts (see the appendix). Interestingly, the category of participants that contributed the most to the subskills codes about the self are the key persons. Adolescents mostly mention self-control as an important skill, which is consistent with the other findings. The adolescents’ conceptualisation of problem solving underscores the importance of this skill in the resolution of conflicts with peers.

Figure 11: Percentage of Excerpts That Include Self-Skills Codes by Category



In summary, to be a successful problem solver according to the participants, one mostly needs to know how to relate with peers, family, and community members and needs to understand oneself. Relationship skills and communication skills are crucial for collaborating with others in the process and for advising others who need counselling. What emerges from the interviews is a strong sense of conceiving the self as being in relation with the community, and relatedly, a weaker focus on skills linked to the personal identity. Self-confidence is the most-cited skill in this domain. It is a skill that can be easily observed in the way people behave and relate with one another.

3.2.3 Dispositions

Table 5: Codes That Emerged as Dispositions of Problem Solving

Category: Dispositions Codes	**Participants (sources)**	**%**	**Excerpts**	**%**
Hard work	14	25.45	26	32.10
Kindness or Friendliness	6	10.91	17	20.99
Patience or Time	4	7.27	9	11.11
Responsibility	8	14.55	19	23.46
Willingness to be corrected or advised	11	20.00	18	22.22
TOTAL	**55**		**81**	

Possessing a skill does not guarantee that the skills will be employed in a timely and efficient manner. Dispositions help to achieve this aim. The dispositions that emerge most frequently from these interviews are the following (see the table above for details on number of quotations): willingness to work hard, willingness to be corrected or to receive advice, being responsible, being friendly and kind, passion, and patience. The figures below show the proportions of excerpts disaggregated by gender and category and how the various dispositions were cited in the different districts.

Figure 12: Frequency of Excerpts Including Dispositions Codes by Gender and Category

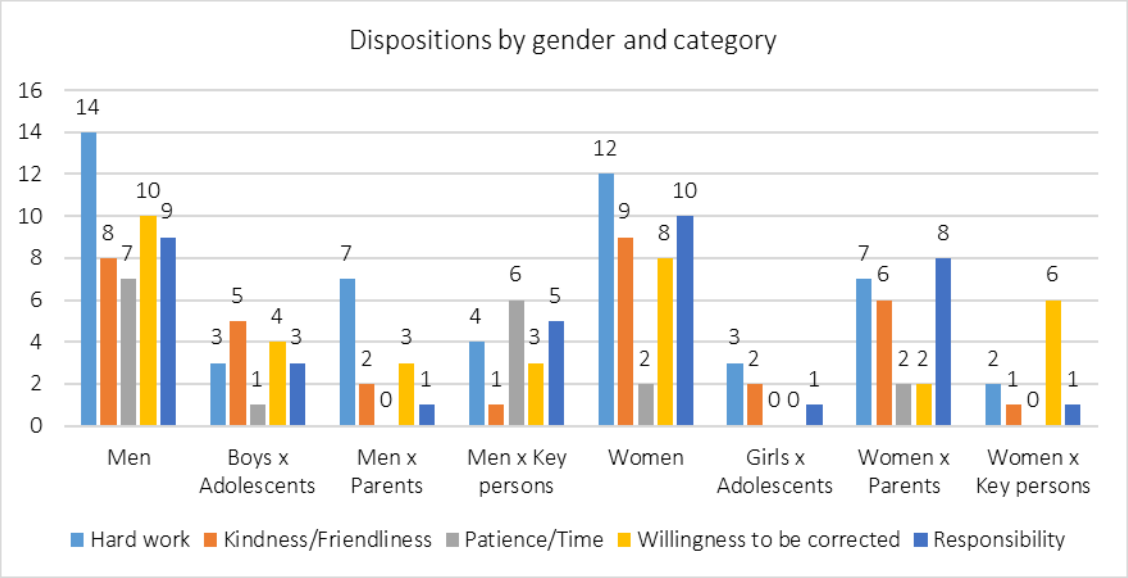
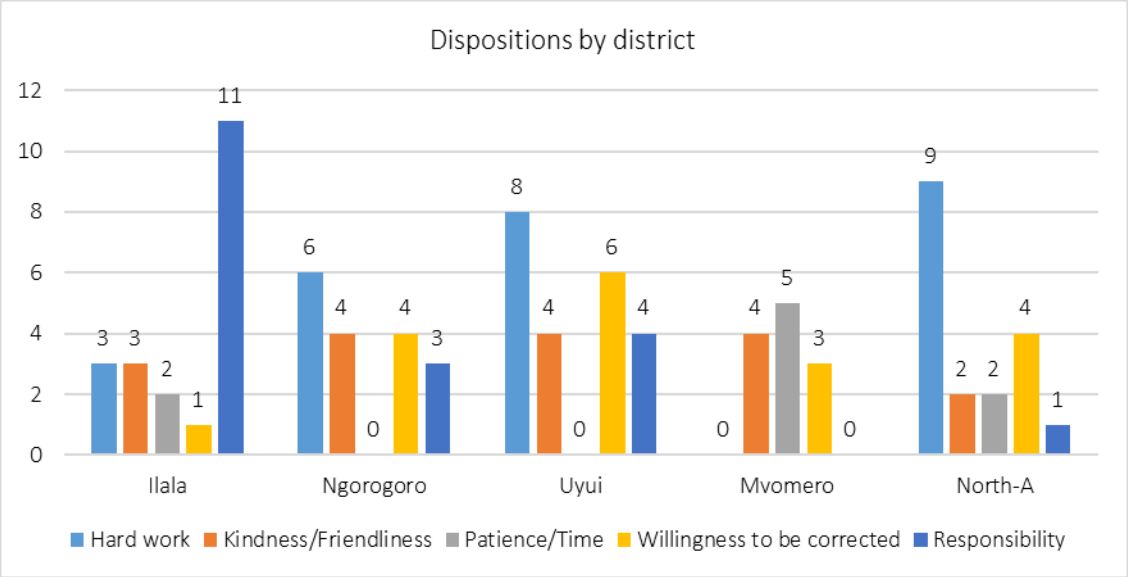


Figure 13: Frequency of Excerpts Including Dispositions Codes by District



Young people who are good problem solvers are willing to engage with the reality, face the challenge, and work hard (T-P-13, T-P-42) to overcome it. To succeed in the process of solving problems, "they dedicate themselves" (T-P-13) and they have a strong "willingness in doing things" (T-K-15) fearlessly and with total respect for work (T-K-11), even if it is "manual labour" (T-K-04). A key person noted the following:

> This person was able to open the door of the shop. He has created a place where people take photos to print, he gives copies . . . so you find he can solve his personal problems especially in economic matters. For example, even when his people are sick, you find him the first to give an idea of where he should be sent. So you find him as a member of the family, he is young but you find him watching, . . . and giving advice and his advice you find is the one that is acceptable. (T-K-38)

Despite the challenges, this young person did not give up his studies and used his personal income to pay his school fees and buy supplies (T-K-38). This is mainly linked to the ability of the problem solver to assume personal responsibilities that may come along with the problems (T-K-04, T-K-06, T-K-16, T-K-42, T-P-01, T-P-03, T-P-07, T-P-13): "He knows his responsibilities, he has good arrangements about his studies" (T-P-03); "He can manage his arrangement without being supervised, for instance you cannot supervise to go to school, himself can prepare and go to school" (T-P-01).

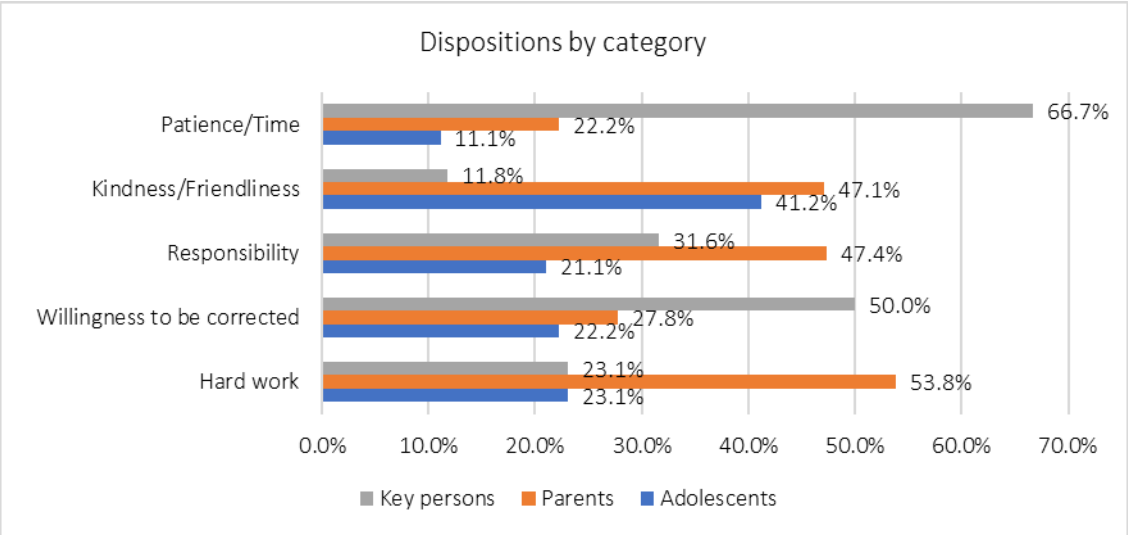
Problem solvers are also time conscious (T-P-03): "He is a young man who performs his duties on a timely basis without coercion" (T-K-31). At the same time, they need to take the necessary time to study the problem carefully before rushing to regrettable conclusions (T-K-42).

The problem-solving journey is never walked alone. Some participants openly mentioned that in order to solve personal or family problems, it is necessary to listen to the advice of adults who are more experienced or friends with stronger abilities in a certain domain. According to some participants, young people should have "the mindset of seeking help and ideas when faced with problems" (T-P-18). This can often be viewed as encouragement not to be overwhelmed by problems and accept help: "They prefer being accompanied by people who are above their age so as to receive advice" (T-P-15). Other times, adults need to tell the young person what they think the right decision is, as if the task of a parent or teacher is to solve young people's problems instead of encouraging them to find their own ways of overcoming the challenge: "Teacher I have this problem, what should I do?" (T-K-13).

Society seeks adolescents who are good problem solvers and can help their peers, and this requires good relationship skills and a willingness to be open to others (T-K-07, T-P-03, T-P-10), to cooperate in a friendly and amicable way (T-A-29), to care for others (TK-07), and to be ready to forgive (T-A-29, T-P-13).

The quantitative analysis of the data and the disaggregation by category show that parents deem it especially important for their children to be hard working and responsible. For them, this is a strong sign of readiness to face life's challenges. The key persons, on the other hand, emphasized that it is important for adolescents to be open to the advice and corrections of those with more experience. Actually, according to some parent participants (T-P-07, T-P-13, T-P-32), young people are supposed to ask for forgiveness when they make mistakes or make the wrong decisions, because they should have asked adults for proper advice.

Figure 14: Percentage of Excerpts That Include Dispositions Codes by Category



At the district level, responsibility is particularly important to the participants of Ilala, while hard work is equally important to those of North-A (see the appendix). Men and women participants contribute quite equally to the various codes that emerged in this category (see the appendix).

In conclusion, a problem solver is a responsible person who is committed to the work and reality of life. The skill involves collaboration with other people and often requires advice from those who are more experienced. The good problem solver usually shows a willingness to receive suggestions and advice from others.

3.2.4 Values and Behaviours

Table 6: Codes That Emerged as Values Related to Problem Solving

Category: Values Codes	**Participants (sources)**	**%**	**Excerpts**	**%**
Love	5	9.09	5	16.67
Respect	15	27.27	19	63.33
Unity	1	1.82	1	3.33
Wisdom	6	10.91	8	26.67
TOTAL	**55**		**30**	

In Tanzania, problem solvers are asked to serve their communities and respect the foundational values of the society. Specifically, participants refer to respect (63.33% of the excerpts), wisdom (26.67%), love (16.67%), and unity (3.33%) (see the table above for details on the number of quotations).

Figure 15 clearly shows how respect and wisdom are considered relevant values by both men and women, and especially by parents. Respect is a common value in the Tanzanian community: participants in all districts said it is relevant (see Figure 16).

Figure 15: Frequency of Excerpts Including Values Codes by Gender and Category

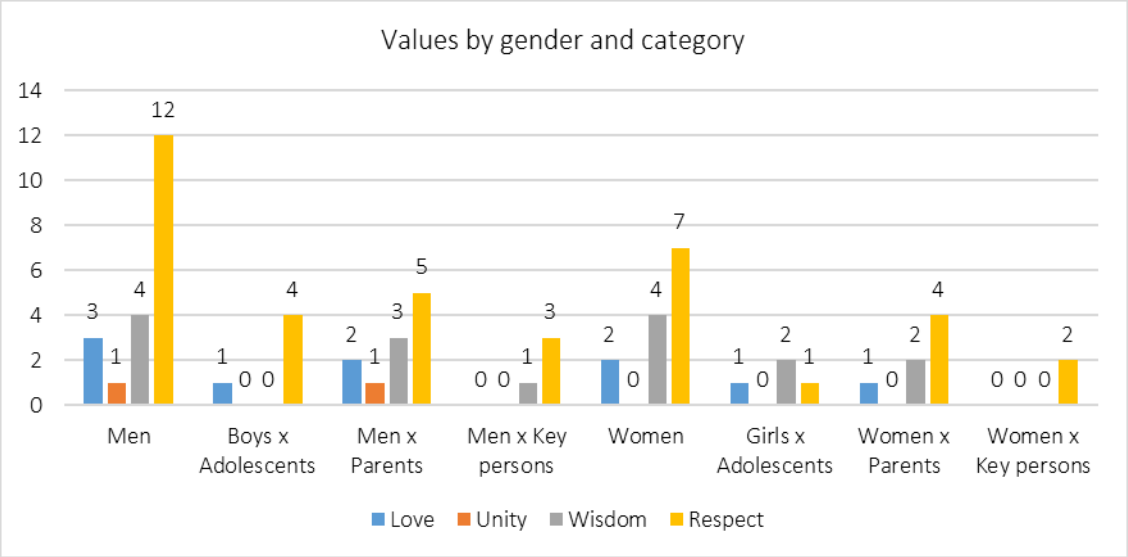
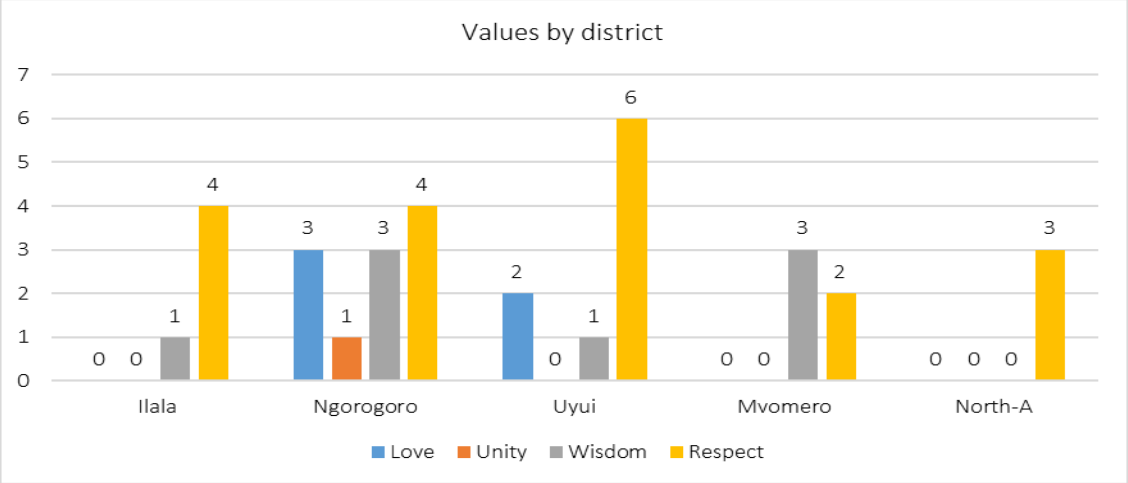


Figure 16: Frequency of Excerpts Including Values Codes by District



Participants from various categories concur on the importance of respect both for the young (T-A-24, T-K-04) and the elderly (T-A-38, T-K-04, T-K-11, T-K 31, T-P-01, T-P-05, T-P-10). In the view of one parent, young people should ask if what they are "doing is acceptable in the community" (T-P-15):

> In order for a child to solve his own problems, there must be cooperation with his parents, give him professionalism from a young age, teach him respect. If you find someone who gives this type of respect, you already find that from a young age. The

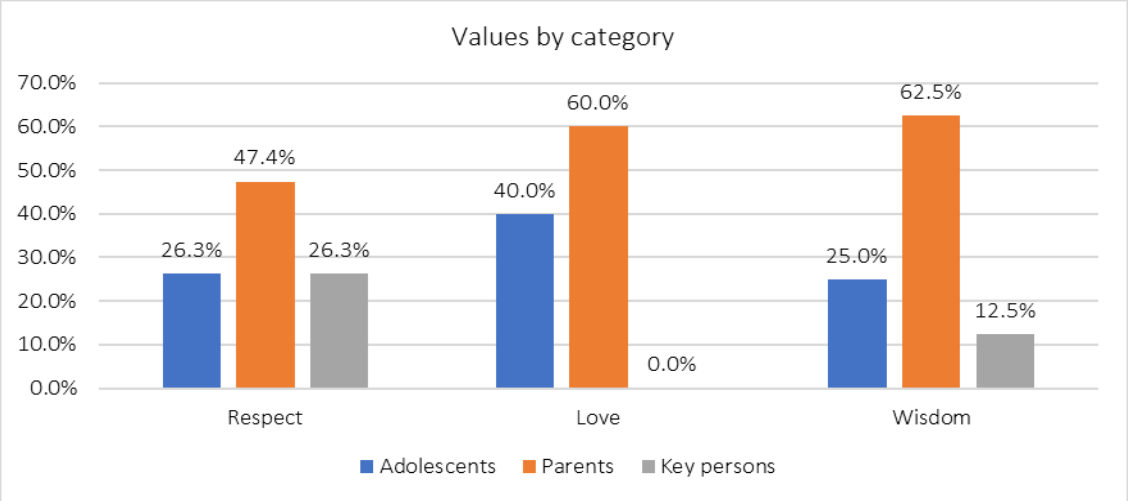
child . . . grows faster to solve problems because he has things he has gone through. (T-P-37)

A problem solver is a wise person (T-A-27, T-K-15, T-P-05, T-P-07, T-P-07, T-P-10) who cares for the community and loves its members (T-P-10, T-A-16, T-P-07, T-P-13), hence creating unity in the community (T-A-38). According to a parent, the essence of problem solving is "to unite people, to help one another, and to love one another" (T-P-10).

Participants were also asked to mention the behaviours that characterise young people with problem solving skills. According to the participants, showing respect (T-A-03, T-A-24, T-A-32) and obedience (T-P-30, T-A-24, T-K-43, T-P-16, T-A-40, T-P-13), being exemplary (T-A-09, T-P-05, T-K-42), attentiveness to dress code or appearance (T-A-05, T-P-27, T-P-30), and humility (T-P-28) are important behaviours. Good problem solvers are also understanding (T-P-03), open to others, and willing to do voluntary work (T-K-04).

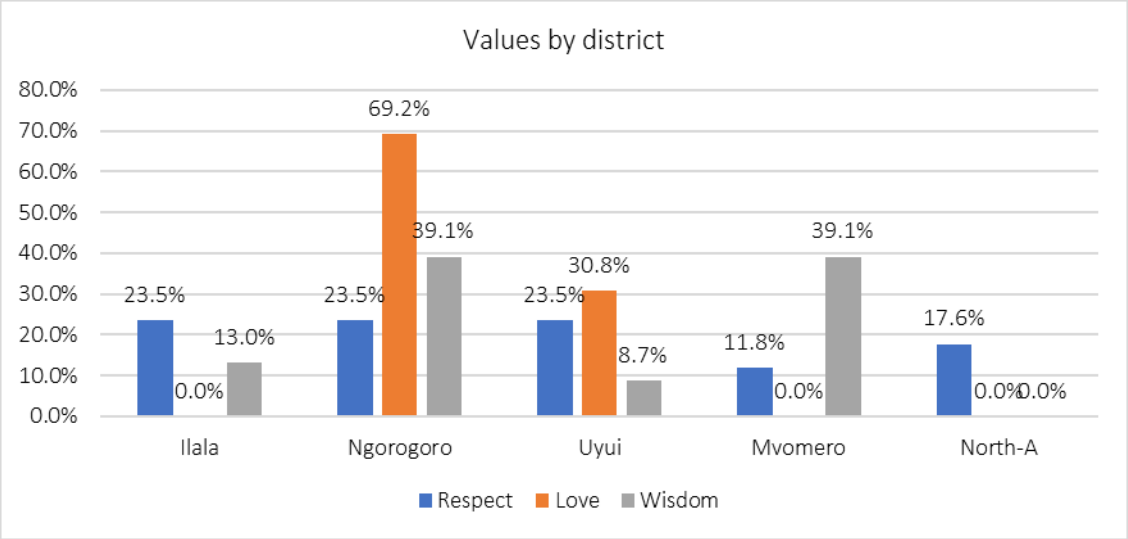
Values are predominantly mentioned by the parents who value love, respect, and wisdom as important values that the problem solver should display.

Figure 17: Percentage of Excerpts That Include Values Codes by Category



The disaggregation by gender does not show any noticeable differences in wisdom, love, and unity. Men and boys highlighted the importance of respect more than girls and women participants (see appendix). Interestingly, the disaggregation of values according to the districts show quite a uniformity of distribution across the districts for respect, while wisdom is mostly mentioned by the participants from Mvomero and Ngorogoro.

Figure 18: Percentage of Excerpts That Include Values Codes by District



As mentioned in this section, belonging to a community that is fully involved in the process of resolving the challenges requires discipline and respect for elders as a sign of respect for the community. The heads of the family, community leaders, and educators offer wisdom as an important virtue that a young problem solver should aspire to acquire.

3.2.5 Related Skills

Table 7: Codes That Emerged as Skills Related to Problem Solving

Category: Related Skill Codes	**Participants (Sources)**	**%**	**Excerpts**	**%**
Creativity	2	3.64	4	33.33
Critical thinking	6	10.91	6	50.00
Decision making	4	7.27	4	33.33
TOTAL	**55**		**12**	

Critical thinking, decision making, and creativity are important skills that support and facilitate the process of solving problems. These skills were mentioned by mostly men key persons.

Figure 19: Frequency of Excerpts Including the Codes of Related Skills Codes by Gender and Category

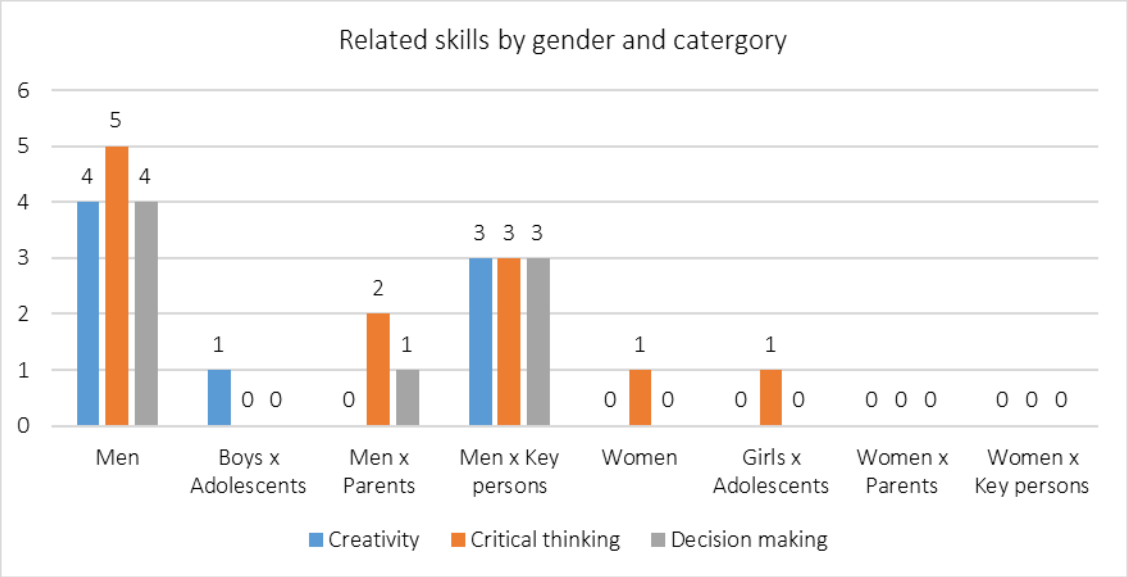
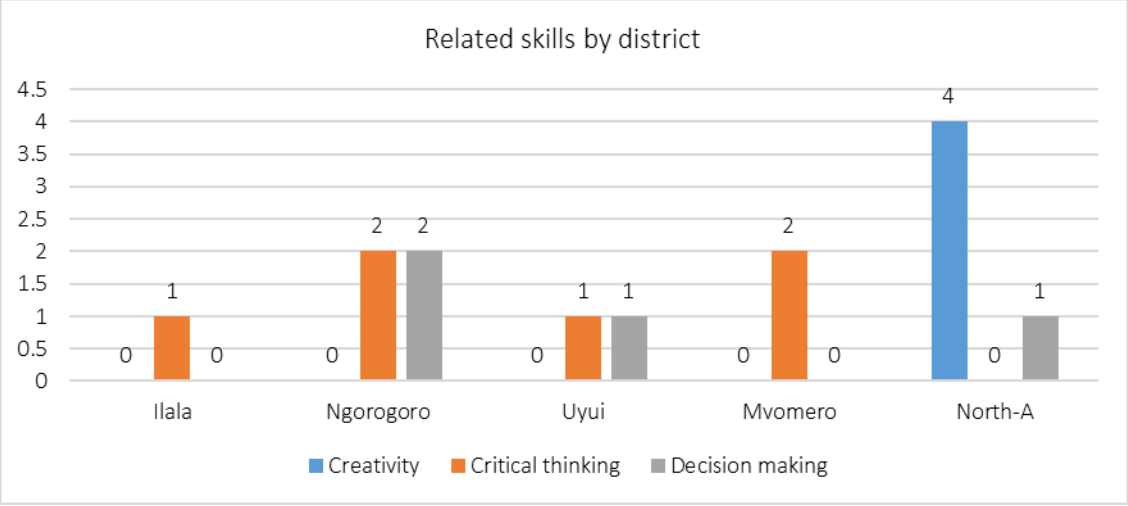


Figure 20: Frequency of Excerpts Including Related Skills Codes by District



It is mostly the key persons who referred to these skills, with almost no student mentioning any of them. Critical thinking is described as the ability to reason or to think (T-K-04, T-A-27, T-K-07, T-K-31, T-P-10): “I see it as having a great ability to think before solving a problem” (T-K-31).

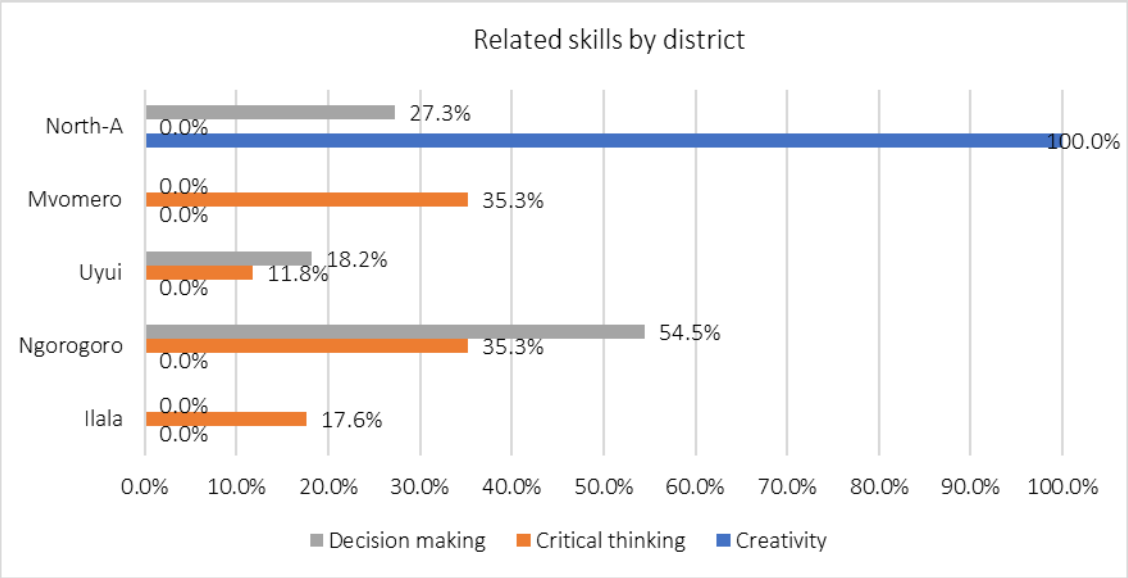
Decision making (T-K-07, T-K-14, T-K-42, T-P-10) is involved in the process of finding a solution and choosing the best approach to face the challenge: “After understanding the problem, we look how we can solve it together, we then hence make decisions that we are

supposed to do this or that!" (T-K-42). "Those who have no ability to solve problems cannot [make decisions]" (T-K-14).

Similarly, creativity (T-A-42, T-K-38) is particularly helpful to young problem solvers: "Young people have many types of talents . . . [with] a little creativity talent you can design things and you can get to do your things" (T-A-42).

The number of excerpts that highlighted related skills as being important elements of the problem-solving process is very low. The disaggregation of the data by gender or category does not offer meaningful insights. What we do see when looking at the distribution of the data in the various districts is that only the participants from North A mentioned creativity as a skill related to problem solving, while the participants from Mvomero and Ilala only mentioned critical-thinking skills.

Figure 21: Percentage of Excerpts That Include Related Skills Codes by District



3.2.6 Support Systems and Enabling Factors

Table 8: Codes That Emerged as Support Systems of Problem Solving

Category: Support Systems Codes	**Participants (sources)**	**%**	**Excerpts**	**%**
Community or Developmental partners	17	30.91	20	26.67
Family	34	61.82	41	54.67
Friends or Peers	11	20.00	11	14.67
Place of worship	3	5.45	3	4.00
School or Training	37	67.27	46	61.33
TOTAL	**55**		**75**	

Support systems are key to the development of problem-solving skills in young people. The majority of the participants recognize the key role played by formal education (61.3% of the excerpts) and the role played by the family (54.7%). Community members, development partners (26.7%), and religious leaders (4.0%) are also recognized as being great contributors to the enhancement of problem-solving skills in young people.

It is mostly adults (both men and women) who highlight the importance of the family and school for strengthening the problem-solving skills in adolescents. Women mentioned the family more often as being key to the development of the skill, while men tend to consider the school more relevant.

Figure 22: Frequency of Excerpts Including Support Systems Codes by Gender and Category

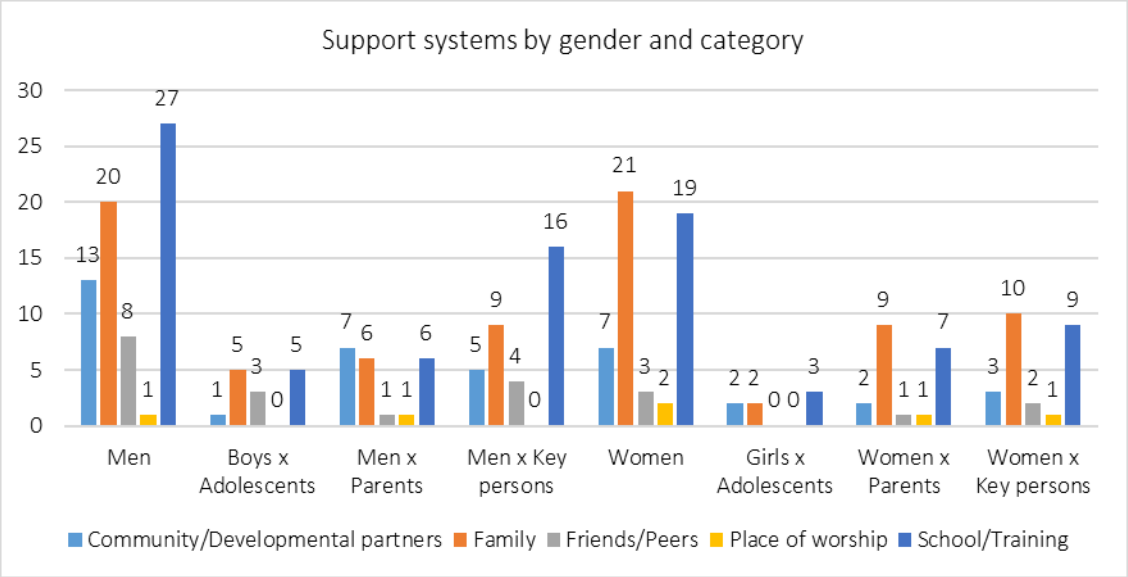
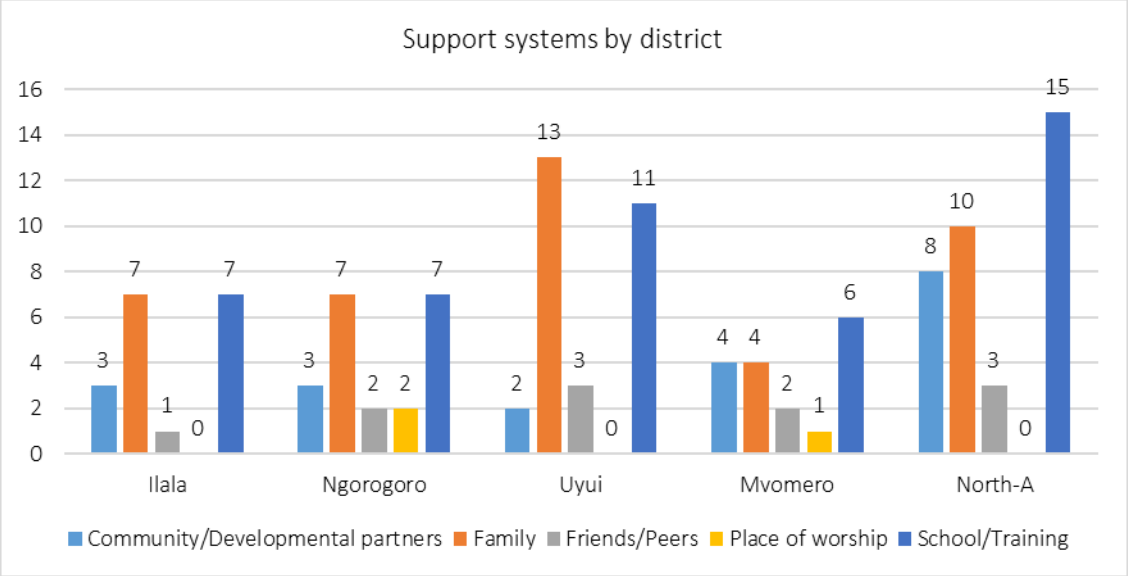


Figure 23: Frequency of Excerpts Including Support Systems Codes by District



While the majority of the participants clearly affirm the importance of schools in developing these skills, the way the system and teachers could contribute to this is less clear or is not made explicit. Key informant and parent participants mentioned life-skills programs and extracurricular activities, or guidance and counselling as means to enhance these skills.

> School trains children by giving them advice and counselling and teenagers learn from each other when they associate with their fellows in a street. They learn a lot such as cooperating with their fellows so that their problems can be solved. (T-K-07)

> In school we sometimes speak to children but not frequently. It can be once a month. We talk to children, and we do not talk in public, we talk to them to know their problems because we believe that they have problems. So if you see this student has a problem, you can talk to him/her or you can tell the classroom-teacher to look at it. (T-K-13)

Only one teacher spoke of debate and group work as teaching strategies that could be implemented at the classroom level to enhance critical-thinking skills.

> I started something called "debate" because at first the students could not even look someone in the face, they are dangerously shy . . . which involved both men and women. But I also started something called "group discussion" to solve the problems that students, once they get rid of shyness. (TK38)

Interestingly, even students recognized group work as a useful method for learning to solve problems: "At school, group discussion plays a good role in solving problems because you cooperate with others and exchange views. This helps in solving problems" (T-A-29).

The school system is supposed to work hand-in-hand with the family: "Most of the time youth are in school . . . Therefore, it requires cooperation between the teacher and the parent to raise children in a proper way" (T-K-15).

According to the participants, "family is the first thing that helps a child by building his/her ability in solving his/her own problem. Family cooperation helps children to learn" (T-K-07). As another participant says, "[Children need] to be taught first at home because it will help them in their life" (T-K-14). Parents should invite their children to participate in simple activities that can help them become more independent and responsible in decision making and problem solving: "Responsibilities should not be handled only by the father and the mother" (T-K-16).

What emerged from the focus group discussions is that parents often experience problems in communicating with their children, and this creates distance between the parent and the child that sometimes seems not only challenging, but insurmountable (T-P-FGD-09, T-P-FGD-06). Some parents also blame themselves for this problem: "Among other factors are that parents also should take care of their children. Nowadays, parents tend to neglect this role. Children take care of themselves" (T-P-FDG-01). Another parent found "it difficult to talk to a child about a problem" (T-P-FGD-06).

The challenges parents face in maintaining communication and relating with their own children affects adolescents' abilities to deal with problems independently. It also seems that this affects girls more than boys:

> Most of girls' problems are caused by us, because most of us are poor, we can't fulfil all their needs, taking an example: I have five kids, when they go to school in the morning, they will be needing money to buy something at school; then you find that I don't have . . . the next day she just goes to sell firewood so that she can get money, that's what most girls face. (T-P-FGD-09)

> For what I can comment is that, for the girls from . . . they have no ability of solving their problems. A male can solve the problems, but female has no ability of solving the problems. Otherwise as a father you will help to solve, but for female has no ability of solving their problems even one day. They cannot have independence in everything including buying clothes, most of everything they depend to the father and mother, those are the adviser for her, the people for solving her problems, otherwise has no ability of solving her own problems. (T-P-FGD-09)

One parent suggests the following solution:

> For parents who are there we would try to restore the old procedures. Sons were staying with their fathers to direct the affairs of life and girls having their mother in the kitchen there are directive things, but now I don't think this procedure exists. For example, I am a father not to sit with my bint and instruct him and how to solve problems. (T-P-FGD-07)

Peers and peer groups can help shape young people into problem solvers (T-A-23, T-A-29, T-K-06, T-K-07, T-K-13, T-K-39, T-P-18, T-P-42).

> When young people are on their own, for example, we say that one of the main reasons that lead young people to use drugs are the groups they are joining. So for this young man he has to be careful as he should be careful with the groups he chooses to stay with them and cooperating with them in the various things that these groups must be positive for him to be able to avoid other evil things in his society. (T-A-FGD-07)

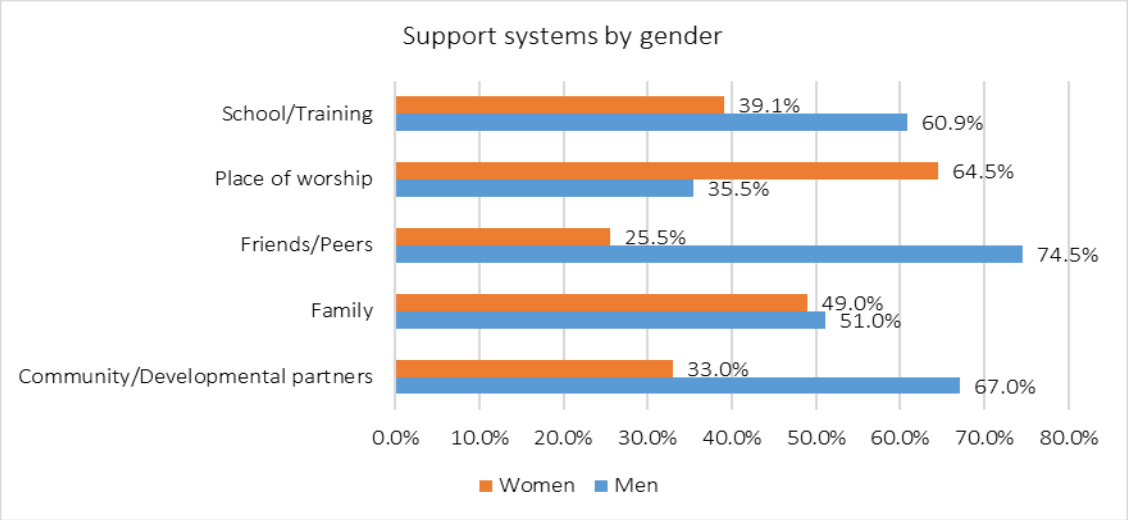
Moreover, places of worship (T-P-07, T-K-11) and the community have the "responsibility to involve the youth in solving the problems that surround the community" (T-K-31); this can help nurture problem-solving skills in young people. At the same time, the government is responsible for developing special programs for helping dropouts to deal with their own challenges and "form groups that will help them produce wealth" (T-K-04).

A key person shared about a local initiative that could help in this regard:

> Within the community radio, we started different things that encourage reading but will also be educational in [humility] in the community, but also these parents would have a good system to be able to come here and give them at least two or three things on life and on all aspects of education. That would be a good thing that would help, but similarly even those institutions for example the NN Foundation would be maybe as they personally empower this. (T-K-38)

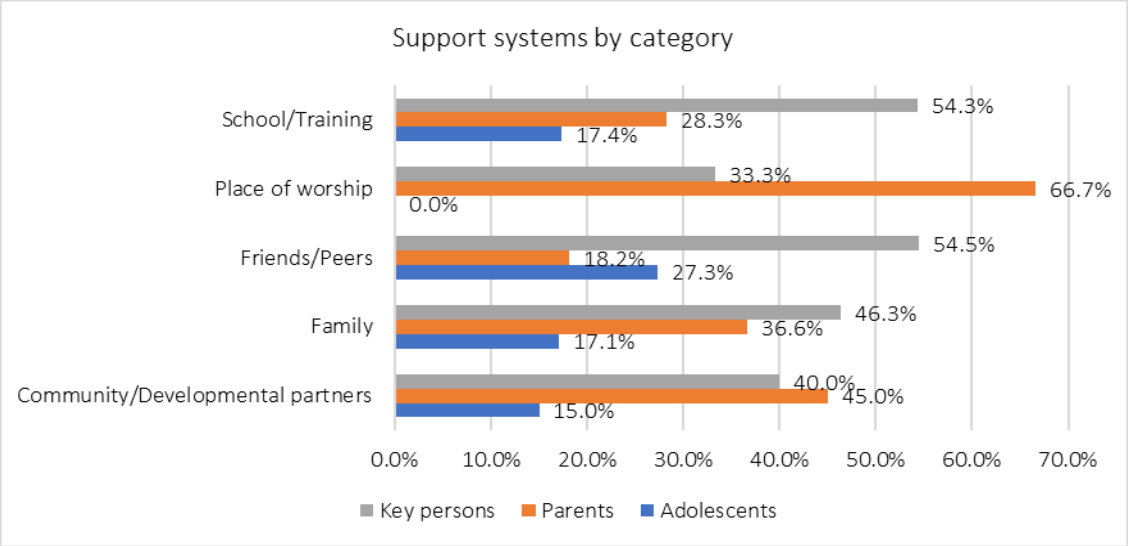
In terms of disaggregation by gender, while the family is equally mentioned by men and women, the education system and the role of community and development partners are mentioned more frequently by men.

Figure 24: Percentage of Excerpts That Include Support Systems Codes by Gender



It is also important to note that, looking at the distribution of excerpts according to the category of the participants, adolescents appear to contribute less than parents and key persons in terms of identifying the elements of the system that can enhance this skill. Notably, a great majority of the participants who mentioned the education system are key persons, and only a few of the participants who elaborated on the possible contribution of the school system to nurturing these skills are adolescents.

Figure 25: Percentage of Excerpts That Include Support Systems Codes by Category



In summary, the participants highlight the key role of education in supporting young people as they learn problem-solving skills. The journey of education needs to be spearheaded by various stakeholders, and the contribution of family and teachers is paramount. Friends and community are also important sources of support for young people in terms of enhancing these skills.

3.2.7 Assessment Methods

Table 9: Codes That Emerged on Assessment Strategies for Problem Solving

Category: Methods of Assessment Codes	**Participants (sources)**	**%**	**Excerpts**	**%**
Observation	25	45.45	28	70.00
Task performance	12	21.82	13	32.50
TOTAL	**55**		**40**	

Most of the participants (25) maintain that through observation (70.0% of the excerpts), it is possible to recognize young people who possess problem-solving skills. Some (32.5%) suggest that it is possible to assess their skill level by asking them to accomplish a task.

Figure 26: Frequency of Excerpts Including Assessment Methods Codes by Gender and Category

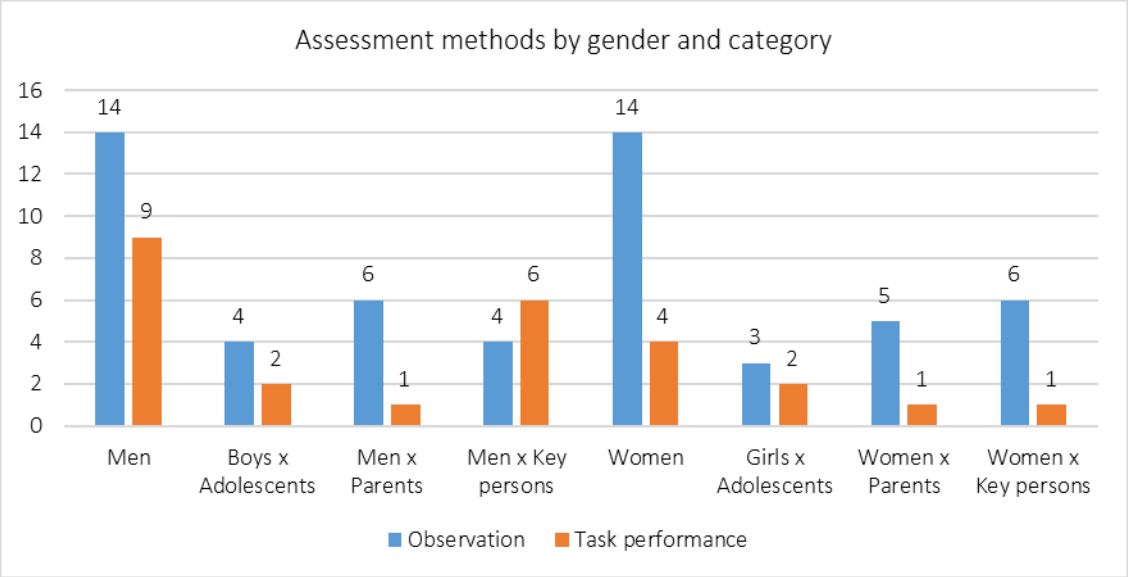
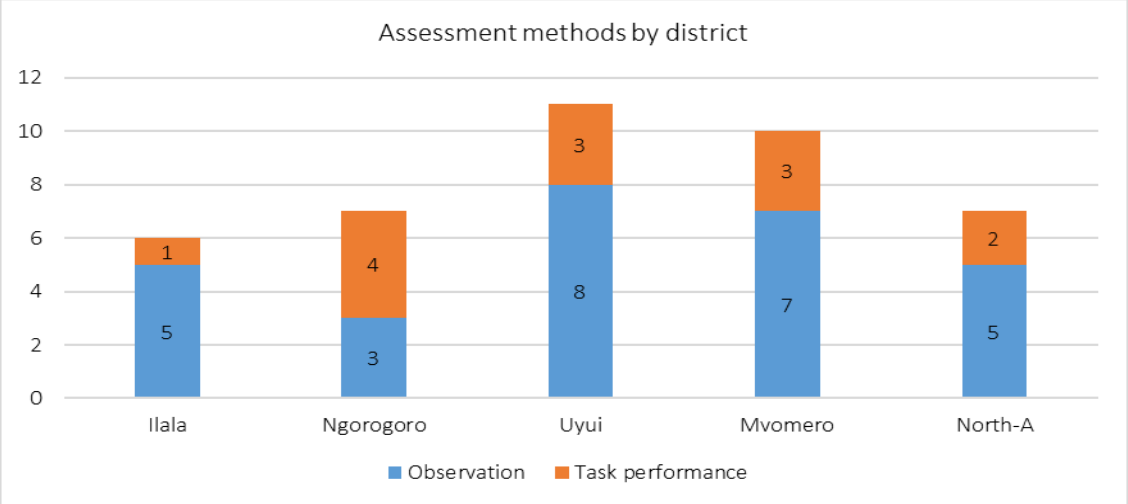


Figure 27: Frequency of Excerpts Including Assessment Methods Codes by District



A few participants suggest that to assess problem-solving skills, young people should be exposed to difficult or challenging situations so that evaluators observe their behaviour and reactions or the way they move through the various stages of the problem-solving process: “Look at how capable the child is, what God has given him, that he is dealing with a minor problem and can deal with it, then I know he has a chance to solve the problem” (T-P-37). One participant suggests putting a person in a challenging situation: “Putting someone in an unfriendly environment for a while with the aim of knowing how to deal with the problem” (T-K-28). Another suggests “[Stealing] his motorcycle key and see his reaction” (T-K-09).

Most frequently, participants suggested observing the young person's behaviours. To them, if someone is a problem solver, they exude attentiveness, respect, obedience, and good behaviour: "When you see the way of his life you must know that he can solve problems because he greets and show respect to the people when he meets with them" (T-P-15); "Other kids will wait for you to greet them first, but others they will see you and greet you happily, the happiness shows you that they have the ability to solve problem" (T-P-27).

> First a person who understands, you know he can solve problems . . . You can [notice] first his silence, his attentiveness, everything he just says you will say this guy will build some concept in his head . . . You will say: "This guy is a little better, [while] this one doesn't know." (T-A-42)

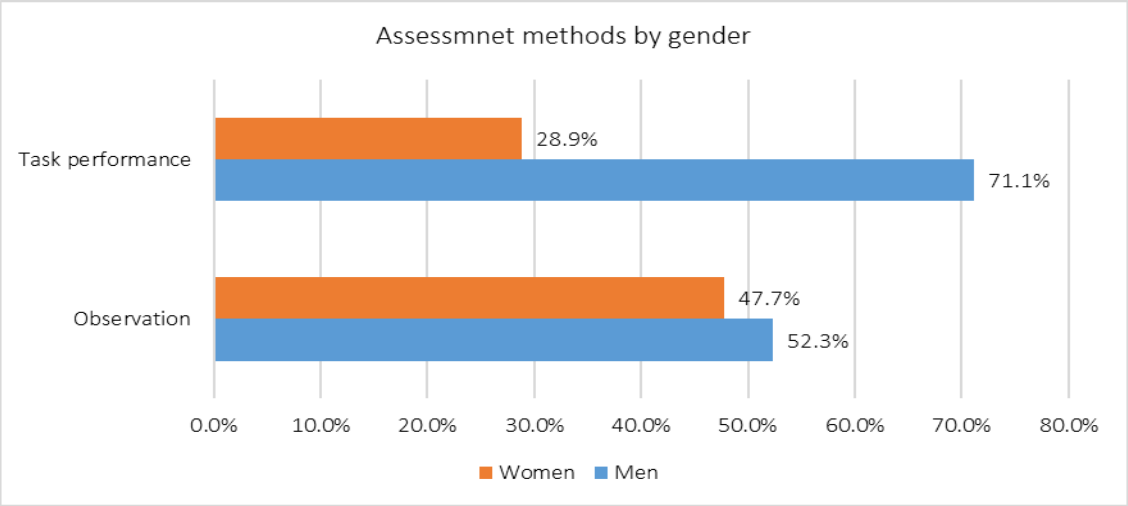
Assigning a specific task and assessing the process and result is also mentioned as being an effective strategy: "Give him the task of solving a problem and seeing how to solve it" (T-K-06). "We can measure by giving him responsibilities and tracking his performance, looking at his readiness to ask and learn. Another way is to give him a little challenge and assess his ability to solve it" (T-K-31).

A teacher participant suggested a strategy for assessment at the classroom level:

> I can go into the class and create a problem, a case that has no evidence then I can give the students to see what they can do. By doing so I can know who has the ability of solving a problem. (T-K-39)

When the data are disaggregated by gender (Figure 28), both men and women identified observation as one of the best ways to assess problem-solving skills. Task performance was mostly cited by men.

Figure 28: Percentage of Excerpts That Include Assessment Strategies Codes by Gender



In summary, the participants suggest methods for assessing problem-solving skills that require a young person to demonstrate their ability to cope with problems and find viable and appropriate solutions. To this end, assessment tools should incorporate observation or task performance strategies.

4 CONCLUSIONS

The Tanzanian competency-based curriculum (CBC) emphasizes problem solving as one of the foundational competencies that every student should acquire to navigate through life. The interviews aimed to investigate how Tanzanians understand and conceptualise problem solving. Indeed, the participants present problem solving as key to active participation in the community and contribution to family life.

The review of the literature on problem solving skills conceptualises this skillset as a process that involves very specific steps in the process of dealing with challenges. This might include identifying and exploring the problem for greater understanding; defining and correctly representing the problem; exploring the viable alternatives and planning for a solution; eventually implementing the solution; and monitoring the effects of what was implemented (Care et al., 2020; Bransford & Stein, 1993; Gick, 1986). Some of these steps were not highlighted by the participants of this study. Tanzanians did not elaborate much on the aspect of identifying and choosing the best solution to the problem, nor did they mention the need to monitor the impact of the chosen solution to the problem.

On the other hand, the communitarian vision of the self emerges clearly from the analysis of the Tanzanian sources. While the literature reviewed does not report aspects like asking for advice when faced with a challenge or helping the community members solve their problems, the Tanzanian conceptualisation of this skill focuses heavily on these aspects. This peculiar aspect could be interpreted as a way of delegating one's responsibilities to others, but this would be a misrepresentation of what is actually a key cultural aspect of Tanzanian society. In this context, their self-identity is more communitarian than individualistic.

Moreover, the interviews suggest a style of living that is extremely intertwined with the primary community of belonging, be it the school for youth, or the family or clan for adult participants. This aspect is quite recurrent in the data analysed, and it constitutes one of the most peculiar aspects of the analysis on the contextualised meaning of problem-solving skills in Tanzania. From this perspective, it is interesting to see how problem solving is viewed as a skill that aims at resolving interpersonal conflicts and building cohesion in the community.

The strong sense community belonging, which is typical of most African cultures, permeates the local conceptualisation of problem solving. Specifically, in defining this skill participants suggest that good problem solvers readily ask for advice and are receptive to the suggestions of the most experienced community members. At the same time, a good problem solver shows proficient guidance skills, as well as great relationship and communication skills. It is evident that most of the quotes related to the skills that enhance the ability of young people to solve problems are related to the social aspects of life.

Most of the literature reviewed extensively discusses the necessary skills for navigating the process of problem solving, but it is uncommon to find articles that clarify the factors that influence the success of a problem-solving process. The cognitive factors mostly include thinking and reasoning skills as well as the ability to make predictions. The affective factors are related to self-confidence and willingness to approach the problem and patience or perseverance (Sagir, 2011). Tanzanian participants considered these elements crucial, although they placed great emphasis on elements of adaptation to communal life and socialisation skills. Some researchers also highlight these attributes (Altun, 2003; Sagir, 2011): a problem solver is "compassionate, generous, persevering, benevolent, altruistic, and sympathetic, thus demonstrating (the value of altruism). The problem solver shows attitudes like being kind, empathic, respectful, honest, trusting, and keeping promises (the value of human dignity)" (Altun, 2003, p. 580). Similarly, the findings of this study show that the problem solver should take responsibility for their actions and respect community values and traditions.

The family and community play a key role in enhancing such skills in young people. Even the school offers an environment that is conducive to this purpose. It is evident that pedagogical strategies alone are barely mentioned as nurturing problem-solving skills in young people.

Finally, great emphasis is placed on the process of observing youth in a situation where there is a problem as a means to assess their level of problem-solving skills.

4.1 Limitations of the Research

The findings presented in this report should be read in light of the limitations presented throughout the processes of planning, data collection, and data analysis.

Regarding the data collection process, the way the interviewers asked the questions had some influence on the participants' responses. Due to the large number of interviews, different styles were used to conduct them. For instance, some direct styles elicited particular responses due to the inclusion of leading explanations.

Researchers encountered two other difficulties in this process: the lack of familiarity with the participants and the challenge of interacting with the adolescents. Specific skills may have been necessary when interviewing adolescents.

The need to use the English language to ensure a common understanding of the sources and to share the findings with the scientific community and other stakeholders posed a challenge to the participants in terms of their understanding of the questions—especially for adolescents and parents. Most of them responded to the questions in their local languages, with the added complexity of translations. The challenge of using the English language as a medium of communication and the need for translation into the local languages meant that during the interviews some nuances and cultural connotations of the words used may have been lost in the process. The findings of this report were reviewed by the researchers in Tanzania for cultural sensitivity.

Regarding the process of data analysis, the complexity of the study (including different skills in different countries) affected the treatment of the documents and the codebook. It was impossible to foresee all the challenges that would arise during the coding and analysis. Qualitative analysis required a systematic and collaborative process among the researchers involved in reading, analysing, and coding the sources. Given the large number of interviews for such a qualitative study, a large number of researchers was involved in the process, increasing the challenges as well as the richness of the analysis. Nevertheless, different strategies were implemented to guarantee the reliability and accuracy of the findings. On the other hand, the team analysed the interviews in two rounds in order to achieve sufficient inter-rater reliability. Raters maintained constant communication through daily meetings to share challenges, doubts, and suggestions.

Finally, it would have been beneficial to conduct a second round of interviews with the participants to verify whether their understanding of problem solving was included in the findings of this report.

4.2 Recommendations for Future Research and Assessment

A unique understanding of problem-solving skills in the Tanzanian context has emerged from this study. This should open a new path of research in order to develop more contextualised studies on life skills based on different cultures and contexts.

New strategies and assessment methods should be informed by these new contextualised studies and concepts. Authentic knowledge about the nature of a skill as used in a particular culture could inspire new methods of assessment.

Certain unique aspects of this study seem to call into question the appropriateness and importance of conducting an inductive process. Therefore, more studies, including a qualitative participatory approach as a first step in developing assessment tools, are recommended. This finding supports the benefit of the mixed-method approach in assessment studies.

More iterative processes are also recommended for future studies to verify the preliminary findings.

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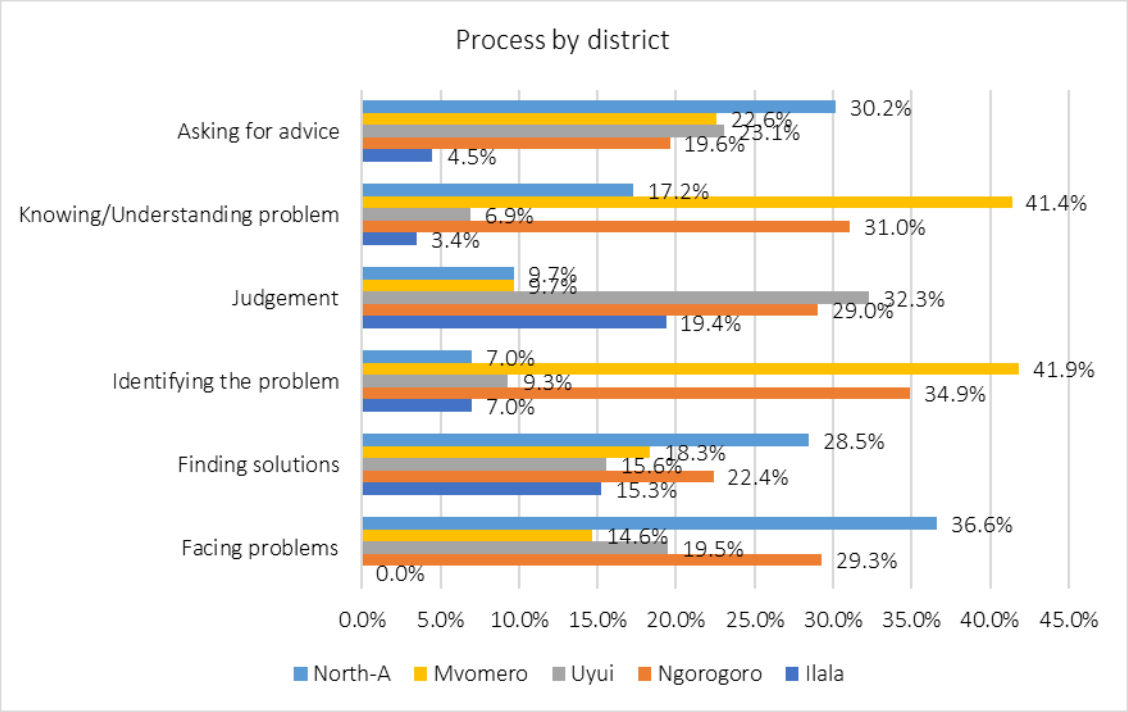
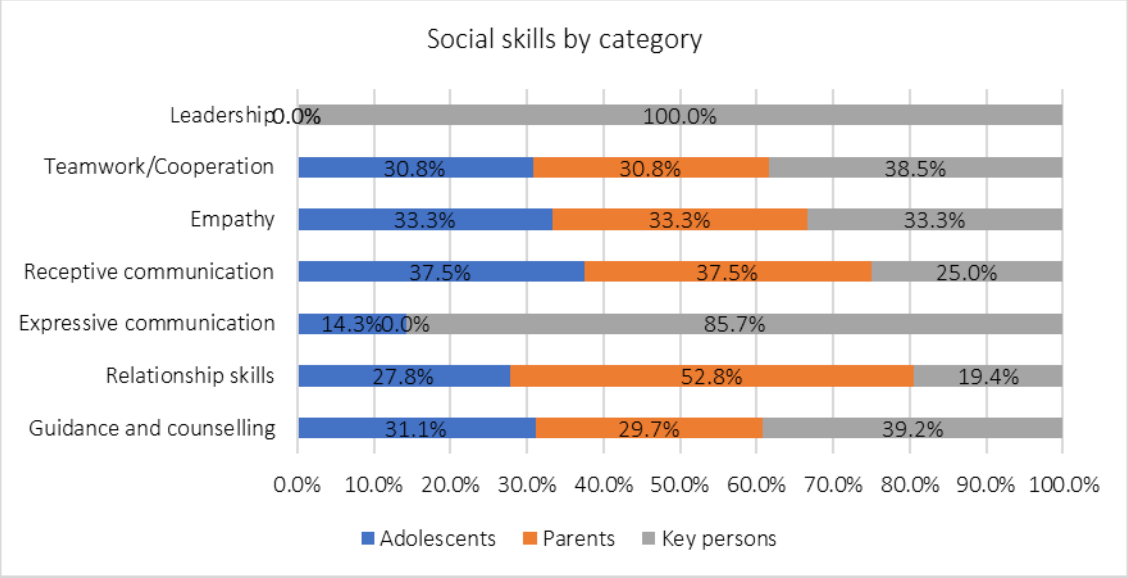
APPENDICES

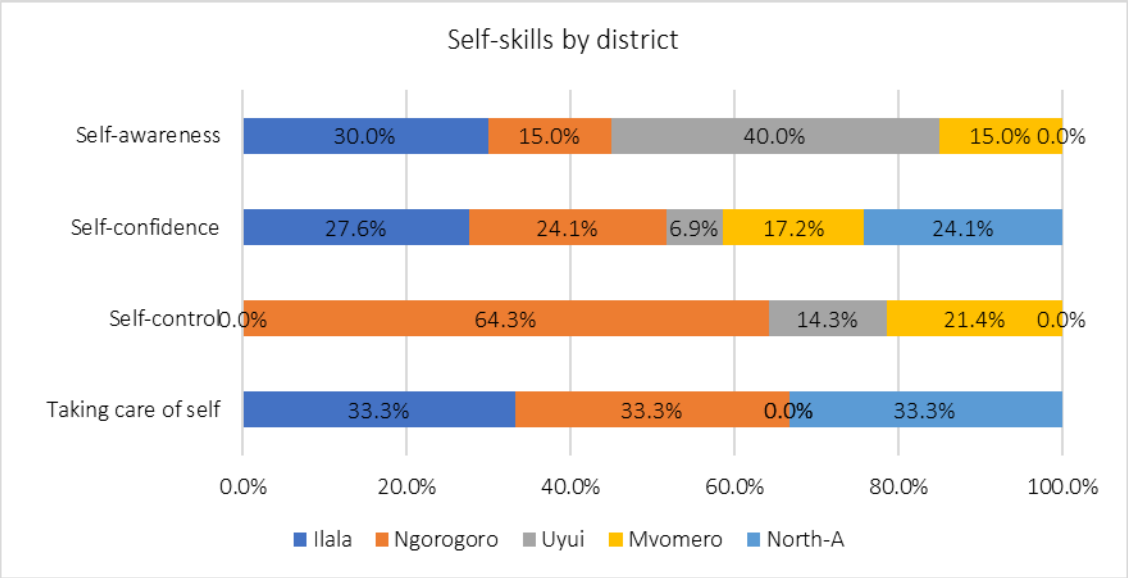
Appendix 1: Descriptive Analysis of the Process Codes by Descriptors



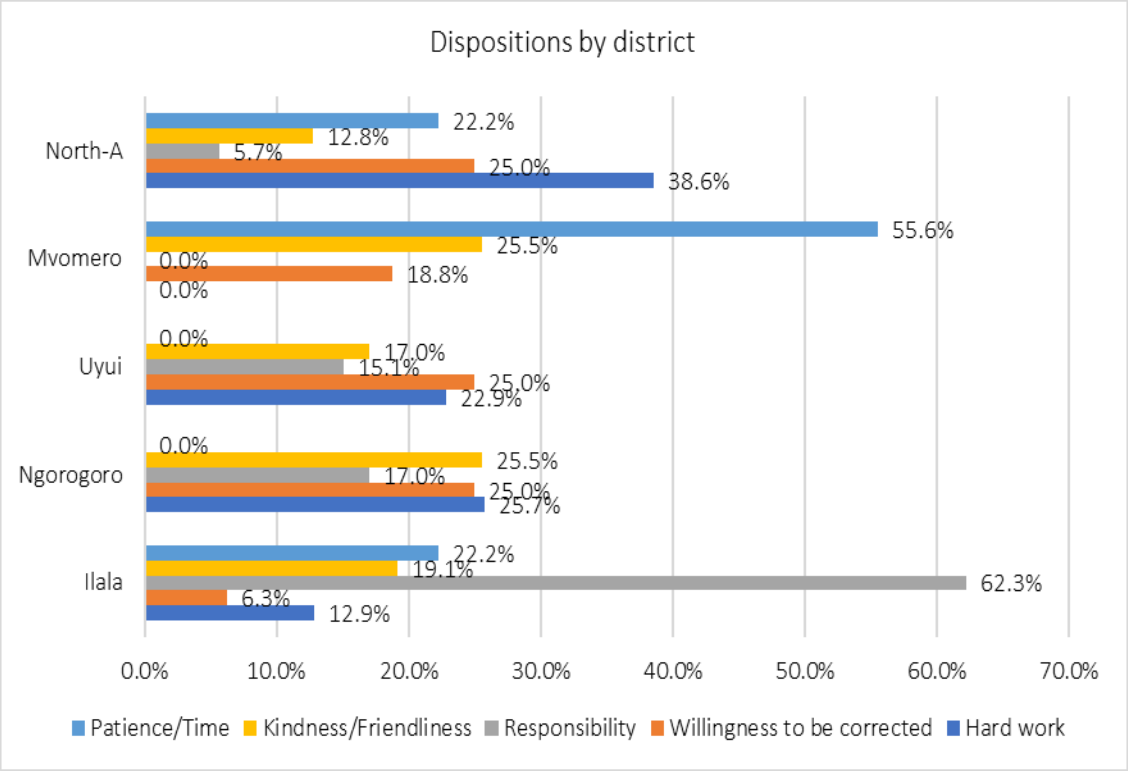
Appendix 2: Descriptive Analysis of the Social Skills Codes by Descriptors

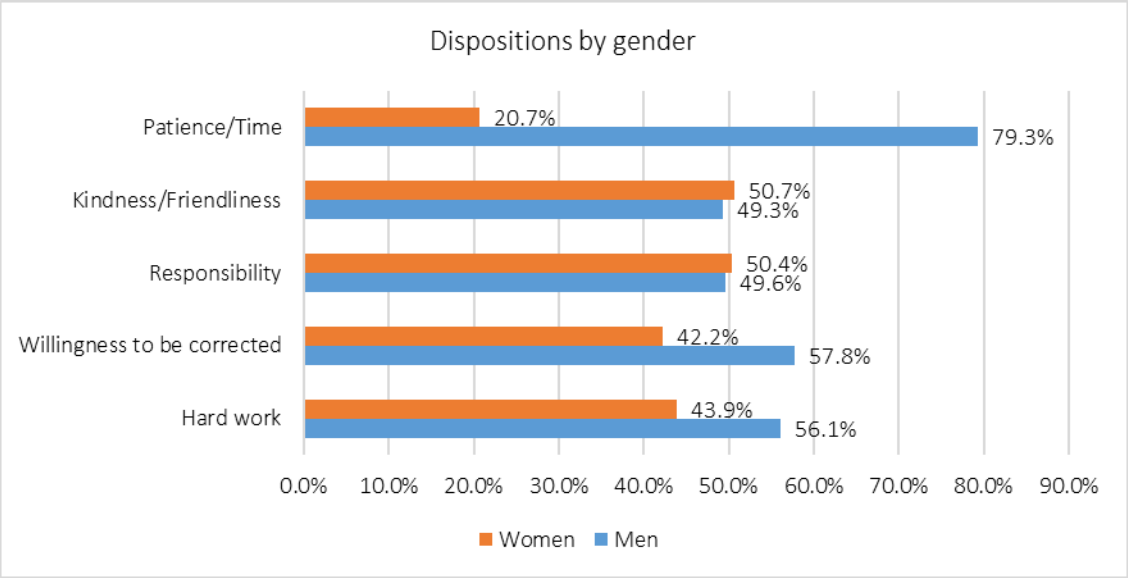


Appendix 3: Descriptive Analysis of the Self-Skills Codes by Descriptors

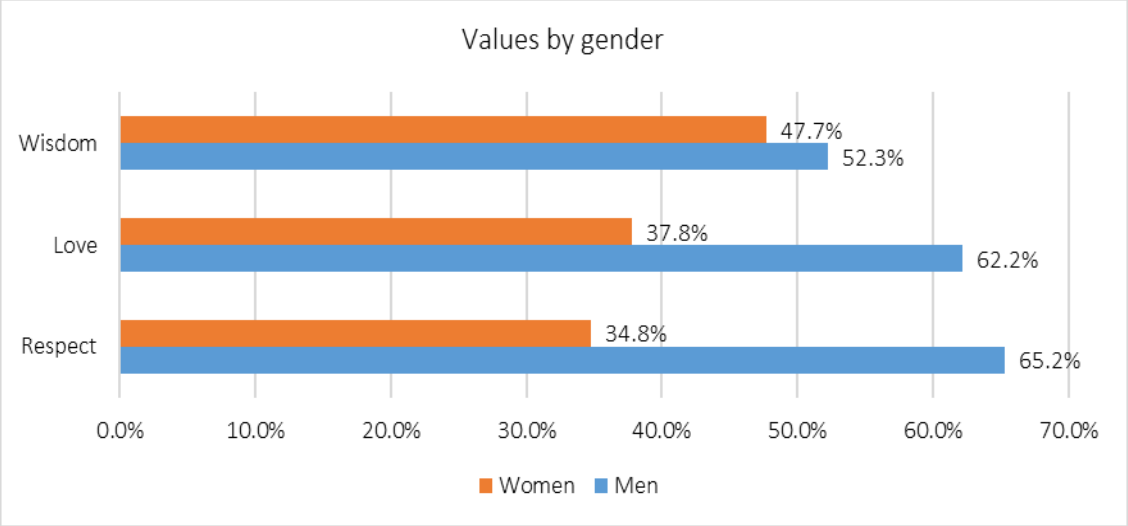


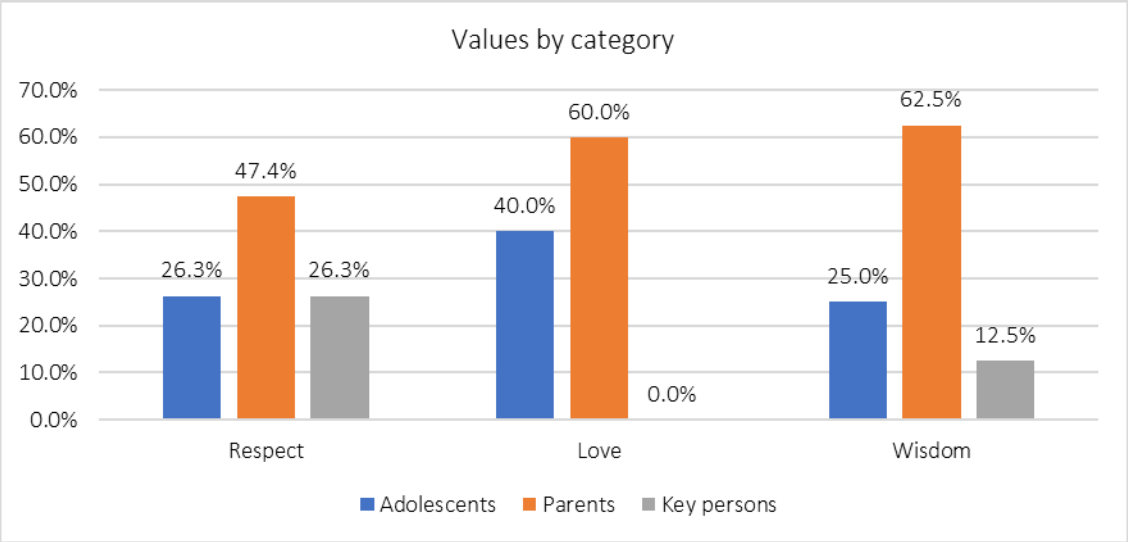
Appendix 4: Descriptive Analysis of the Dispositions Codes by Descriptors



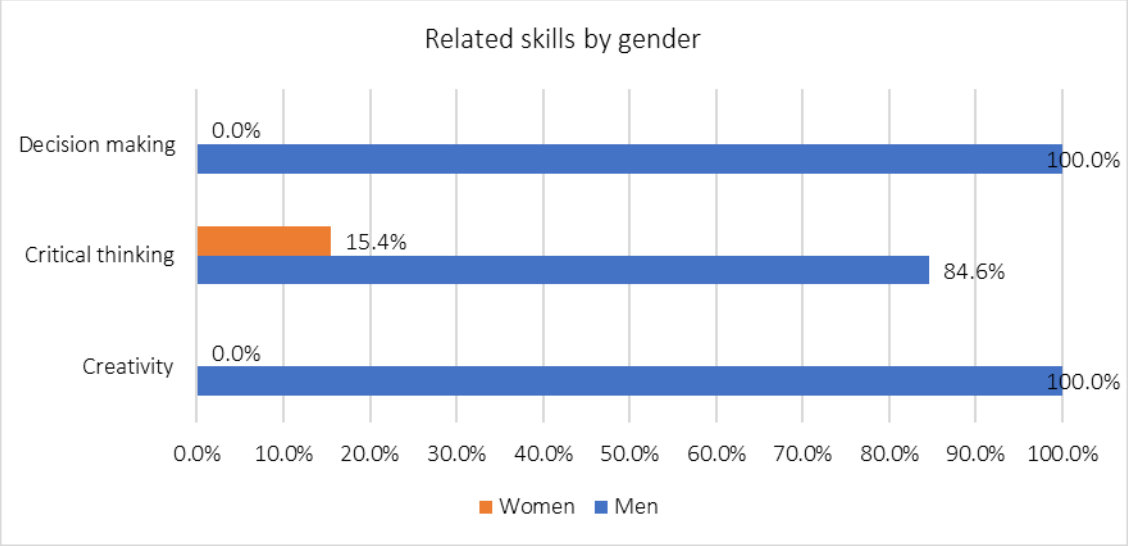


Appendix 5: Descriptive Analysis of the Values Codes by Descriptors

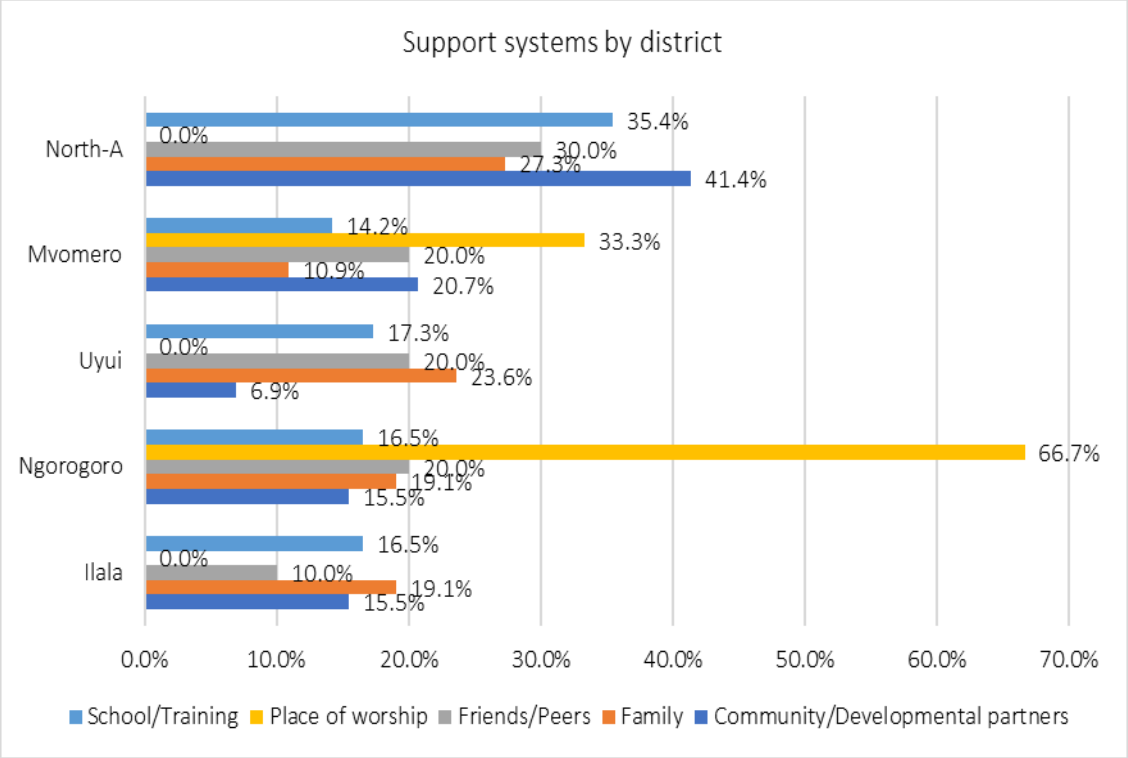




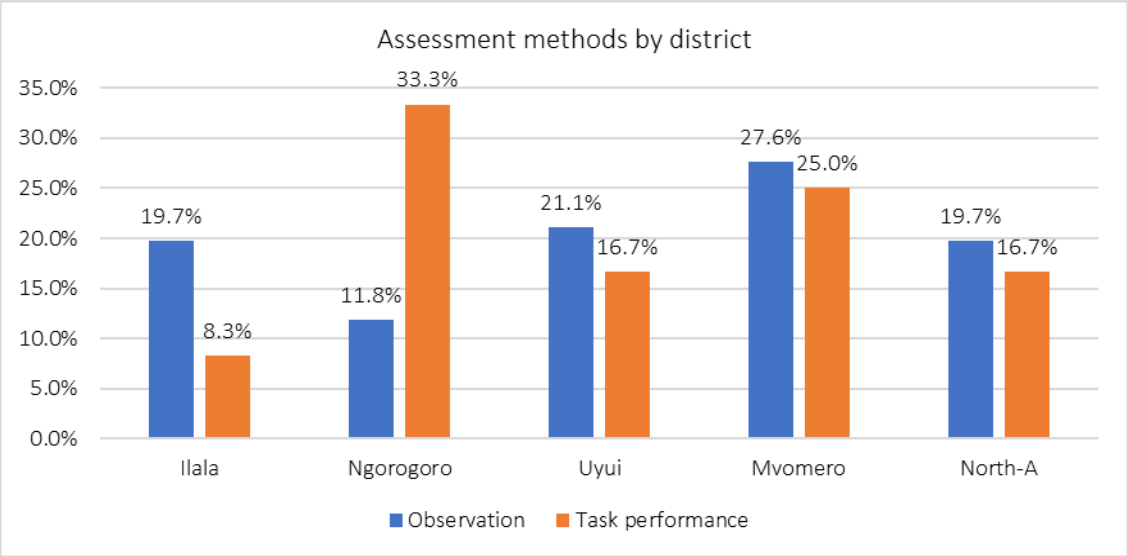
Appendix 6: Descriptive Analysis of the Related Skills Codes by Descriptors

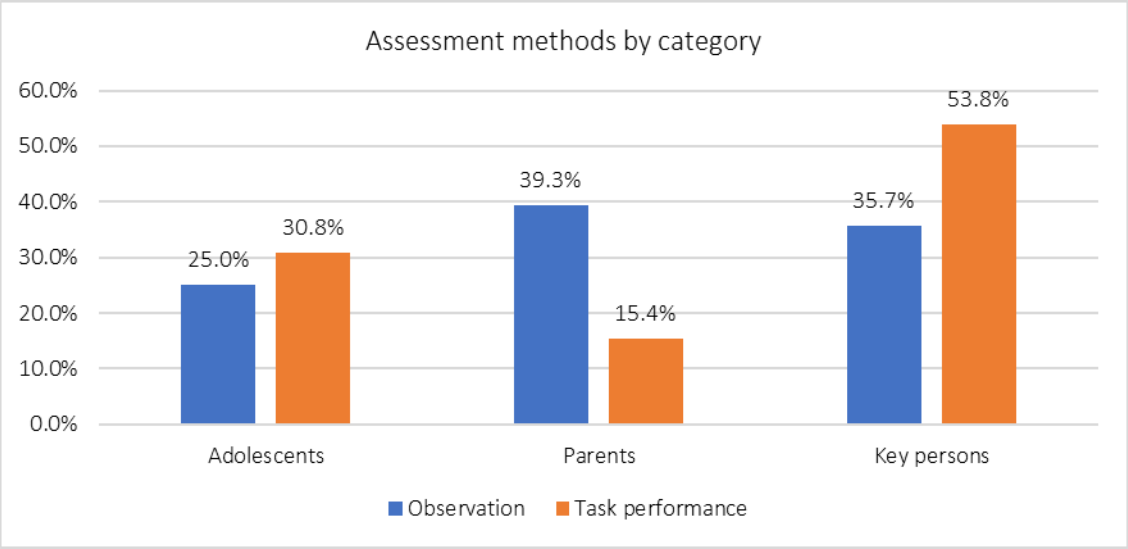


Appendix 7: Descriptive Analysis of the Support Systems Codes by Descriptors



Appendix 8: Descriptive Analysis of the Assessment Strategies Codes by Descriptors




Assessment methods by category
60.0%
50.0%
40.0%
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20.0%
10.0%
0.0%
25.0%
30.8%
39.3%
15.4%
35.7%
53.8%
Adolescents
Parents
Key persons
Observation
Task performance


Wellspring
Philanthropic Fund


echidna giving


imaginable
futures


LUIGI
GIUSSANI
INSTITUTE
OF HIGHER
EDUCATION


uwezo
UGANDA


Zizi Afrique
Foundation


GIRLS LIVELIHOOD
& MENTORSHIP INITIATIVE


Milele Zanzibar Foundation
Kuongeza Maendeleo. Accelerating Progress.