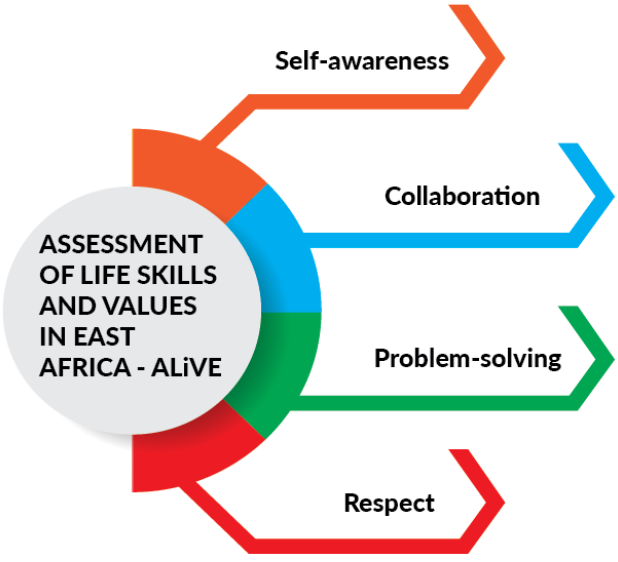
RELI
Regional Education Learning Initiative

UNDERSTANDING PROBLEM SOLVING IN THE KENYAN CONTEXT: AN ETHNOGRAPHIC STUDY

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



PROBLEM-SOLVING - KENYA

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 Kenya, Tanzania, and Uganda. 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 to assess 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 aimed to achieve a contextualised understanding of *problem* solving in Kenya to determine the skill structure and derive the best tool as well as a toolbox 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 Kenya 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, as well as other factors, help the adolescents to 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 the way of life and understanding of a certain social group, 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 Kenya. 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 the most appropriate design for conducting the present study.

2.2 Study Sites

The study was conducted in 5 sub-counties in Kenya, which were sampled on the basis of their status as rural or urban, their economic activity (pastoralist, core-urban, agricultural), and their distance from Nairobi. Two villages in each sub-county were randomly sampled. Table 1 summarizes the five locations.

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, and others).

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

CRITERIA	REGION AND SUB-COUNTY
Core urban characteristics, low-income areas within the capital city	Region: Nairobi Sub-county: Kibra
Core rural characteristics, agricultural-rich, within 100 km from the capital city	Region: Central Sub-county: Mwea East
Core rural, agricultural-rich, and within 300–400 km from the capital city	Region: Western/Nyanza Sub-county: Rongo
Core rural, pastoralist areas	Region: Rift Valley Sub-county: Narok South
With different characteristics from all mentioned above	Region: Coast Sub-county: Tana Delta

Given that the study was conducted during the COVID-19 pandemic, researchers specifically selected sub-counties 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 was comprised 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, youth patrons or matrons in religious communities, and others). Research assistants selected interview participants using systematic sampling based on a list of target participants per category in each village.

In each village sampled, researchers targeted at least 4 interviews with 2 adolescents of each gender (combining those in primary, secondary, vocational training centre, and those 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 sub-county 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 116 participants in the interviews. The foregoing information is summarized in Table 2 below.

Table 2: Number of Participants Interviewed per Category and Site

Sub-county	Adolescents		Key persons		Parents		Total		
	Boys	Girls	Men	Women	Men	Women	Men	Women	Overall
Rongo	04	04	05	03	04	04	13	11	24
Mwea East	04	04	03	05	04	04	11	13	24
Kibra	04	05	04	04	03	05	11	14	25
Narok South	04	04	05	03	04	04	13	11	24
Tana Delta	02	05	03	00	04	05	09	10	19
Total	**18**	**22**	**20**	**15**	**19**	**22**	**57**	**59**	**116**

Notably, out of 116 participants for the one-on-one interviews, only 80 (42 men and 38 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 Kenya's context. Researchers used an interview guide that was developed before data collection.

- **Focus Group Discussion (FGD)**: Discussions with adolescents and parents were conducted in order to cultivate a deeper understanding about 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 sub-county, there was a 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 the resources to finalize preparatory work that included notifying local authorities and listing, sampling, and

notifying the sampled participants. Data collection was done between November 2 and 6, 2020 in the 5 sub-counties. 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 space 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 80 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) sub-county. In *quantitative* terms, the contextual variables were analysed descriptively (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 to assess 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 subjects' understanding of *problem solving* as presented in the interviews, paying specific attention to elements of contextualisation in contrast with what has been 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 a unique network of understanding the skill. 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 sub-county; 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 demographic information of the participants 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 (Kenya), the second letter represents the category of participants (e.g., 'A' for adolescent, 'P' for parent and 'K' for key person), and the last 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 included obtaining informed consent, ensuring the confidentiality of information obtained from the participants, compensating participants (both monetarily and non-monetarily), and ensuring voluntary participation. Precaution was exercised 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 Respondents

Overall, 80 participants (42 men and 38 women) were interviewed on problem-solving skills. Twenty-seven of these were adolescents (12 boys and 15 girls), 28 were parents (16 men and 12 women), and 25 were key persons (14 men and 11 women). Furthermore, the average ages of the participants were 15.6 years for adolescents (15.3 years for boys and 15.7 years for girls; SD=1.5), 43.0 years for parents (44.7 years for men and 40.7 years for

women; SD=9.9), and 37.0 years for key persons (35.4 years for men and 38.8 years for women; SD=9.0).

3.2 Codes and Central Themes in Problem Solving

From the analysis of the interviews, 7 categories and 47 codes were identified. In the following sections, the findings are synthesized according to these 7 categories. The categories of *definition* and *process* can be considered subskills. Nevertheless, it is particularly relevant to underline that these two categories have been analysed in the same section, as both helped to describe the process component within the conceptualisation of problem solving.

3.2.1 Definition and Process

Table 3: Codes That Emerged as Definitions or Processes of Problem Solving

CATEGORY: DEFINITION/PROCESS CODES	**PARTICIPANTS (SOURCES)**	**%**	**EXCERPTS**	**%**
Fear of God	11	13.75	14	6.19
Facing problems	14	17.50	17	7.52
Finding solutions	70	88.75	170	75.22
Identifying the problem	23	30.00	30	13.27
Judgement	7	8.75	12	5.31
Knowing or understanding problem	49	60.00	73	32.30
TOTAL	**80**[1]		**226**[2]	

The initial category identified during the process of coding was the understanding of how to define problem-solving skills. Participants gave varied definitions derived from their social and cultural interactions. In this category, a total of six codes emerged that highlighted common characteristics in the participants' understandings of the skills. In some instances, the participants' responses are full definitions, while in other cases they are practical descriptions of the process they go through when solving a problem.

[1] 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.

[2] 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.

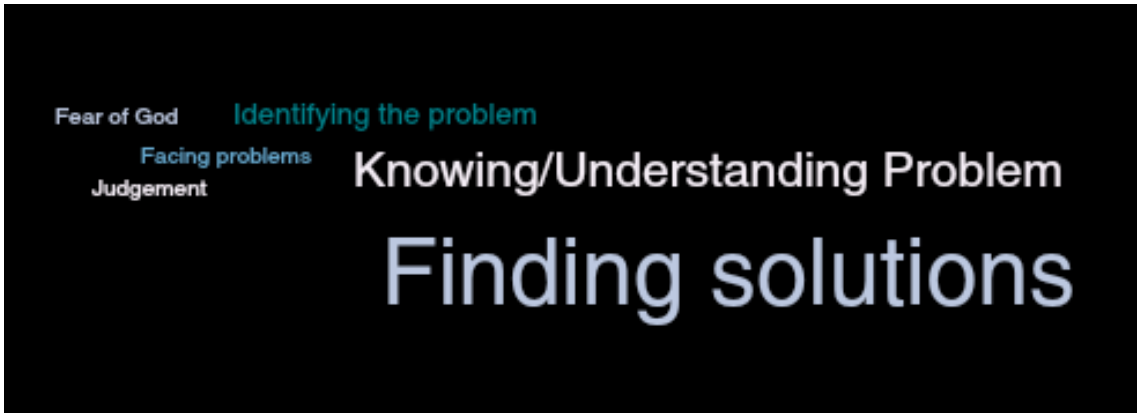
Most definitions emphasized the aspect of finding solutions to either personal or group problems, as seen in the following examples: “It is a genuine way in which a person can solve his private issues in life circumstances” (K-A-29);[3] “Coming up with a solution out of a problem” (K-A-36); “Giving a solution to a crisis” (K-A-35); or “Problem solving means, if you see any problem you can solve with your friend, who is close, you solve and finish well” (K-A-32). The main purpose of problem solving is for an individual to obtain solutions to any challenging situation. Sometimes a person has to be truthful in the identification of the problem (K-A-37). The definition also takes the form of conflict resolution (K-P-10), and some of the problems to be solved involve everyday interactions with other people (K-A-25).

In defining the term *problem solving*, the participants appeared to be quite unfamiliar with the process itself. The definitions mostly point to the process of determining the answer to a problem. Solving a problem sometimes requires consultation, as one participant stated: “Let’s say if you have a challenge and need someone to help you to solve, you will call them and you should not keep it to yourself, it will disturb your mind” (K-A-26).

Finding a solution to a problem would therefore mean constructing a course of action that will transform the current situation into one in which a given objective is met. This approach cannot stand alone. This is because when we want to solve a problem, it is important to define it, come up with alternative solutions, evaluate them, select the best option, and finally implement that solution and follow up on it. This, however, is not the case for everyone. Based on the findings, some respondents solve their problems with the knowledge they have acquired at different stages in life.

Defining *problem solving* also required the dimension of its process. One of the prominent codes noted was the idea of finding solutions, as presented in the figure below.

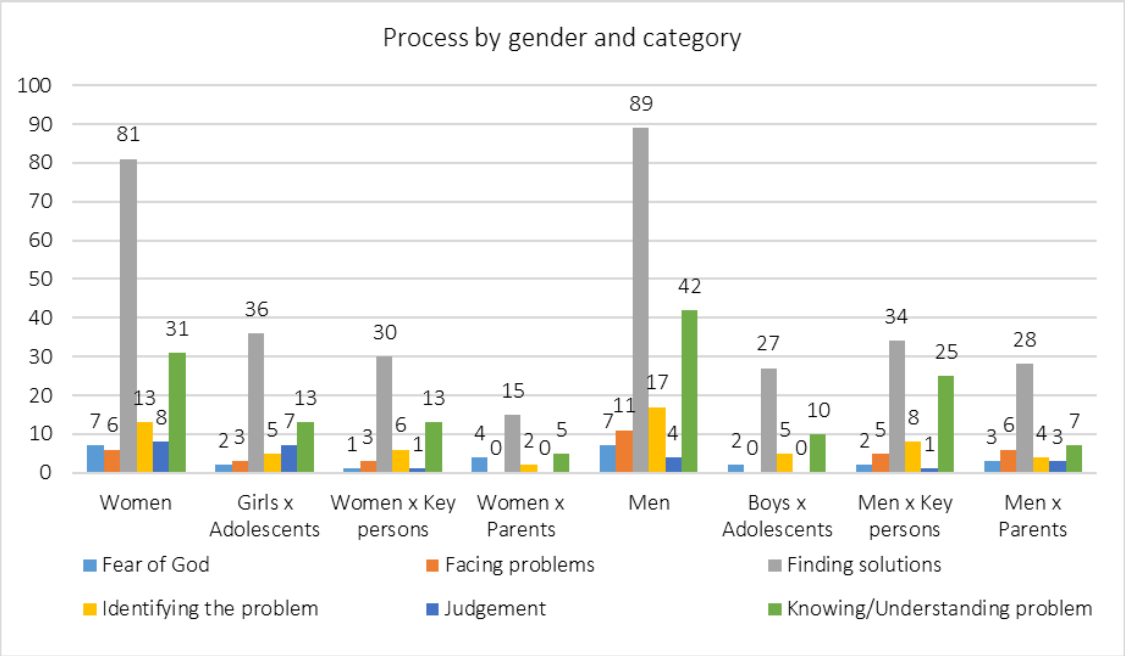
Figure 1: Word Cloud Showing the Percentage of Excerpts with the Various Process Codes



[3] The first letter represents the country (Kenya), the second letter represents the category (e.g., ‘A’ for adolescent, ‘P’ for parent and ‘K’ for key person), and the last number represents the number assigned to the participant.

The Figure below represents 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 of problem solving.

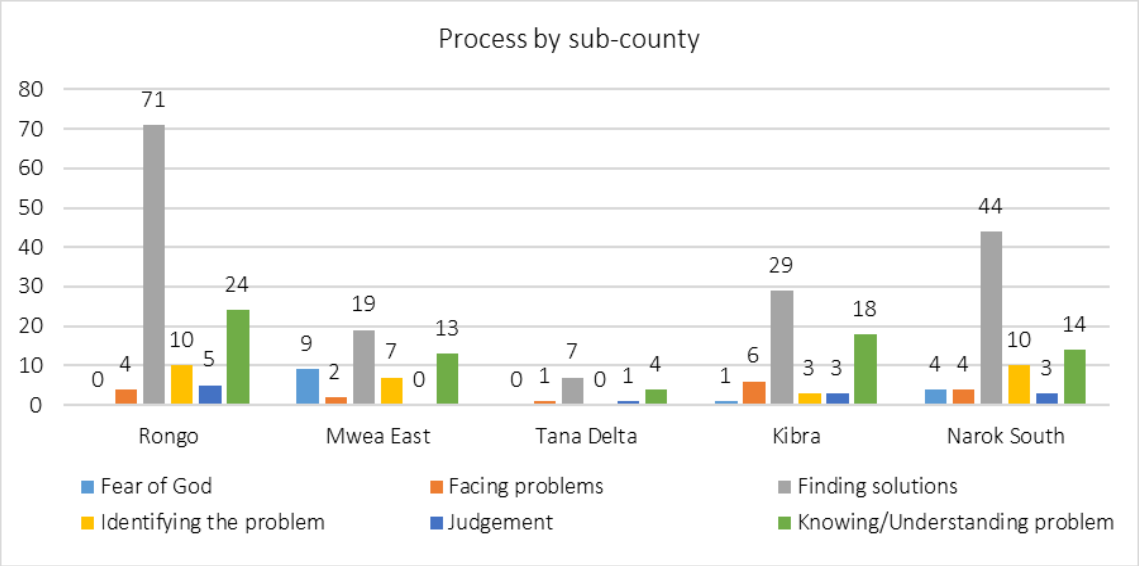
Figure 2: Frequency of Excerpts Including Process Codes by Gender and Category



The results indicate that finding solutions is the appropriate path for solving a problem. This was prevalent in both women's and men's answers as the central meaning of problem solving when the frequency of this code is observed, regardless of the category of the participants (adolescent, key person, or parent).

Further analysis of the sources disaggregated by regions shows that finding solutions is the most frequent code in defining problem solving in all sub-counties and is particularly relevant in Migori and Narok. Knowing or understanding problems was also mentioned quite often across the five sub-counties in Kenya, as presented below.

Figure 3: Frequency of Excerpts Including Process Codes by Sub-County



Identification of the problem was the first step in the process of problem solving. It involves gathering evidence to reach a solution. When asked to define problem solving, some participants gave the following responses: "First I identify the problem. If you can tackle it on your own then I solve, but if that not the case, I seek assistance from my friends" (K-A-40); "The first step is to identify the disputants, listen to their case, and then try to solve their differences" (K-A-16).

> For stealing, you know you will first ask what was stolen, then ask who saw this person stealing? And why did this person steal what he stole? You start there. You will know right there, and then you will understand and solve the problem. (K-A-25)

Problem solving starts with identifying the problem, followed by understanding the problem, collecting required information, getting to the bottom of the problem, revealing the suggested solutions, and finally selecting the best solution to the problem. It therefore implies that problem solving is the cognitive processing directed at transforming a given challenging situation into a resolutive process. Therefore, problem identification should go along with other steps of the process to ensure a better outcome. In these cases, a problem can be regarded as the difference between the actual situation and the desired situation.

Judgment was also used as a phrase to define problem solving: "For example, I can know by characters or behaviours. I am in a position to tell what is good and what is bad" (K-A-38). This definition points to the fact that problem solving as a skill must involve decision making. If some information is missing, then it becomes impossible to make the right decision or maintain sound judgment.

Facing problems also emerged as a step in the process. One participant gave the following statement: "Bring warring parties together, understand the problem, talk to both parties, ask them if they are happy with each other, tell them to shake hands, and discuss the problem" (K-K-10). In another instance, the participants mentioned that good problem solvers take full

responsibility whenever faced with a problem (K-K-08). It implies that it is difficult to solve any problem without facing it head-on.

Knowing and understanding a problem was also noted by most of the participants as one of the key steps in solving a problem. This includes efforts to understand the problem and its constraints before making the final decision. Most participants described this as follows: "Firstly, I will inhale peace, exhale stress, try to think about that matter. Solve it slowly by slowly" (K-A-27). Another one said: "Listen first about the problem from both sides and then come up with a solution" (K-A-36). In this case, participants did not consider it a problem that the relevant knowledge was not obvious. Understanding would involve providing an explanation and marshalling evidence. It brings out the meaning of the intellectual processes like remembering, comparing, and applying the evidence to solve a problem.

Some participants associated *fear of God* with a way of expressing their personal position when faced with a challenge. For instance, as one participant narrated, "I tell my friend, my mother, or I pray to God to help me" (K-A-39). This would imply that by fear of God, we can avoid being trapped by the natural pull toward losing our way, and hence, many problems would get solved. It denotes a conscience issue, meaning that we can support those facing problems with the comfort we receive from God.

The theme of *finding solutions* was also used as a way to reach the definition. Interviewees expressed a wide range of perspectives on the definition and the steps to solve a problem. This definition was articulated by participants in the following quotes:

> For instance, here at home if my brother or sisters has a problem, I will take my time to advise him that whatever he is doing is not good for him or he is not heading in a good direction. If he is a married person, I will make a follow-up to understand the cause of his problem and help him settle. (K-A-38)

Although the problems the participants mentioned were varied, there were some common issues, for example, young girls' struggles to access sanitary pads. Their challenges are related to hygiene and menstrual management. Boys are preoccupied with lack of money and finding a meaningful job. This can be derived from the following statements:

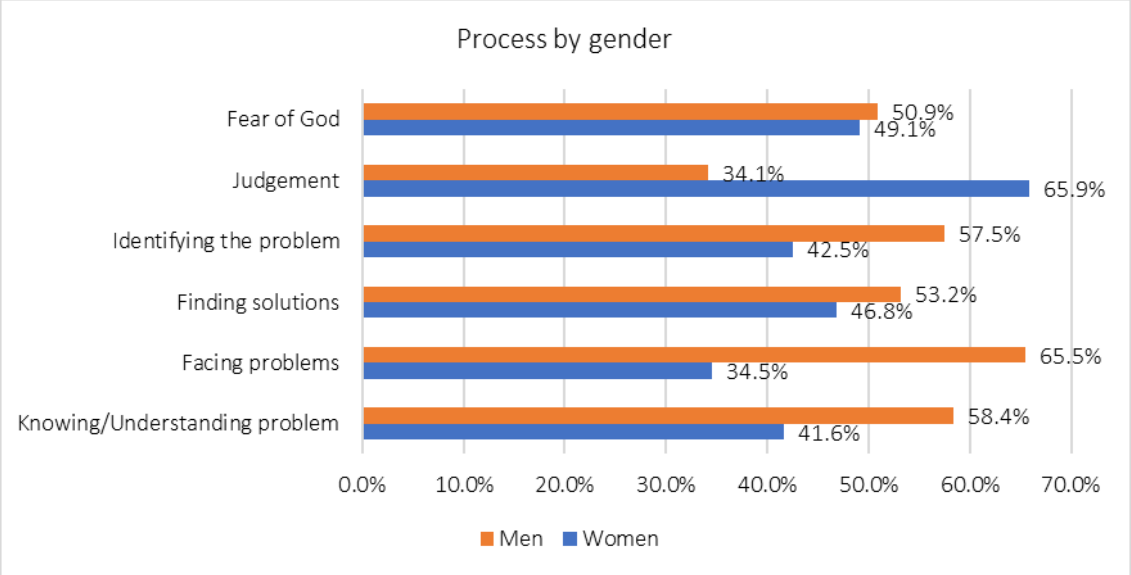
> For girls, their problem is sanitary towels that are not easily available. That is what is a problem for girls. For boys, the problems are that they can't afford to buy footballs. They meet in the fields and if they cannot play, they engage in things like chewing Muguka. Those are some of the problems they go through. (K-P-36)

> In my part, I can say in girls they know every month they have to receive periods, for the first time they learn how their bodies behave then in subsequent months they now know that at such date of every month their bodies behave this way and they will be provided with the necessary equipment to use during such times. (K-K-17)

From the above statements, it can be seen that economic and social factors affect self-management. Shame and taboos often surround menstruation. This can hinder adequate assessment and identification of contextually relevant solutions to these problems.

The distribution of the percentage of participants by gender across the various codes related to the problem-solving process is quite uniform, as presented below:

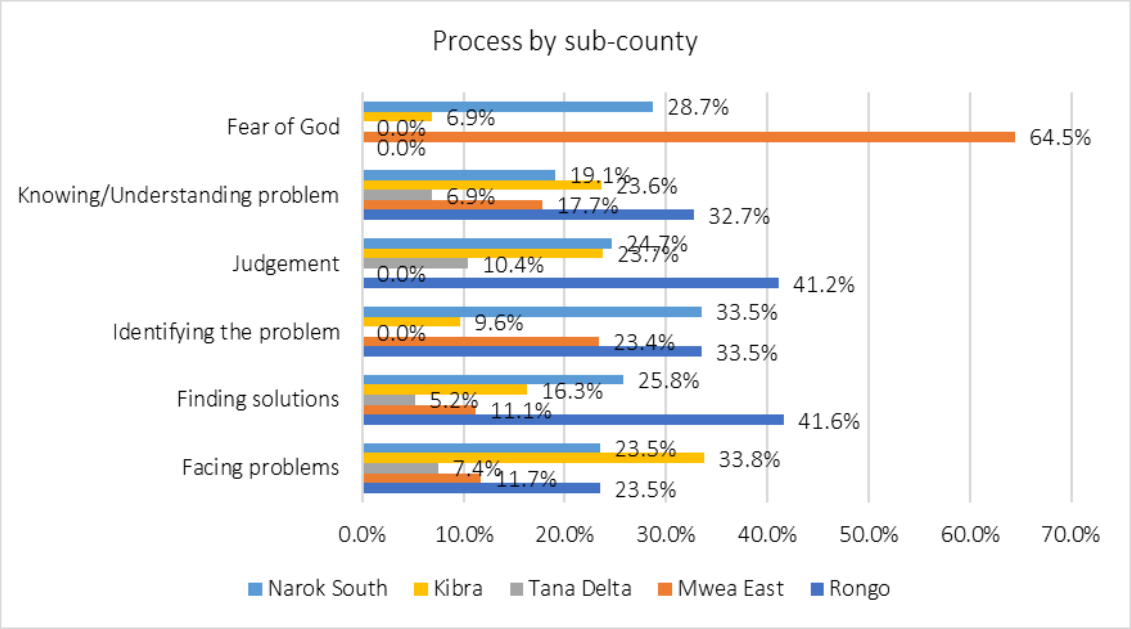
Figure 4: Percentage of Excerpts That Include the Most-Cited Process Codes by Gender



According to the figure above, there was almost an even contribution to the definition of problem solving among men and women participants. Facing problems was mostly mentioned by men (65.5%), while more women (65.9%) considered judgment as an important aspect of the problem-solving process.

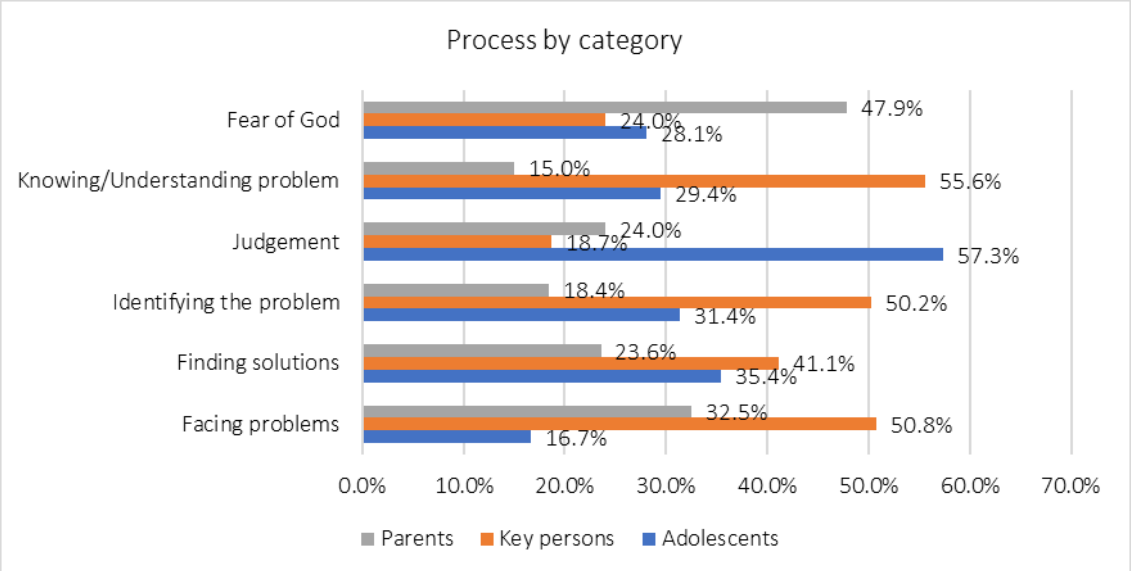
Across the sub-counties, the participants contributed quite evenly to the various codes. Most of them tended to concentrate on what can be considered as the final step of the process of problem solving and finding solutions to challenges, as presented below.

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



Similarly, across all categories of participants, the final step is the most cited. But judgment was most cited by adolescents (57.3%) as the most critical step in problem solving, while facing problems was reported mostly by the key persons (50.8%). Fear of God, on the other hand, was mentioned mostly by parents (47.9%).

Figure 6: Percentage of Excerpts That Include the Most-Cited Process Codes by Category



To summarise, according to the Kenyan participants, problem solving is the act of defining a problem and finding a solution to any life circumstances. According to them, a problem can

be solved through consultation, whereby it is important to identify and understand the problem, evaluate alternatives, and respond accordingly.

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	17	21.25	24	9.76
	Receptive communication	43	53.75	79	32.11
	Empathy	5	6.25	5	2.03
	Guidance and counselling	34	42.50	62	25.20
	Leadership	10	12.50	13	5.28
	Relationship skills	52	65.00	87	35.37
	Teamwork or Cooperation	8	10.00	9	3.66
Self-skills	Self-awareness	5	6.25	6	2.44
	Self-confidence	17	21.25	28	11.38
	Self-regulation	6	7.50	6	2.44
Self-management	Goal setting	3	3.75	3	1.22
	Planning	3	3.75	7	2.85
	TOTAL	**80**		**246**	

Based on the above findings, participants mentioned a number of subskills as being important for a good problem solver. The most prominent code is relationship skills with 87 quotations, with the least being the skill of goal setting (1.2% of the excerpts) and planning with (2.9% of the excerpts).

Problem-solving skills were mentioned as important for determining the root cause of the problem and finding an effective solution. While in many cases it appears as a separate skill, some of the skills participants identified include guidance and counselling and relationship skills. The participants mentioned that they can solve many problems through *guidance and counselling*. Proper guidance helps them achieve their goals and know what to do and how to do it in the best possible way: “We should not hide secrets and hurt ourselves. If we have a problem, we look for an older person or a friend to help you, you explain it to them if they

help you it's okay" (K-A-26); "First I listen to understand what the problem, advice the parties involved is then finally solving the problem" (K-A-34).

> If I'm faced with a challenge, I will think about it first, relax my mind, and then start identifying solutions with ease. I'm also open to seeking advice maybe from my parents and teachers. Parents should also be open to the adolescents and be able to talk to them. (K-A-29)
>
> A problem is solved by, once you make a mistake, you are made to sit down, you all know you are wrong, when the solver comes, he will not be on the side of one person he will advise you but don't just answer him back the way you want to just to make people happy, you listen to what they have to say and then the case ends well, something like that. (K-A-32)
>
> I have never solved someone's problem, but there's that kind of problem whereby when it finds you, you are all made to sit down, you are given advice here and there, on the way people live, just advising you there. (K-A-32)

Relationship skills are in most cases learned from experience; as we grow up and interact with other people, we can nurture such skills. As revealed by the study, good problem solvers are not biased—that is, they do not take sides—as mentioned by one participant:

> Whenever he wants to solve a problem, it's that person who does not ambush you wanting to solve the problem. He can't be on one party's side; he takes sides with both parties. But if he takes sides with one person, he is still not a problem solver. (K-A-32)

According to the participants, a problem solver should demonstrate the ability to relate well with others, associate or collaborate with people in the community (K-A-12, K-A-35), and be a champion of peace, as demonstrated by the following quotation: "For instance, you can find people quarrelling then you will try to make peace" (K-P-41, K-P-35).

For adolescents to exercise relationship skills effectively, they should have good *communication skills* (K-P-39). Both receptive and expressive skills were identified as essential skills for problem solvers. Participants understood receptive communication as having good listening skills. Expressive communication, according to several participants, involves proper speech and the use of kind words when interacting with people. It also involves communicating well with others (K-P-39) and, most importantly, the ability to accommodate different people's viewpoints, as mentioned in the following quotations:

> The way you communicate with them. For example, in my experience as a teacher for a long time dealing with different children, I can say most children have a lot of problems and you will know a child has a problem when they approach you and explain themselves to you. You can tell that one has solved a problem from how you interact with them and you can be shocked that their techniques are up high. (K-P-19)

> Because you may have a point but you can't express yourself, how will you discuss with those whom you want to have a solution with. Communication is very important, because I might be having a solution but I can't express myself. You should also be accommodative in a way that you have time to analyse and see what the best solution is. (K-K-35)

Participants mentioned that to enhance problem-solving skills, the problem solver must have *leadership* skills and be responsible, truthful, unbiased, and sociable (K-P-40, K-P-29, K-K-01, K-K-03). A good leader should be sociable and interactive (K-P-40). They appreciated the fact that without a responsible leader, there is no direction to follow, as is evident in the following quotes:

> When you are grazing cattle you always have one cow that leads the rest. If there is none to lead the way, it would be more difficult. In the same way we have leaders among the people so when people have issues and these leaders can sit down and arbitrate and find lasting solutions. So, we do have people who can solve problems. (K-P-22)

> Other things like. You can see them through their leadership as they conduct maybe I said like if there's quarrel somewhere, you see that person going, trying to make the two parties understand each other. If there's war or if there is something maybe stolen, you see the young kid also participating giving even the adult the solution. (K-K-21)

The discussions revealed that when people are exposed to any kind of problem, seeking assistance from another party helps, even if someone may believe that seeking help would further confirm their inability to face life's challenges. To some extent, promoting counselling could point to someone's inability to cope with everyday issues. Continuous interaction with counsellors, however, helps build trust in oneself, which can enhance one's problem-solving abilities.

Other self-skills like *self-regulation* also emerged from the discussions with the participants. According to them, a good problem solver should have a sense of self control; one participant explained, "He should not be short tempered, because when you solve a problem, you can insult with the person you are in conflict with" (K-K-30). They went on to mention that high self-esteem is important to solve any problem (K-P-34) and, most importantly, to know how to cope with stress; as the participant reported, "It is a bit difficult, but everyone has to know how to solve problems. As we grow and bring up our children, we need to teach them that in life problems come along thereby teaching them how to solve most of them. We really have to teach them issues of stress management" (K-P-19).

Self-confidence was also mentioned by participants as a major skill required by problem solvers. Again, it was linked with high self-esteem and self-control (K-A-34). The participants understood that self-confidence can be obtained when the youth are empowered, as mentioned by one parent: "Once you empower him, he gets the confidence to solve his problems" (K-P-29). By empowering the adolescents, they gain self-discipline, confidence, and then become principled and time conscious (K-K-32).

Self-awareness, as mentioned by some of the participants, is a necessary subskill for the development of problem-solving skills. When asked what behaviours are expected of a young person who is a problem solver, one of the participants mentioned that they have self-awareness and collaborate with others (K-A-12). Respect was also linked to this subskill, as revealed by some of the participants, who mentioned that good problem solvers are respectful people. This is highlighted in the following quotation:

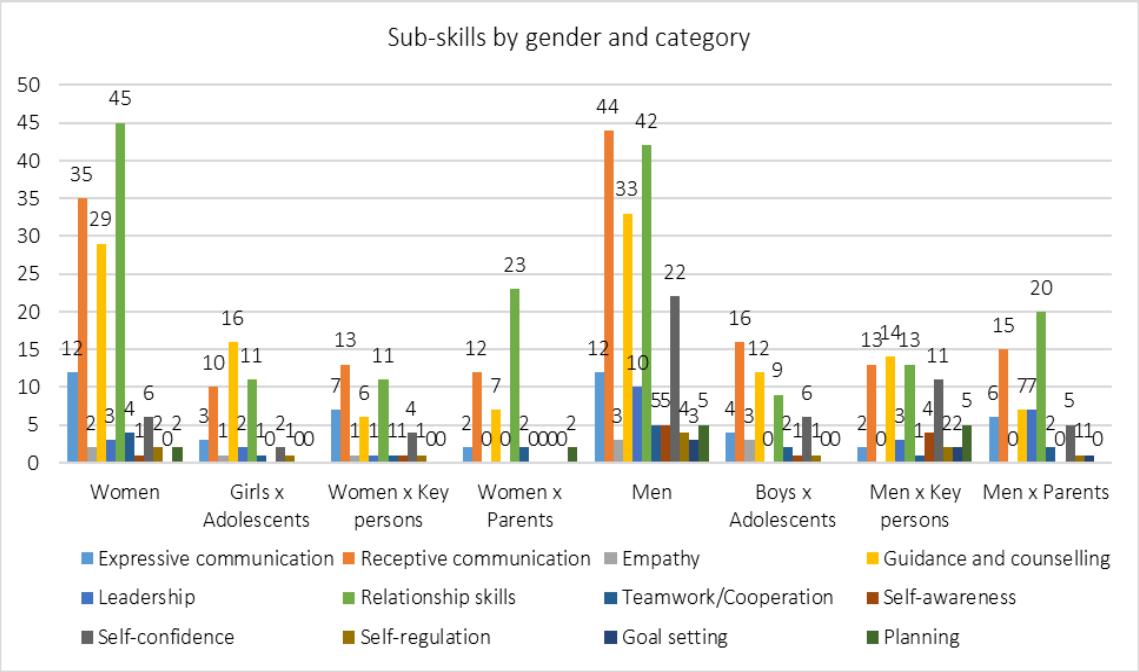
> A child like that, you see he seems to respect his parents, he respects even the neighbours, respects even his friends, even the way he speaks, you see that this child sees his dignity and especially he listens to his parents. And you also get a child like that if it's a child going to school, you get out of school he'll tell you what happened at school, he'll tell you what we did today at school, this teacher was like this, you see? Then you'll see him come in maybe he can request for tea to drink, take a bath and then you'll see if he doesn't like wandering around, and just likes to stay indoors. (K-K-23)

The participants also mentioned *goal setting* as one of the important skills that help young people stay on track. To some, the best way to demonstrate problem-solving skills is by being focused, as highlighted in the following excerpt: "The person is presentable before people, is focused on what he/she is solving or handling" (K-K-22). In this case, a problem is considered solved when a person has a defined goal that would lead to immediate solutions. It requires an individual to remain focused to reach a solution.

To be more effective at problem solving, participants also identified *planning* as a key subskill. It was mentioned in two quotations in reference to how a person should be organised: "I always see his classmates bring him Maths and Physics questions to solve, which he does . . . He's organised" (K-K-05). Another participant said, "He is the captain to his football team. He is always putting his team together and helps in solving any issues during practice and games . . . He's organized" (K-K-03). In this case, implementing a solution would require the person to plan first, which is linked to being organized.

The figure below shows the proportion of excerpts disaggregated by gender and category, and it highlights how relevant the subskills are for both men and women participants in various categories.

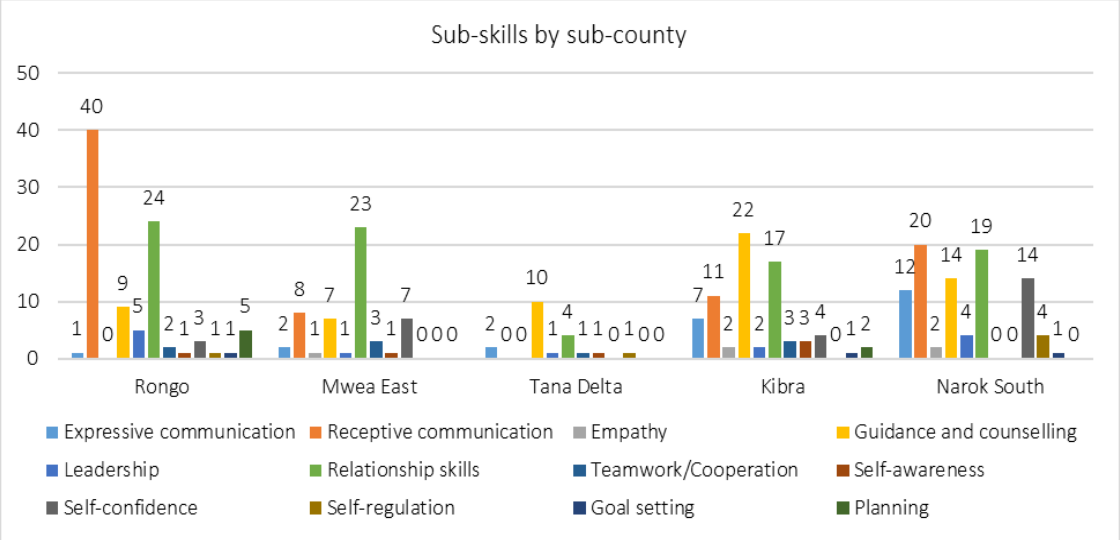
Figure 7: Frequency of Excerpts Including Subskills Codes by Gender and Category



Looking at the disaggregation of data by gender and category, the majority of the women (45) appreciate the importance of relationship skills in problem solving, while the majority of the men (44) recognize the need to be a good communicator.

Results based on the sub-counties were also analysed and the frequencies determined, as presented in the figure below:

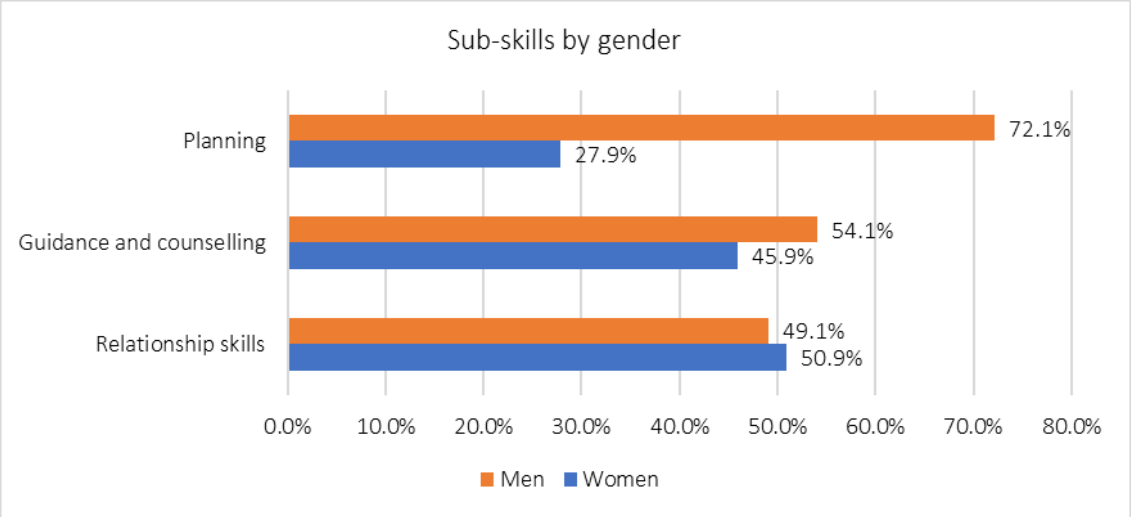
Figure 8: Frequency of Excerpts Including Subskills Codes by Sub-County



From the above results, the subskill related to being communication receptive was mentioned by the majority (40) of the participants in Rongo. The majority (23) in Mwea East mentioned the need for relationship skills. The majority (10) in Tana Delta mentioned guidance and counselling as key, while in the Kibra region, both guidance and counselling together with relationship skills dominated the interviews. Finally, in Narok South the aspect of receptivity to communication was mentioned by the majority (20), followed by relationship skills.

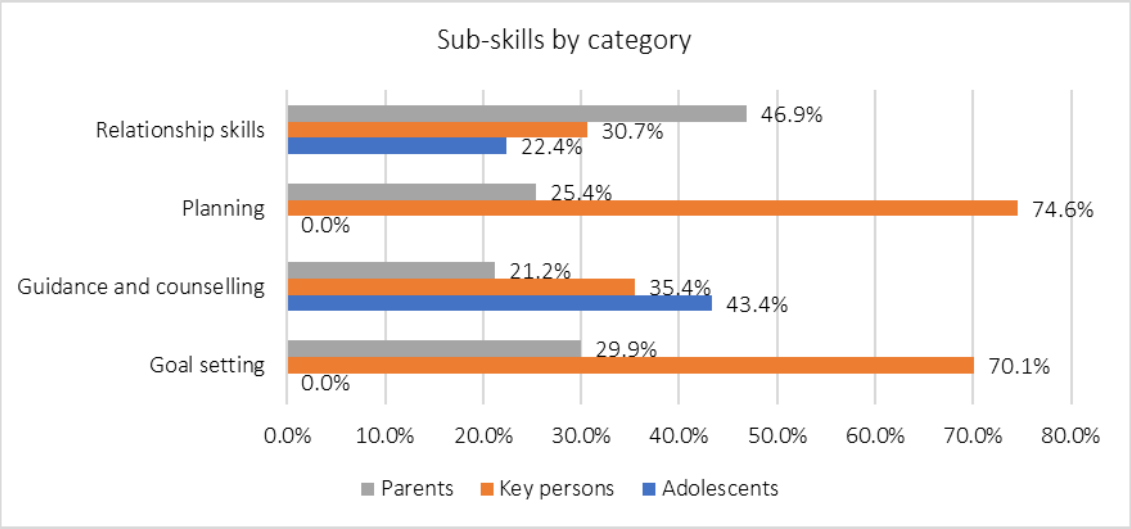
Looking at the disaggregation of data by gender, the findings reveal that the majority of the men (72.1%) prefer planning as a way to solve problems, while women would generally propose the application of different skills when solving problems, as illustrated below:

Figure 9: Percentage of Excerpts That Include Subskills Codes by Gender



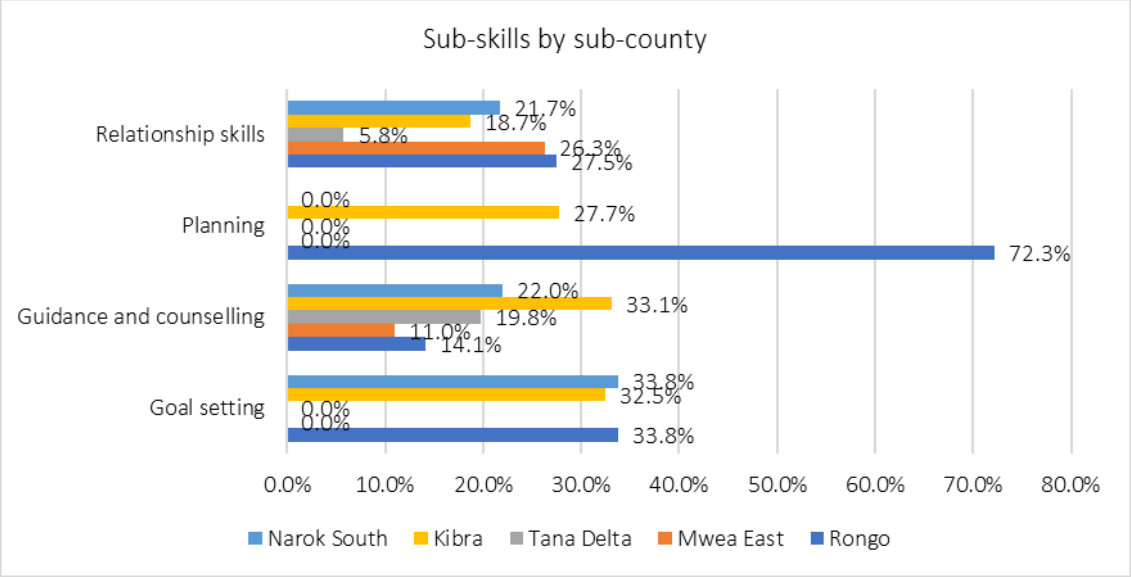
Among the subskills, goal setting and planning were reported as significant mostly by key persons (70.1% and 74.6% respectively). Not a single adolescent mentioned goal setting, while most parents cited all the skills as relevant, as shown below:

Figure 10: Percentage of Excerpts That Include Subskills Codes by Category



According to sub-counties, planning was mostly mentioned by the participants from Rongo (72.3%), while goal setting was evenly distributed across the districts, except in Tana Delta and Mwea East, where participants did not recognize goal setting as an important subskill in problem solving. The results are as shown in the figure below:

Figure 11: Percentage of Excerpts That Include Subskills Codes by Sub-County



3.2.3 Related Skills

Table 5: Categories and Codes That Emerged as Skills Related to Problem Solving

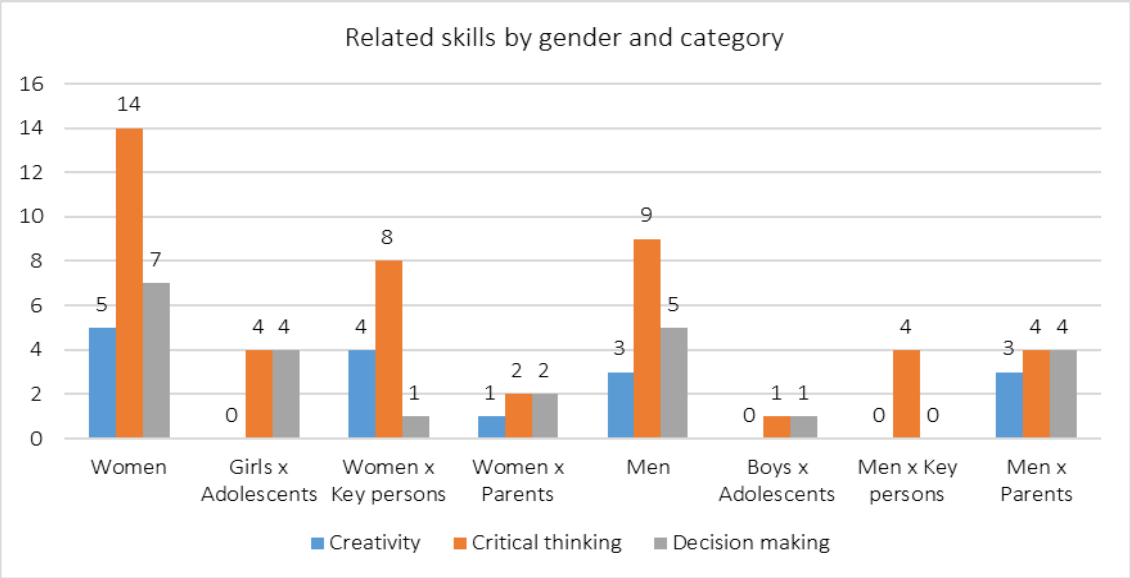
CATEGORY: RELATED SKILLS CODES	PARTICIPANTS (SOURCES)	%	EXCERPTS	%
Creativity	4	5.00	8	21.05
Critical thinking	16	20.00	23	60.53
Decision making	8	10.00	12	31.58
TOTALS	**80**		**38**	

One of the related skills identified by a few participants (4) was *creativity*. When the participants were asked about some of the skills required for being a good problem solver, one respondent said, "They are creative, team player and decision makers" (K-P-08). Another said that assertiveness and creativity are very important (K-K-28). It appears that creativity as a skill is a mental process that participants use to look for a solution to their problems.

Critical thinking goes hand in hand with problem solving. The participants would analyse the situation based on their experience and come up with a solution: "It is always good to analyse any matter before reaching a conclusion" (K-P-36). Some also blended this skill with self-awareness (K-P-11), stating that when you are a good problem solver, you must have the ability to use knowledge and be aware of your own situation before making any decision. It is important to note that critical thinkers intentionally apply their skills and possess high reasoning abilities. Sometimes they arbitrate the resolution of problems among various parties. This is evidenced by the following quote: "Always arbitrates when her siblings fight. Reasoning power is up. Good administrator" (K-P-06). To them, a problem solver is always proactive and will sometimes come up with a solution without necessarily waiting for another person's help (K-K-35). Participants also described a problem solver as someone who can think outside the box: "By being a critical thinker, whereby you think beyond the box" (K-K-35).

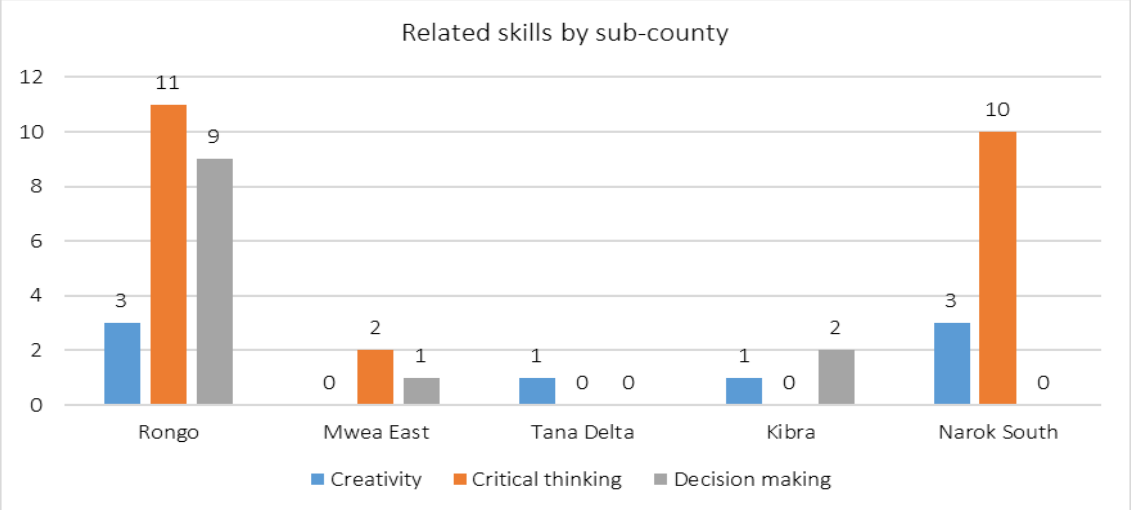
Problem solving also involves *decision making*: "One can stay and see as though life is getting overwhelming, he/she will choose how they will . . . they can decide how they will live and problems eventually reduce as you decide how you will live" (K-P-14). Brainstorming techniques are very useful when making any decision. The participants understood problem solving as a process of making the right decisions: "A way of identifying and making right decisions on things" (K-P-14, K-A-08).

Figure 12: Frequency of Excerpts Including Related-Skills Codes by Gender and Category



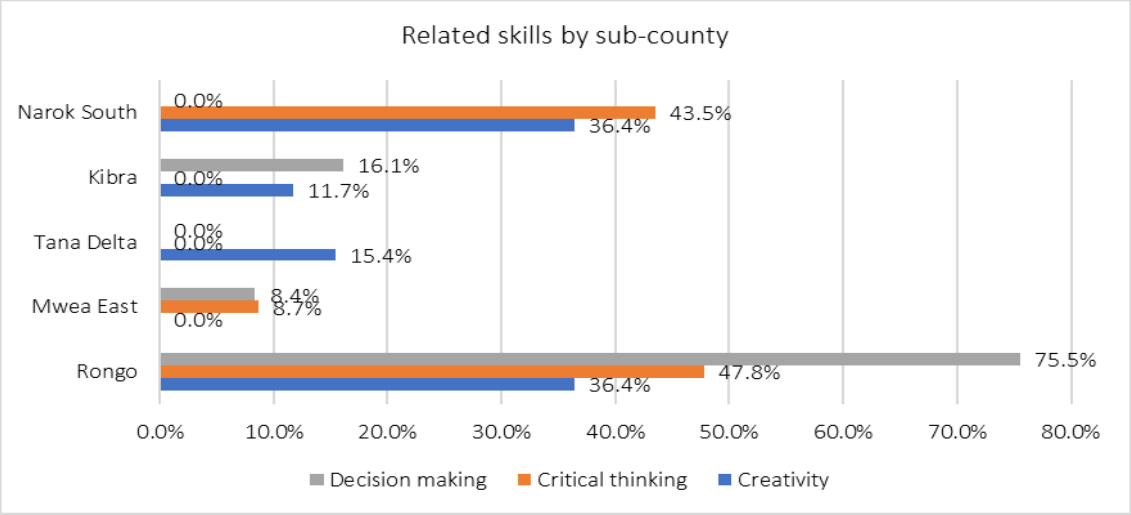
Based on the above findings, adolescents who are problem solvers should be critical thinkers and have good decision-making skills. None of the youths mentioned the aspect of creativity. Similarly, men key persons only identified the aspect of having critical-thinking skills when solving problems. Women mentioned several times (14) that critical thinking is an important skill for any problem solver.

Figure 13: Frequency of Excerpts Including Related-Skills Codes by Sub-County



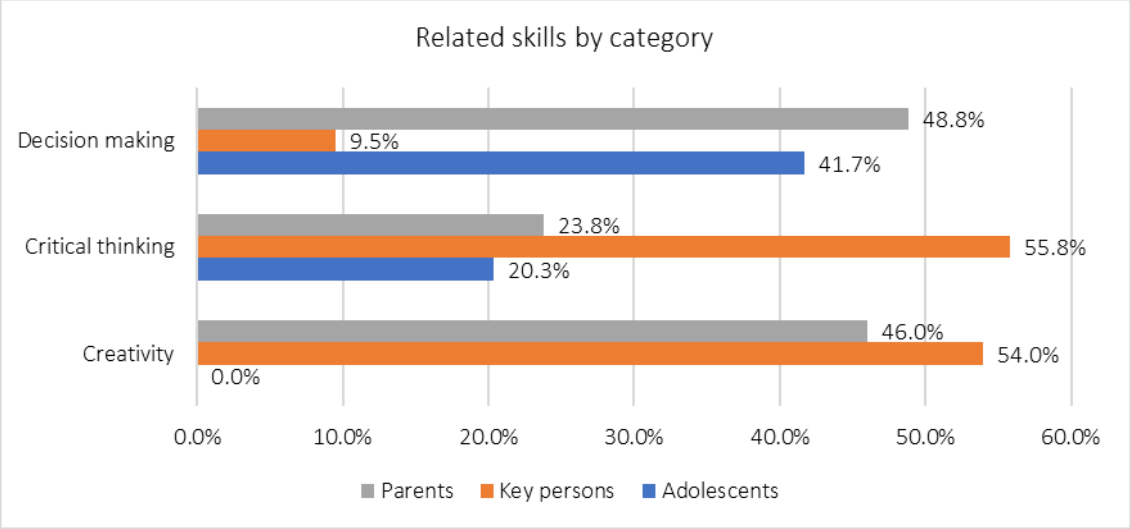
Based on the above findings, in Rongo, the three related skills of creativity, critical thinking, and decision making were all mentioned by the participants. The most dominant skill was critical thinking, recorded 11 times in Rongo, twice in Mwea East, and 10 times in Narok South. Tana Delta and Kibra regions did not record any aspect of critical thinking in their understanding of problem solving as a skill.

Figure 14: Percentage of Excerpts That Include Related-Skills Codes by Sub-County



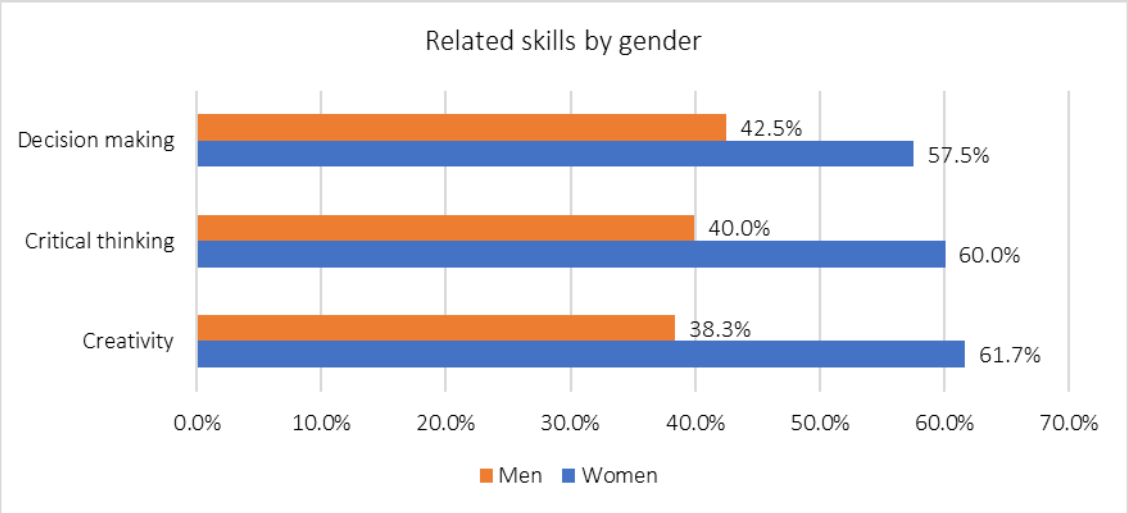
Goal setting was mainly mentioned by the participants from Rongo, while creativity was evenly distributed across the sub-counties except Mwea East, where participants did not mention creativity as an important skill related to problem solving.

Figure 15: Percentage of Excerpts That Include Related-Skills Codes by Category



The majority of the key persons (55.8%) made references to critical thinking, while only a few (20.3%) adolescents mentioned this aspect in the interviews. The element of decision making was cited by 9.5% of key persons while parents recognized the two related skills to be important.

Figure 16: Percentage of Excerpts That Include Related-Skills Codes by Gender



The majority of the women (61.7%) mentioned creativity as the most relevant skill required for problem solving, while the majority of the men (42.5%) mentioned decision making. Critical thinking was mentioned by 60.0% of the women and 40.0% of the men.

In summary, problem solving includes many skills that can enhance the way people relate. This can extend to other areas of life such as relationship building and day-to-day decision making. As a result, effective problem solving may also require one to be a critical thinker, good decision maker, and a creative person.

3.2.4 Disposition

Table 6: Categories and Codes That Emerged as Dispositions of Problem Solving

CATEGORY: DISPOSITIONS CODES	PARTICIPANTS (SOURCES)	%	EXCERPTS	%
Inquisitiveness	4	5.00	5	5.26
Hard work	6	7.50	7	7.37
Kindness or friendliness	24	30.00	28	29.47
Passion	4	5.00	4	4.21
Patience or time	16	20.00	20	21.05
Perseverance	2	2.50	2	2.11
Positive attitude	6	7.50	6	6.32
Responsibility	10	12.50	11	11.58
Willingness to be corrected or advised	16	20.00	18	18.95
TOTAL	**80**		**95**	

Dispositions help adolescents to actively use their problem-solving skills. The dispositions that emerge most frequently from these interviews are the following: kindness and friendliness, patience, willingness to be corrected or to receive advice, responsibility, passion, patience, and willingness to work hard. Please refer to the table above for details on the number of quotations.

Inquisitive problem solvers were identified as those most able to deal with any challenge. Participants understood this disposition of *inquisitiveness* as being curious and wanting to understand more. Such a trait, according to them, makes a person a good problem solver: "In my opinion, the one who greets a visitor and enquires from him if he needs any help is a problem solver. The one who does not bother to find anything from the visitor is not a problem solver" (K-P-22). Others understood inquisitiveness as being keen. When asked what behaviours are expected of an adolescent who is a problem solver and what such a person does, some respondents mentioned the following: "They are keen listeners and ask relevant questions during guidance and counselling sessions" (K-K-15) (K-P-05). In this case curiosity drives the person toward further discovery. When someone is curious and asks many questions, the information gathered can be used to generate new ideas, which are linked to creativity as a skill of problem solving.

Participants also mentioned *hard work* as an important disposition toward problem solving. According to them, a person's ability to solve any problem is dependent on their commitment: "God fearing, community acceptance, hardworking and [they should] portray a good image to the community" (K-P-10). When asked about the traits and the skills required, some of the responses given are as follows: "I think he would be good uhm . . . he would be good in handwork. Yea? Like a mechanic, he will be good in mat making" (K-K-27).

> I think because you know a child like that first it observing whether they seek advice, he can be seeking advice from the parents, listening too, he can be a child who is calm, he can be a child who is hardworking even in his education, he can be even here in the house, you see the way she does her work, and also the child who does not wander around, left and right. (K-K-23)

According to them, hard work can be interpreted as dedication (K-K-06).

Being *kind and friendly* was also mentioned by the participants as one of the traits problem solvers possess. They explained kindness as a way of making a person dealing with problems feel at home. This is complemented by the desire to know more, as one participant mentioned: "Kind, having a desire to know more about issues" (K-A-36). Kindness was also understood as having relationship skills that allow a person to be in a better position to solve problems (K-P-39, K-A-25). They described a kind person as truthful, just, polite, loving, caring, and having leadership skills (K-P-40, K-P-37, K-P-35, K-A-16). By providing calm and measured feedback, it becomes easy to relate with people and eventually solve their problems. Sometimes problem solvers are independent-minded, as revealed by one participant: "He is not a problem maker, and he is very social and independent minded" (K-P-11). Others mentioned that they are humane and compassionate (K-A-32). Kindness was

therefore depicted as a way to speed up the resolution of a problem. Even if resolving an issue right away might be impossible, just being polite and showing empathy to the person with a problem helps to calm them down and feel respected.

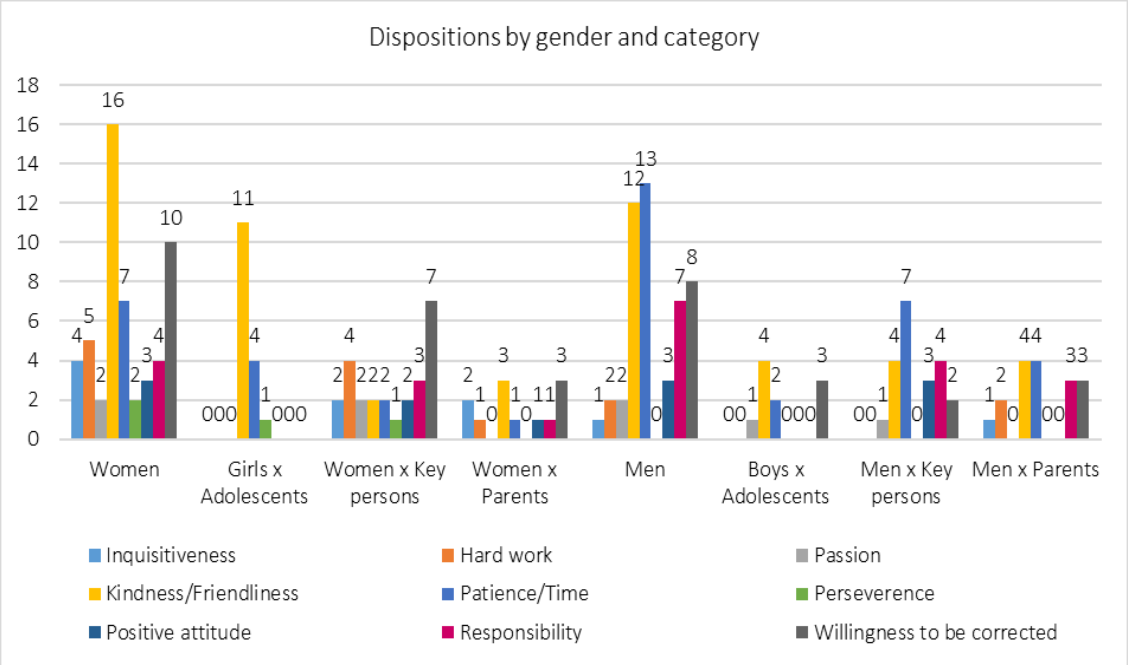
Responsibility also emerged as a disposition, implying that problem solvers have the ability to meet difficult challenges head-on and make the right decisions.

Willingness to be corrected or advised is another characteristic found in good problem solvers. They usually have a backup plan if the initial solution is not viable, and they ask for support and advice in order to reach a good solution to a problem, as mentioned by one participant:

> If I'm faced with a challenge, I will think about it first, relax my mind and then start identifying solutions with ease. I'm also open to seek advice, maybe from my parents and teachers. Parents should also be open to the adolescents and be able to talk to them. (K-A-29)

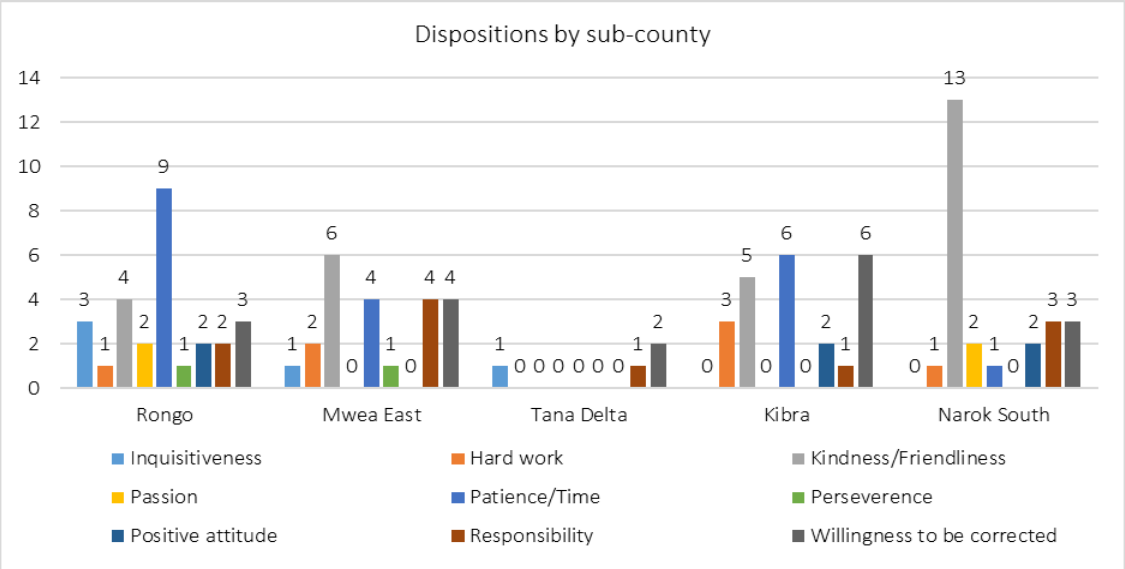
Problem solvers were understood as people who like sharing with others, and indeed a problem shared is a problem half solved. As revealed by one participant when asked about the main trait problem solvers possess, "He seeks guidance, he expresses himself to those he can trust" (K-A-29). Another participant said, "They will first tell those that are close to them for help. They will explain the problem and ask for help. If at home, they can ask from parents" (K-P-25). Advice is mainly sought from a mentor or a role model (K-A-12, K-P-36). Besides, a problem solver must also be able to give good advice to others and should be willing to consult on issues that are unclear (K-K-33).

Figure 17: Frequency of Excerpts Including Disposition Codes by Gender and Category



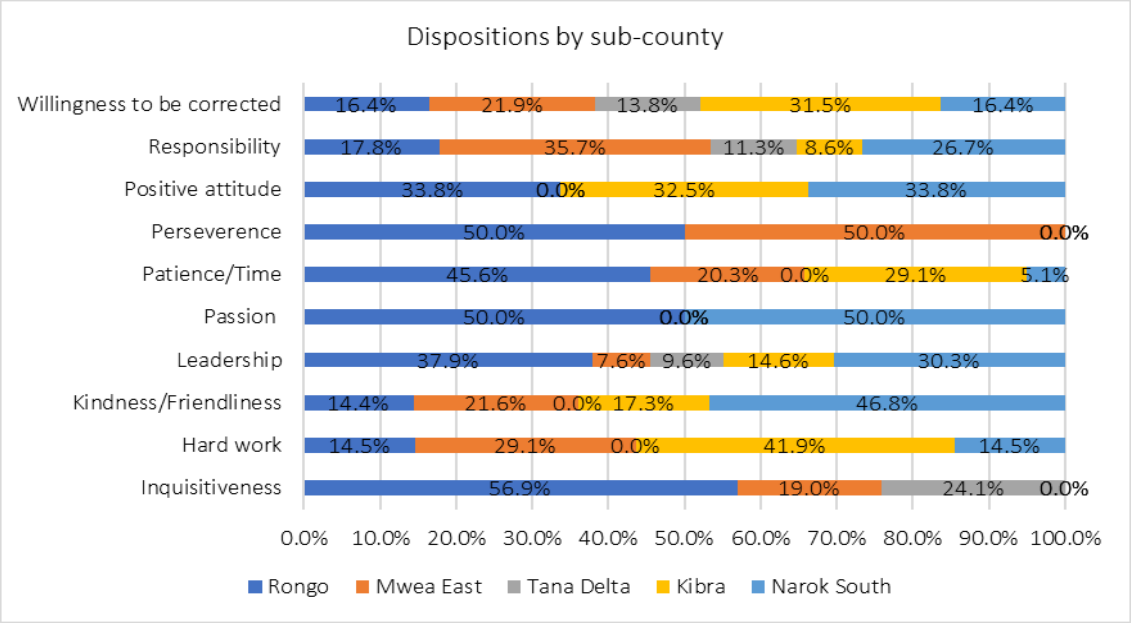
Based on the above findings, adolescents who are problem solvers should be friendly and kind to people. This disposition was mentioned 11 times by girls and 4 times by boys as an important element. Fathers did not recognize the aspect of being inquisitive as a characteristic of a problem solver, with only one mentioning it. Most of the time (11) the key persons mentioned that having a positive attitude is an important disposition for solving any problem.

Figure 18: Frequency of Excerpts Including Disposition Codes by Sub-County



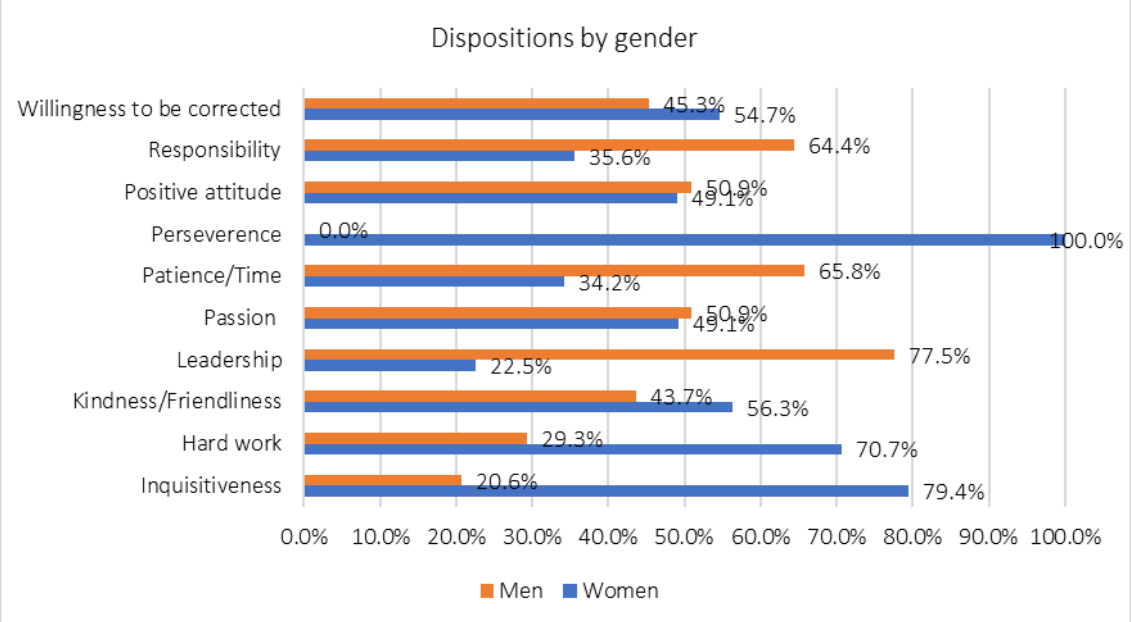
Based on the above findings, Narok South took the lead in mentioning kindness and friendliness (13 times) as the most important disposition. In Rongo, the element of patience was mentioned only once, while in Mwea East and Tana Delta, the aspect of inquisitiveness was only recognized once.

Figure 19: Percentage of Excerpts That Include Disposition Codes by Sub-County



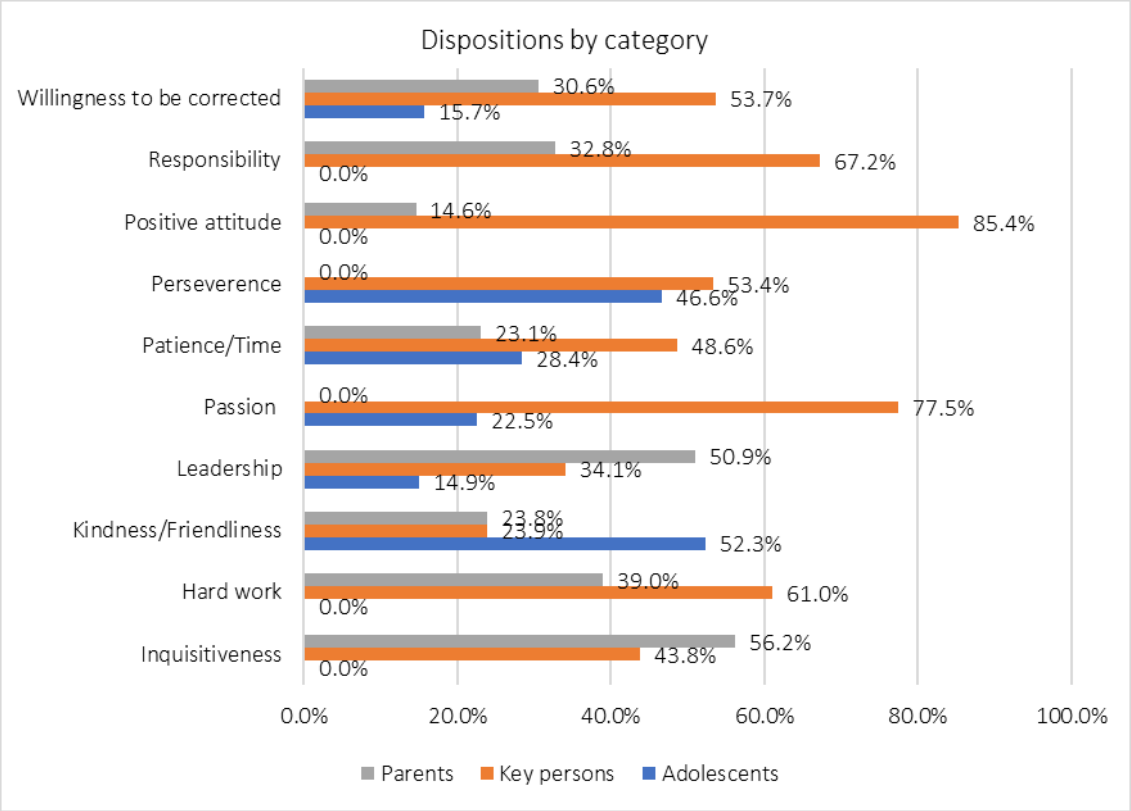
Based on the above findings, Narok South leads in mentions of kindness and friendliness, representing 46.8% and 50.0%, respectively. In Rongo, the element of patience dominated at 45.6%, while in Tana Delta the aspect of willingness to be corrected was represented at 13.8%.

Figure 20: Percentage of Excerpts That Include Disposition Codes by Gender



Only women indicated perseverance as important. The importance of being inquisitive for problem solving was mostly mentioned by women (79.4%). Only a few men (20.6%) mentioned being inquisitive as a necessity for becoming a good problem solver.

Figure 21: Percentage of Excerpts That Include Dispositions Codes by Category



Based on the above findings, good problem solvers should have a positive attitude (85.4%) and must be passionate (77.5%), as mentioned by key persons. Adolescents (52.3%) held a strong belief that problem solvers should be kind and friendly, while mostly parents emphasized hard work (39.9% and 32.8%, respectively).

3.2.5 Values and Behaviours

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

CATEGORY: VALUES AND BEHAVIOURS CODES	PARTICIPANTS (SOURCES)	%	EXCERPTS	%
Confidentiality	8	10.00	9	10.00
Humility	8	10.00	9	10.00
Love	10	12.50	11	12.22
Respect	21	26.25	34	37.78
Trust or honesty or truth	12	15.00	18	20.00
Wisdom	7	8.75	8	8.89
Discipline	10	12.50	11	12.22
Exemplary	7	8.75	8	8.89
Obedience	7	8.75	10	11.11
TOTAL	**80**		**90**	

Some values like *confidentiality* were also cited by the participants as important for problem solving. Participants placed strong emphasis on the fact that a good problem solver helps the community face challenges and proposes viable solutions, and a person who cannot be discreet runs into problems with other community members and is not trusted by them. So, one needs to respect and keep secrets about what has been discussed (K-K-21, K-K-34, K-P-27). Others were of the opinion that it is not wise to share certain problems with people, especially with those who cannot be trusted. It is better to share only with people who can keep secrets, as one participant stated: "You know you cannot tell everyone about your problem, because there are those that will go around telling others about your issues. But these two when you tell them your problem, they don't expose you" (K-A-39).

Issues of *trust* came out as a value. Specifically, participants referred to the fact that good problem solvers must be trustworthy—they do not go about divulging to others what has been shared with them. This is evident in the following quotation:

> You would be seeing the reactions the person has, they won't talk about you, once you leave, the case is closed, everyone goes his own way and tomorrow is another story, yesterday's story doesn't come back today, that's a good problem solver. (K-A-32)

There is also an indication that values play a significant role in shaping the direction of any solution to a problem.

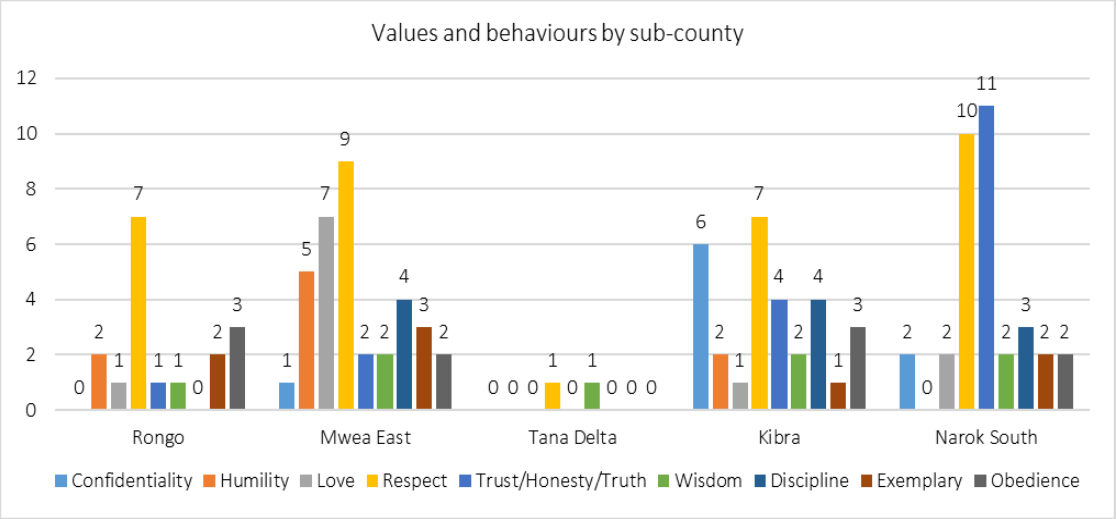
Linked to the fact that a good problem solver helps their community or classmates deal with challenges, the participants said that this person must be *respectful* to gain confidence and trust: "He respects others because there's no way he's going to solve other people's

problems if he doesn't respect them" (K-K-21), "[He/she] should have good behaviours that would earn him/her respect from the society" (K-P-10), or "He/she is a respected person who can stand by truth and justice" (K-P-41). Adolescents, who are concerned about disagreements with peers, specify that problem solvers are "good advisors and respect the conflicting parties" (K-A-03). A respectful person is supposed to greet others but also to offer help in solving problems:

> Some will greet you respectfully, you will talk to another and they will just face away, another will not be bothered at all. Those who are disrespectful, they will be cross with you asking who you are. But those who have respect will greet you and offer any help you may require. (K-P-22)

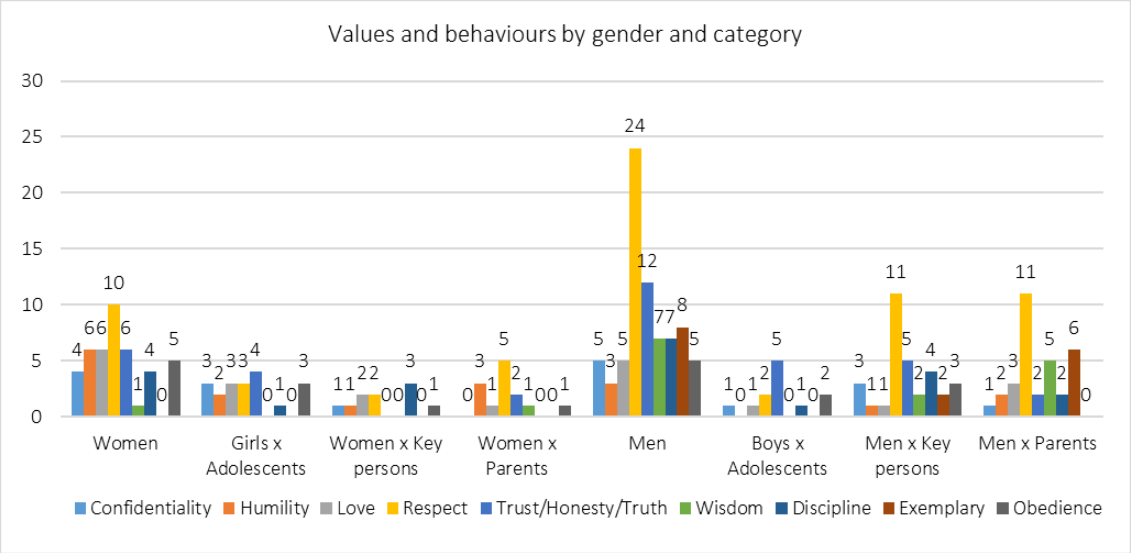
Love and humility were identified by most parents as important traits for problem solvers. They understood love as taking good care of someone. A caring or a loving person would find solutions to problems, especially if there is a conflict between parties (K-P-10, K-P-37, K-A-16). They went even further, bringing up the element of being a good listener (K-P-07). As one parent put it, "Listening to both parties in case it's a conflict between two. As a parent we should love adolescents for them to be open" (K-P-14).

Figure 22: Frequency of Excerpts Including Values and Behaviours Codes by Sub-County



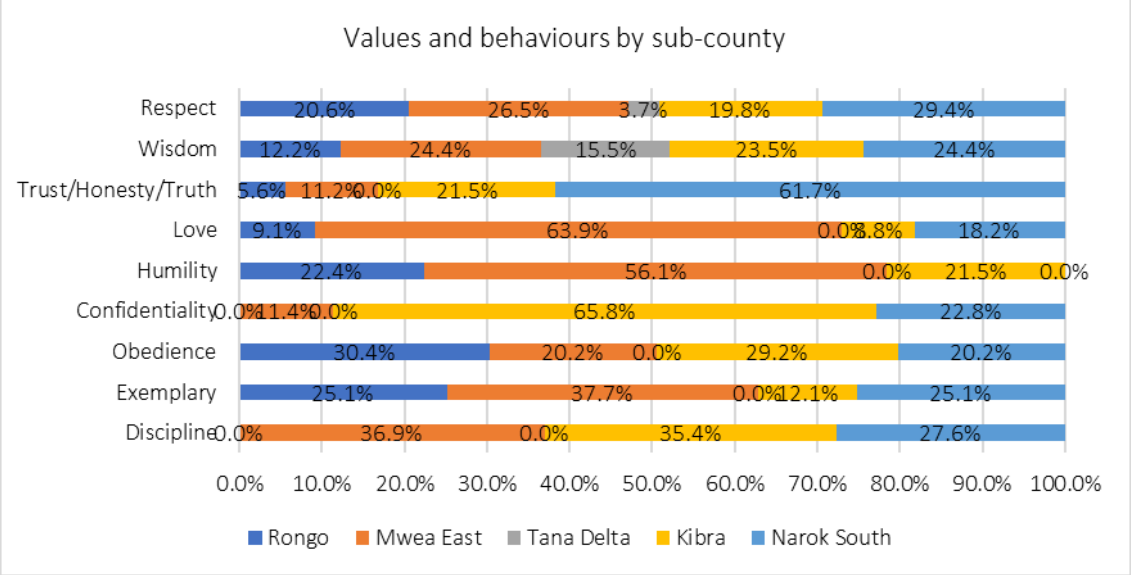
The findings reveal that in Narok South, most people associate the value of trust with problem-solving skills. This was mentioned 11 times. In Mwea East, love was mentioned 7 times. In Kibra the aspect of confidentiality dominated the conversation, with 6 separate mentions. Participants in Tana Delta recognized the element of wisdom and respect to be key, while in Rongo they did not recognize the aspect of confidentiality as a significant value required for problem solvers.

Figure 23: Frequency of Excerpts Including Values and Behaviours Codes by Gender and Category



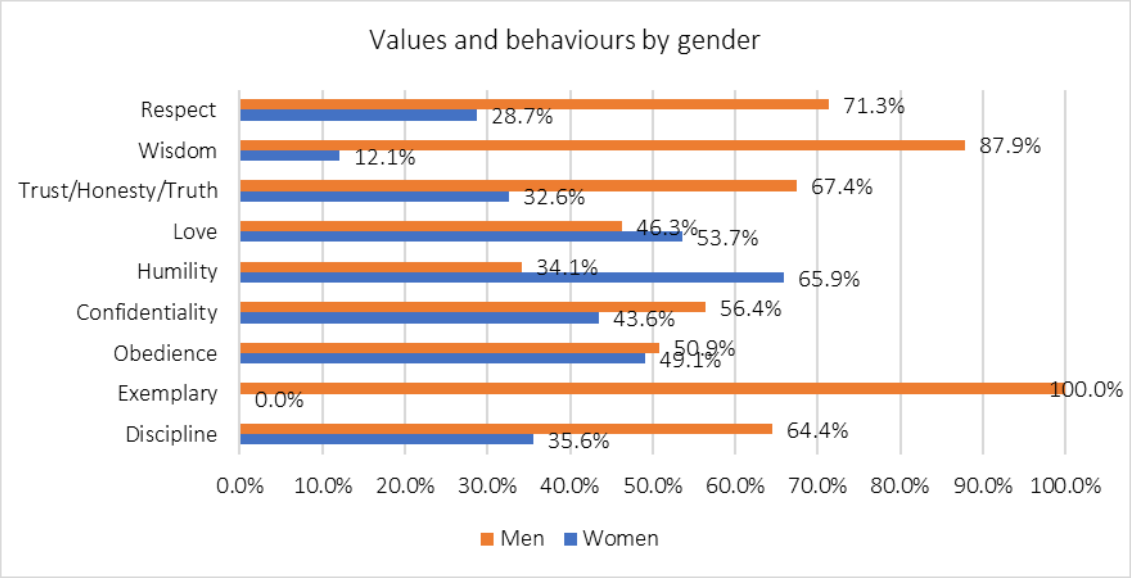
Based on the above findings, men who are problem solvers are also trustworthy. This was mentioned 12 times. Women, on the other hand, mentioned humility, trust, and love 6 times as key values required for problem solving. Male parents mentioned all the values and behaviours except obedience. Among adolescents, exemplary behaviour was not cited as the most important behaviour required for problem solving.

Figure 24: Percentage of Excerpts That Include Values and Behaviours Codes by Sub-County



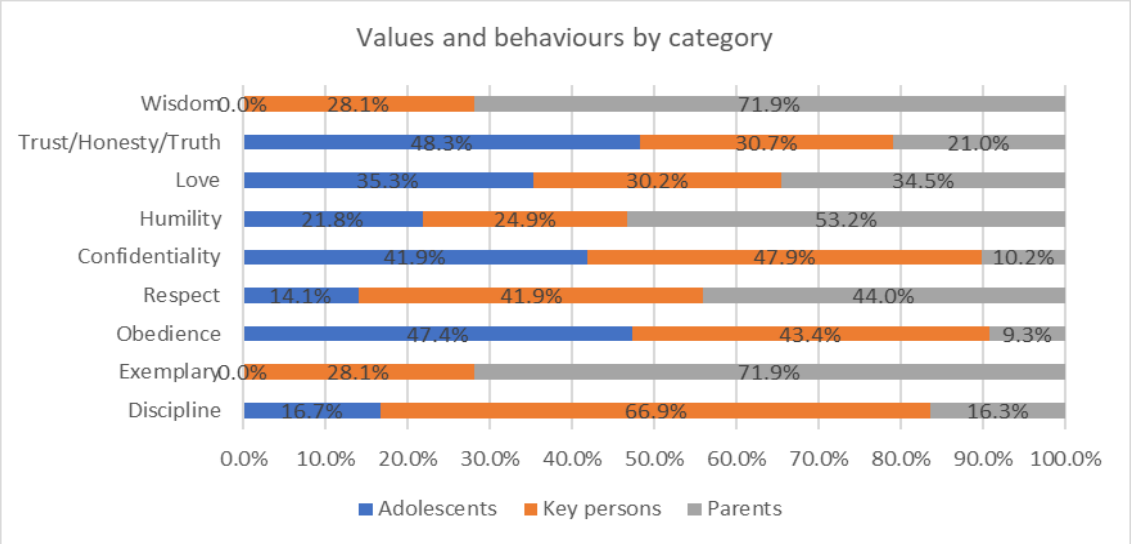
The above findings reveal that the majority (65.8%) of the participants who mentioned confidentiality were in Kibra. The majority (61.7%) of the excerpts on trust were mentioned by the participants in Narok South. Obedience was considered especially important in Rongo (30.4%).

Figure 25: Percentage of Excerpts That Include Values and Behaviour Codes by Gender



Based on the above findings, only men mentioned exemplary behaviour as associated with problem solving. Men accounted for 87.9% of the excerpts citing wisdom. Humility was mostly mentioned by women (65.9%).

Figure 26: Percentage of Excerpts That Include Values and Behaviours Codes by Category



The above findings show that it was mostly parents (71.9%) who cited exemplary behaviours and humility (53.2%) as important values for problem solving. Trust was mostly mentioned by adolescents (48.3%), together with obedience (47.4%). Confidentiality was mostly cited by key persons (47.9%).

In summary, problem solvers are people who assume leadership roles as responsible people in their community who will always work hard to find solutions. They possess different

skills that allow them to collaborate with other people to find solutions to a problem. Good problem solvers do not think in isolation. In most cases they consult more experienced people and are usually willing to be corrected or advised. As mentioned above, a problem solver has values that make it possible to reach a solution to a problem. They are loving, know how to keep secrets, and are humble. They are trusted in the communities they belong to. All these values are required by a person who aims to solve any kind of problem in their community.

3.2.6 Support Systems and Enabling Factors

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

CATEGORY: SUPPORT SYSTEMS CODES	**PARTICIPANTS (SOURCES)**	**%**	**EXCERPTS**	**%**
Community or developmental partners	8	10.00	19	24.68
Family	44	55.00	46	59.74
Friends or peers	17	21.25	17	22.08
Place of worship	14	17.50	16	20.78
School or training	35	43.75	37	48.05
TOTAL	**80**		**77**	

Support systems are important for enhancing problem-solving skills. The findings reveal that adolescents depend on *schools* to gain support, since most of their time is spent in various institutions of learning. This was echoed by some parents who acknowledged the role schools play in ensuring learners gain knowledge of life skills. One of the parents said, “I think it’s school which helps one in problem solving, because school gives knowledge” (K-P-41). Another one offered a different perspective by saying, “I think it is school because a teenager spends most of the time in school” (K-P-29, K-P-27). It appears that in schools, learners are taught many aspects of life in contrast to when they are at home (K-A-34). Adolescents indicated that they are taught such life skills as knowing oneself and knowing how to approach different challenges in life (K-A-30).

Those who work closely with the adolescents also mentioned the idea of *schools* as the main support system: “At school, you will find students and teachers and there are so many things you can learn from them, so you can be able to open up your mind” (K-A-38). Schools also provide a good place for learners to engage and work as a group: “In school, the pupils are always encouraged to work in groups, that is, even in relation to the CBC. So they’re able to at least get in touch with each other and understand each other, and also oneself” (K-K-20).

The participants also included the *family* as a key support system for adolescents in developing problem-solving skills (K-A-35, K-A-33, K-P-39, K-P-33). One adolescent said the following:

> If I'm faced with a challenge, I will think about it first, relax my mind and then start identifying solutions with ease. I'm also open to seek advice may be from my parents and teachers. Parents should also be open to the adolescents and be able to talk to them. (K-A-29)

This implies that what they learn at school needs to be supported by what happens at home.

Parents provide good guidance (K-P-41). Families help young people build character. The development of relationship skills within the family setting supports adolescents in their evolution toward maturity. Indeed, it was mentioned that the family prepares young people for the challenges they will have to face in life (K-P-40).

The participants also mentioned the aspect of *community or developmental partners* as one of the support systems. When asked to identify one support system, one of the adolescents said, "I think it is the community, there are different organisations that come together, which teach teenagers how they can solve problems" (K-A-30). Others emphasized that society should take the responsibility of instilling discipline in adolescents (K-P-14). However, the community could not stand without the support of parents and teachers, who are part of that community (K-P-07, K-A-25, K-A-36). The idea of community also touched on the role churches play in shaping the character of children by setting a good example for them (K-P-11). Organisations within the community have greatly helped them provide education on various issues relating to life skills:

> I think it is the community. For example, there's one called DREAMS, it teaches children, let's say in a circumstance where others are smoking bhang or in gangs that steal, you can't stay there. If police come and they are looking for them, they will know that you also steal. (K-A-30)

Peers or friends were equally mentioned as support to young people. The findings established that adolescents feel comfortable discussing various issues when they are in their usual groups. This was found to be complemented by guidance and counselling (K-A-16), which in some cases they receive at home and from teachers in school:

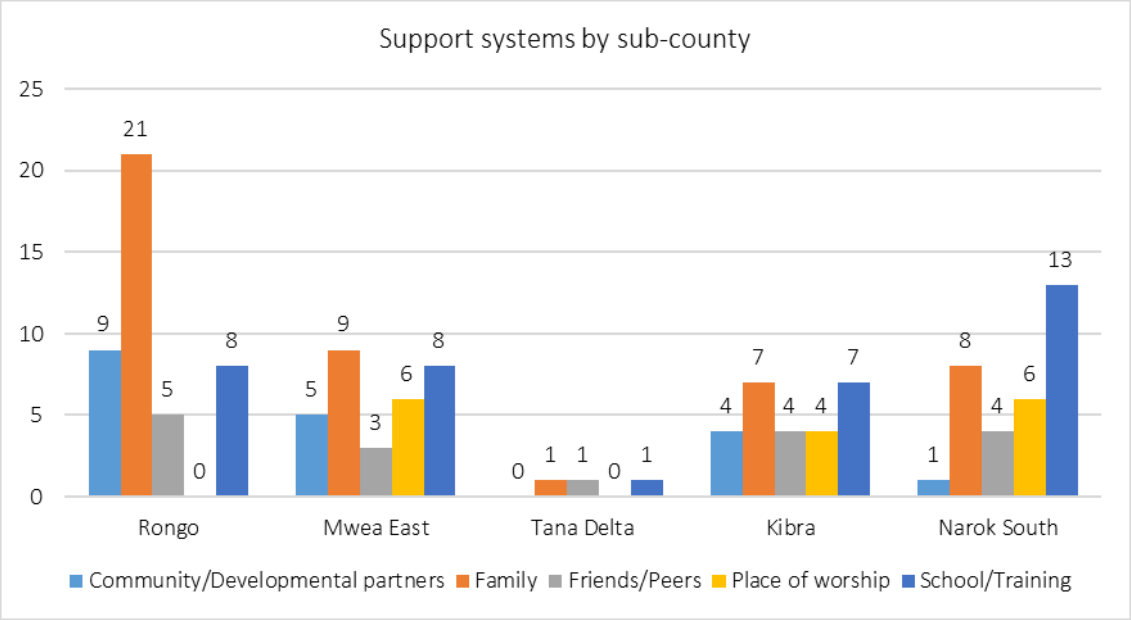
> Through guidance and counselling and peer groups. In peer groups they are able to open to each other without fear and talk openly. At home, they receive parental guidance, while in religious settings they receive moral and religious guidance. (K-K-33)

Support systems allow for more informed decisions when all of them are combined. Some participants felt that all the support systems are good, as mentioned here:

Problem solving is of different types. I might have a problem and I look for a person, stay with them and see if they can help me to solve my problem. Or church leaders or another parent to help me solve that problem. (K-P-31)

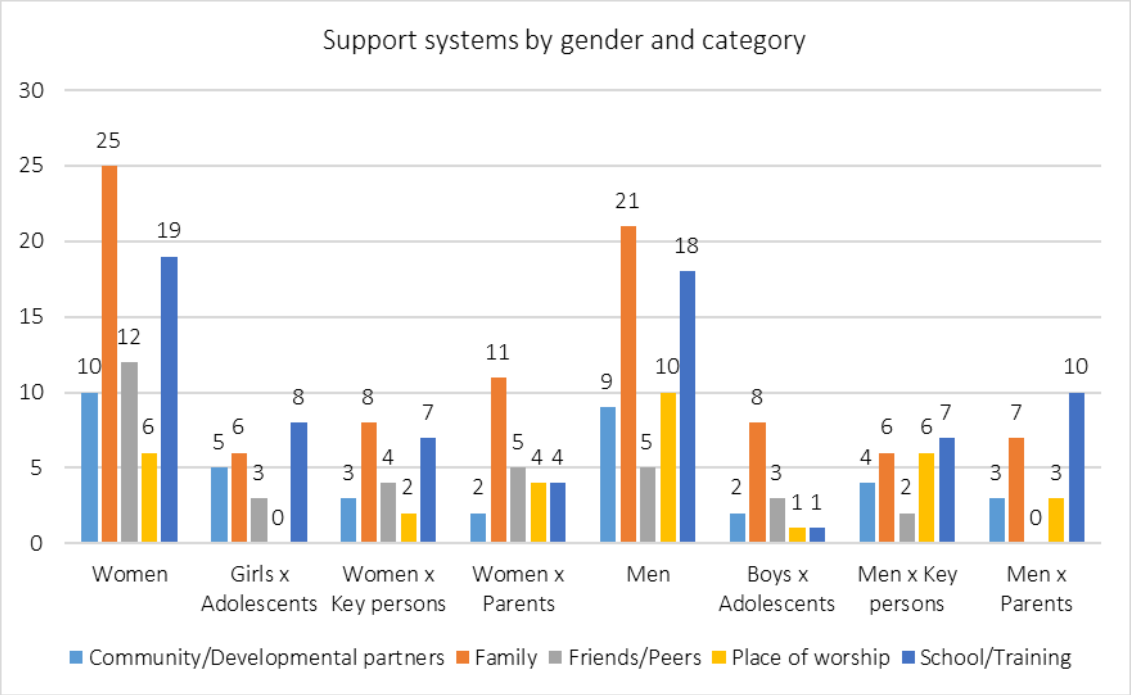
All of them are good, at home they will need to explain. You know just like at home, with three stones, you cannot cook until you have all three stones. So, all three must come together. You cannot leave it all to one person, for example if you leave it to the teacher to rectify your child, the parent should also take part. You should not leave your child to the pastor; you should be a pastor at your home and help each other to develop that respect and that way the child will have Jesus in their life. (K-P-33)

Figure 27: Frequency of Excerpts Including Support Systems Codes by Sub-County



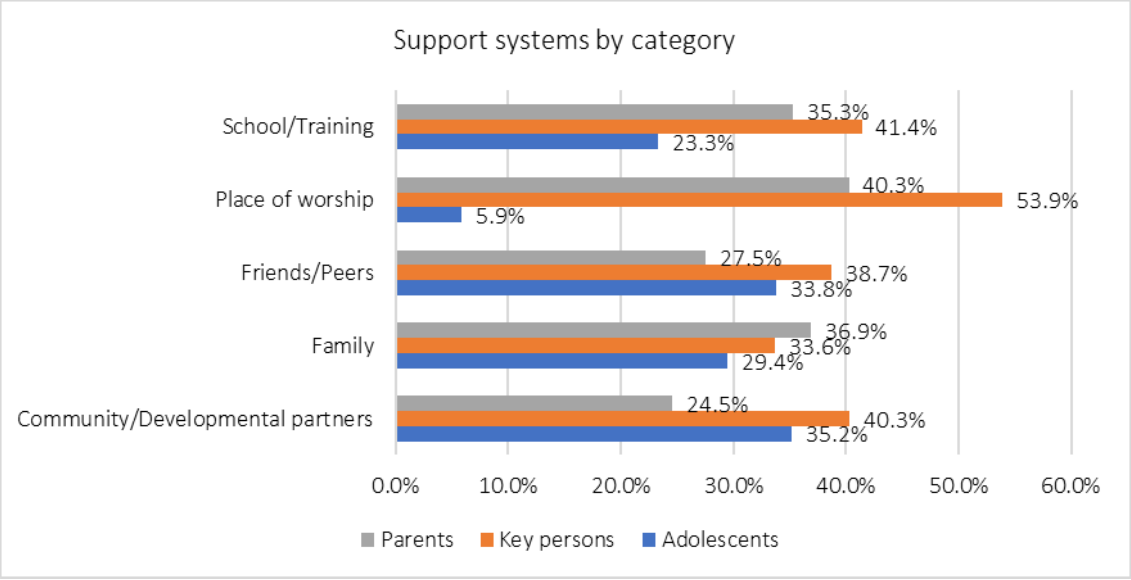
Results show that in Tana Delta, adolescents did not receive any support from the community or any development partner to enhance problem-solving skills. In Rongo, a lot of support comes from the family, which was mentioned 21 times. In Mwea East, a lot of support comes from the family and from school through training. The same applies to Kibra, with the participants mentioning both family and school 7 times. In Narok South, schools were mentioned 13 times as the main source of support in nurturing problem-solving skills.

Figure 28: Frequency of Excerpts Including Support Systems Codes by Gender and Category



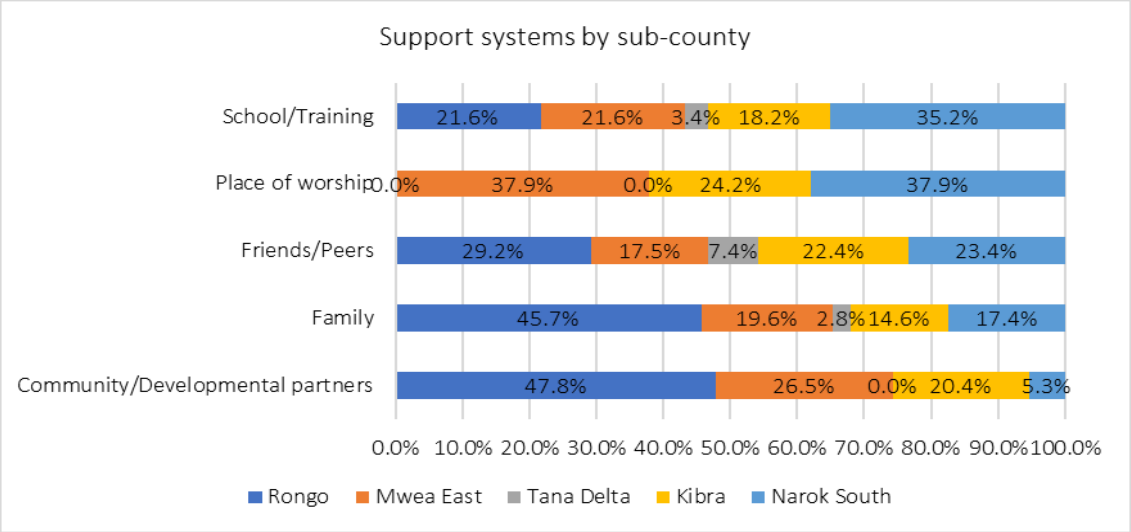
From the above findings, both men and women cited family and school as the most important support systems for nurturing problem-solving skills. Male adolescents also recognized family 8 times; the same applies to female key persons who mentioned family 8 times. As presented above, female adolescents did not recognize place of worship as a support system.

Figure 29: Percentage of Excerpts That Include Support Systems Codes by Category



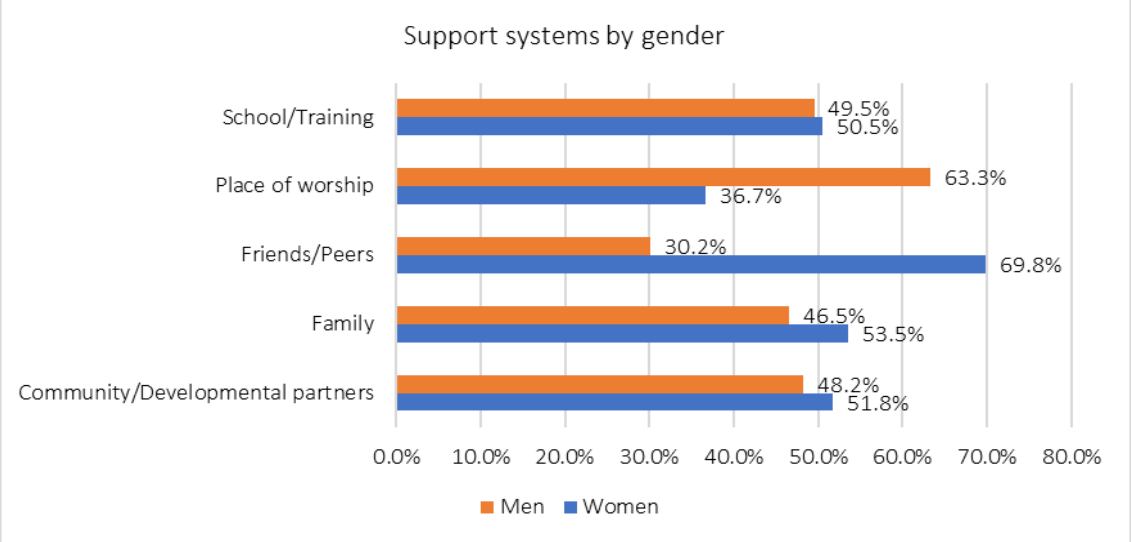
According to the above findings, place of worship was mainly mentioned as a support system by the key persons (53.9%). The other codes were cited quite uniformly by the various categories.

Figure 30: Percentage of Excerpts That Include Support Systems Codes by Sub-County



Results indicate that the majority (47.8%) of the participants in Rongo consider support from the community and other development partners important. In Tana Delta, support was received from friends. According to the participants from Mwea East, more support came either from place of worship or the community, representing 37.9% and 26.5% respectively. In Kibra support was obtained almost evenly from the community (20.4%), family (14.6%), friends (22.4%), place of worship (24.2%), and school (18.2%). In Narok South very few participants (5.3%) recognized the community as a support system.

Figure 31: Percentage of Excerpts That Include Support Systems Codes by Gender



The above results indicate that more men (63.3%) cited place of worship as a source of support, while more women (69.8%) mentioned friends as the support system that helps one build problem-solving skills.

In summary, participants appreciated the role played by different entities such as schools, places of worship, parents, and other spheres in helping young people develop the skill of problem solving. In essence, the collaboration of family, community, peers, and places of worship is necessary for achieving a better outcome, because a child is able to develop such skills through learning in school and attending worship events. Responsible upbringing also contributes much to honing these skills.

3.2.7 Assessment Methods

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

CATEGORY: METHODS OF ASSESSMENT CODES	**PARTICIPANTS (SOURCES)**	**%**	**EXCERPTS**	**%**
Interviews	14	17.50	14	22.58
Observation	18	22.50	19	30.65
Staying with the people	4	5.00	4	6.45
Task performance	31	38.75	31	50.00
TOTAL	**80**		**62**	

In many instances, participants linked *interviews* to *observation* as a way to test whether someone has problem-solving skills. Some argued that by posing oral questions to an adolescent and observing them, you could quickly tell by their responses whether they possess problem-solving skills (K-A-35, K-K-35, K-A-12, K-K-05, K-A-01). Asking questions or conducting interviews helped researchers know how adolescents think and how they tackle problems (K-P-18). The findings further revealed that through mature reasoning by a problem solver when responding to interview questions, one can measure or test their level of problem-solving skills. (K-P-06). This was further emphasized in the following quotation:

> Through an interview, you can interview him and also through the way he interacts when he speaks, see? That is, you know the child with him you know the way you are. You will look at this one and tell, this one has low esteem and this one with high esteem. So, I think it is just through looking, looking at him and interviewing him. (K-K-23)

Participants consider it important to ask questions on life's challenges to see the level of response (K-K-28). Some mentioned that narrating a scenario with a problem and asking the person what they would do to solve such a case, is one way to test the skill of problem

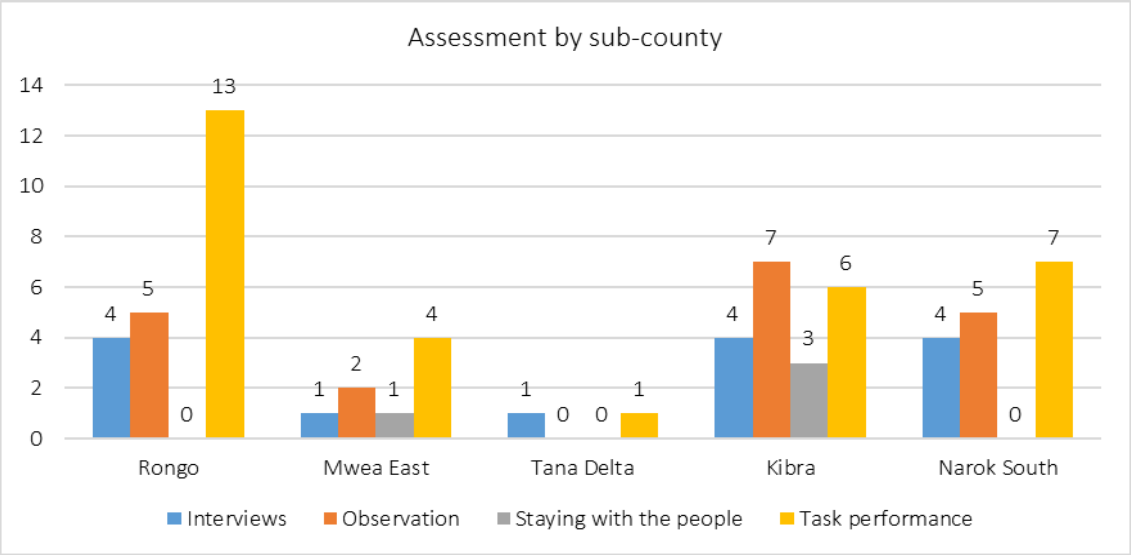
solving (K-K-07, K-K-08, K-A-26, K-A-27). Another example of a statement provided by one of the participants is as follows:

> You will ask each one, what their reactions are when they get annoyed or give them a scenario where they are supposed to solve a dispute e.g., what can one do if he causes an accident while driving a hired vehicle or what can one do if accidentally, he killed somebody. Most of them would say they would commit suicide, although around this area the mob will attack you fast. You can also ask them what one can do if he/she wronged their parents. Some will seek advice on what to do while others will go politely their parents apologize and seek forgiveness. (K-A-29)

It can, therefore, be said that interviews help to evaluate how someone approaches life's challenges. This can only be achieved by asking questions about problem solving and observing the respondent's approach to finding the solution.

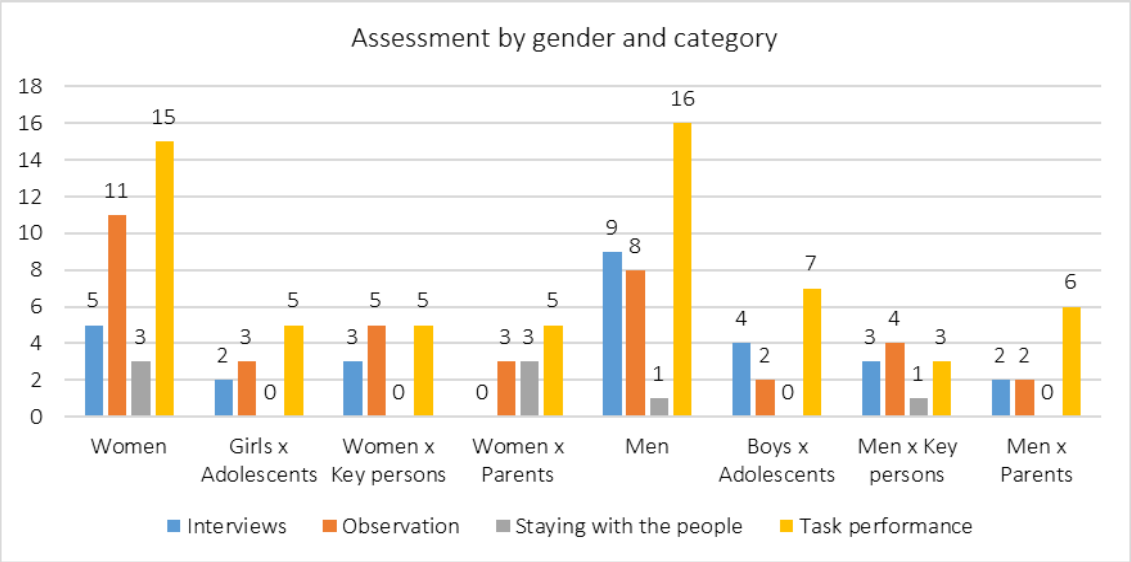
Task performance was also stated as one of the methods that can be used to test if an adolescent has problem-solving skills. Participants understood task performance as a way of asking someone to perform a task or simply giving the task to two people and observing whether they can reach an agreement in trying to find a solution (K-A-34). The relative complexity of the task included in the assessment of problem-solving skills can be analysed based on the adolescents' responses. Adolescents understood task performance as specific activities that require them to demonstrate mastery of skills through application within the task. As stated by one parent, "You can for instance send the person to the shop with extra cash to check whether he/she brings back the balance" (K-P-10). This shows how task performance is defined with work activities that contribute to a solution. As another participant put it, "Give a task to solve a problem of two conflicting parties if he can bring solution" (K-P-35). Giving a task to a person or a group of people to see whether they can find a solution, especially when in conflict, is a test in itself (K-A-36, K-P-38, K-P-40, K-P-11, K-A-07, K-P-01, K-K-03).

Figure 32: Frequency of Excerpts Including Assessment Codes by Sub-County



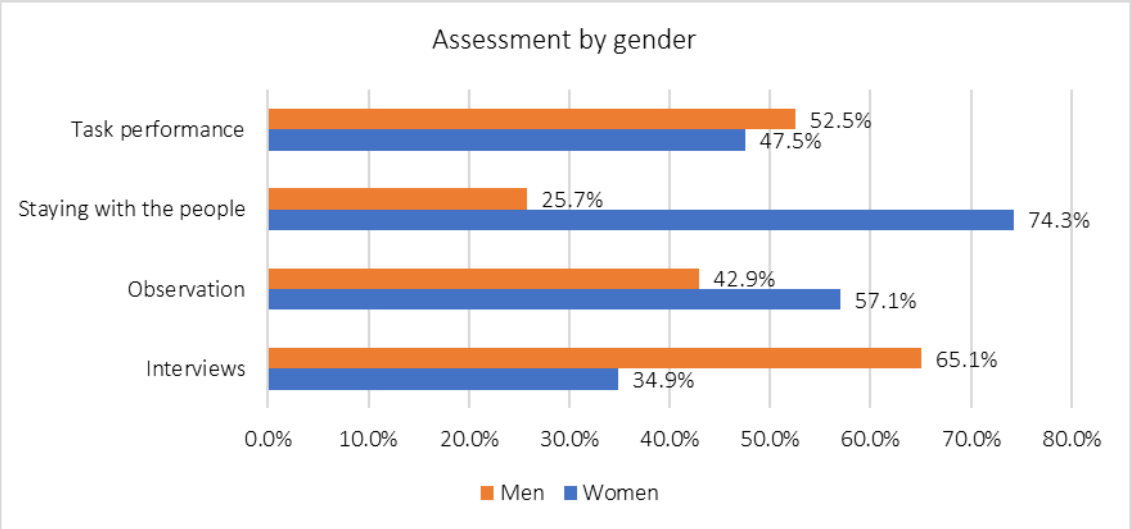
Results show that the participants in Rongo mentioned task performance 13 times. In Kibra a majority preferred observation as a means of assessing the skills. This was mentioned 7 times. Task performance dominated in Narok South, where it was mentioned 7 times. In Tana Delta, interviews and task performance are preferred, and finally in Mwea East they applied all the four assessment strategies, with task performance mentioned 4 times.

Figure 33: Frequency of Excerpts Including Assessment Codes by Gender and Category



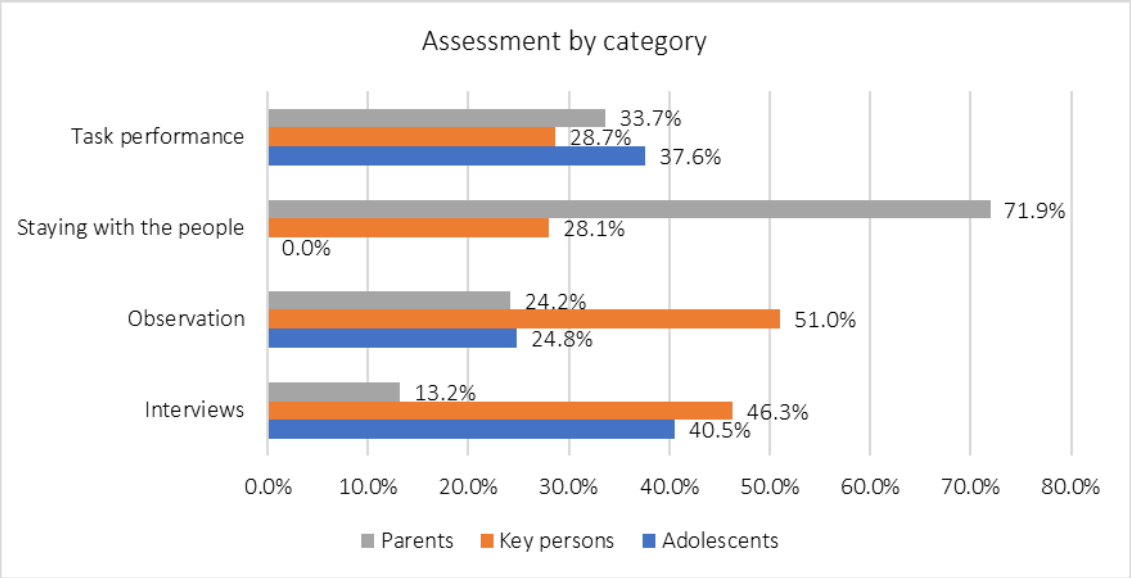
The above results indicate that both men and women prefer task performance as an assessment method. This was mentioned 16 times and 15 times, respectively. No single adolescent mentioned staying with people as a way of testing for problem-solving skills. The aspect of interviews and observation was mentioned across different categories, as illustrated by the graph below:

Figure 34: Percentage of Excerpts That Include Assessment Codes by Gender



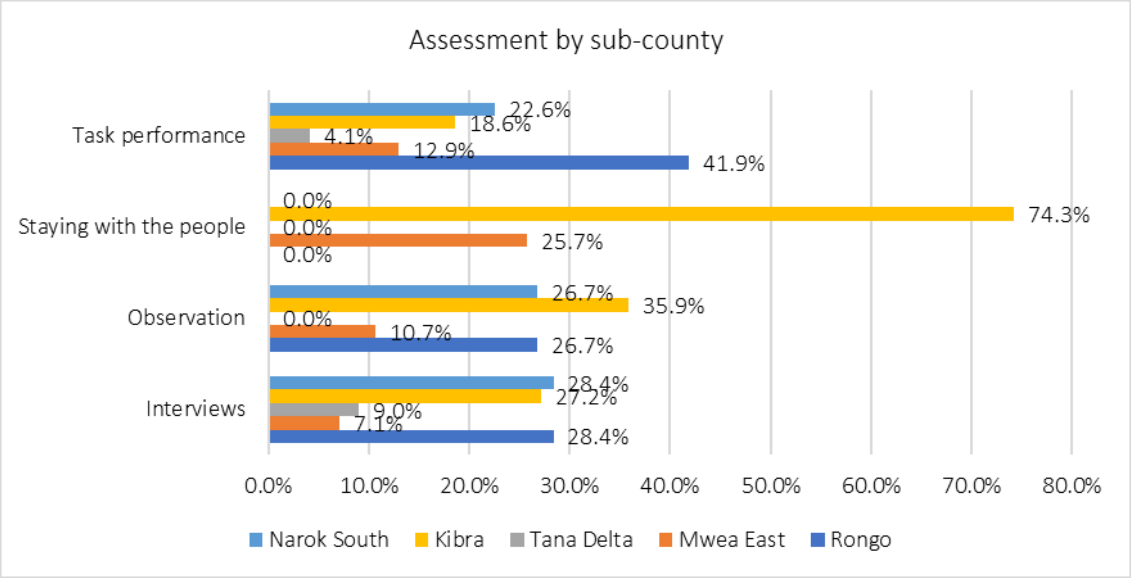
The above results show that staying with people as a method of assessment was mentioned mostly by women (74.3%), while interviews were mainly mentioned by men (65.1%).

Figure 35: Percentage of Excerpts That Include Assessment Codes by Category



The above findings reveal that staying with people was mostly suggested by parents (71.9%) as a way to assess problem-solving skills. Observation, on the other hand, was mostly mentioned by key persons (51.0%).

Figure 36: Percentage of Excerpts That Include Assessment Codes by Sub-County



The above results show that in Kibra, the majority (74.3%) of the participants mentioned staying with the people as a strategy for assessing problem-solving skills. The interviews in Rongo accounted for 41.9% of the excerpts on the code *task performance*. Participants in Tana Delta contributed in a very limited way to the codes on assessment methods. Finally, in

Mwea East, staying with people is the code that dominated the conversation, with 25.7% of the total excerpts on this code.

In summary, participants understood task performance, interviews, and observation as a way of assessing whether an adolescent has problem-solving skills. Assessing problem-solving skills was aligned with a specific thinking type, whereby a person is subjected to questions that require deep reasoning. It also involves assigning duties and observing how they are performed.

4 CONCLUSIONS

The understanding of problem solving as a skill in the Kenyan context is deeply rooted in the socio-cultural context of the participants' lived experiences. It was defined as the process of identifying a problem and developing possible solutions. The participants gave varied opinions on the actions to be taken when attending to either individual or group differences. In the Kenyan context, a problem can be solved through consultation, whereby it is important to define the problem, think through it carefully, and choose the best solution that will satisfy not only the problem solver but also the community.

It seemed straightforward to the participants at first glance, but identifying the critical steps in their right order when solving a problem turned out to be a big challenge. The study also revealed that successful problem solving requires several important related skills that will help a person proceed efficiently from identification to implementation. In the early stages of problem solving, a good problem solver needs to demonstrate lateral thinking and analytical abilities. These will help in assessing the situation and pinpointing the root of the problem. Implementation of the solutions also requires its own skillset, which typically requires a careful balance of good leadership and team cooperation.

Other subskills that can enhance the way people relate including social skills, self-skills and self-management skills were also identified. These can extend to other areas of life like relationship building and day-to-day decision making. As a result, effective problem solving may require someone to be a critical thinker, a good decision maker, and a creative person. Good problem solvers do not think in isolation. In most cases, they would consult more experienced people and are usually willing to be corrected or advised. They have values that make it possible to reach a solution. They are loving, humble, can keep secrets, and are trusted within the community they belong to.

Solving a problem requires the collaboration of family, community, peers, and places of worship to achieve a better outcome, because through learning in school and attending worship events, a person can develop problem-solving skills. Finally, task performance, interviews, and observation can be used to test whether a person possesses problem-solving skills.

Kenyans did not mention some of the steps that the literature review highlights. For instance, they did not elaborate much on the aspect of identifying and choosing the best solution to the problem or on the need to monitor the impact of the chosen solution to the problem.

Most of the literature reviewed elaborates extensively on the necessary skills for navigating the process of problem solving, but it is extremely rare to find articles that clarify the factors that influence the success of the problem-solving process. The cognitive factors mostly include thinking and reasoning skills as well as the ability to think ahead. The affective factors are related to self-confidence and willingness to approach the problem and patience or perseverance (Sağir, 2011). Kenyan participants considered these elements crucial, although they placed great emphasis on elements of adaptation to communal life and to socialisation skills.

4.1 Limitations of the Study

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 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 Kenyan researchers 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 were 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 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 Kenyan 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 in future studies to verify the preliminary findings.

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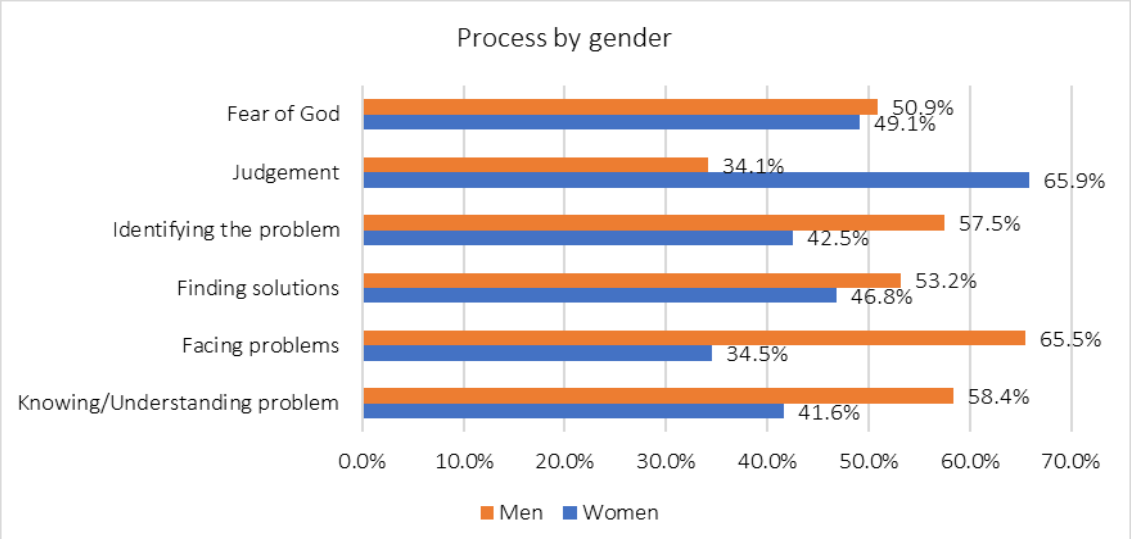
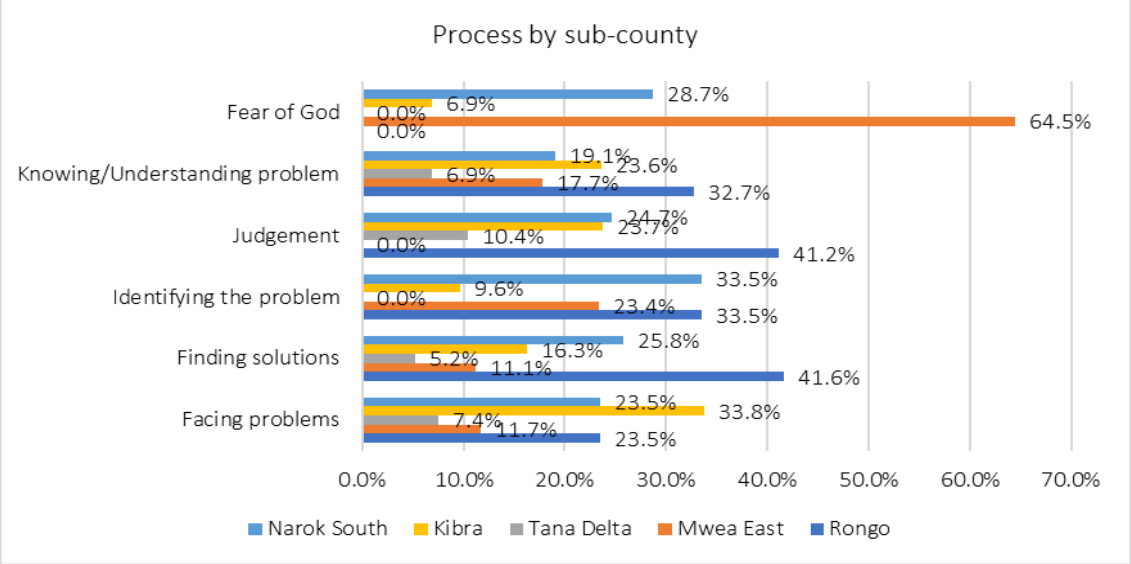
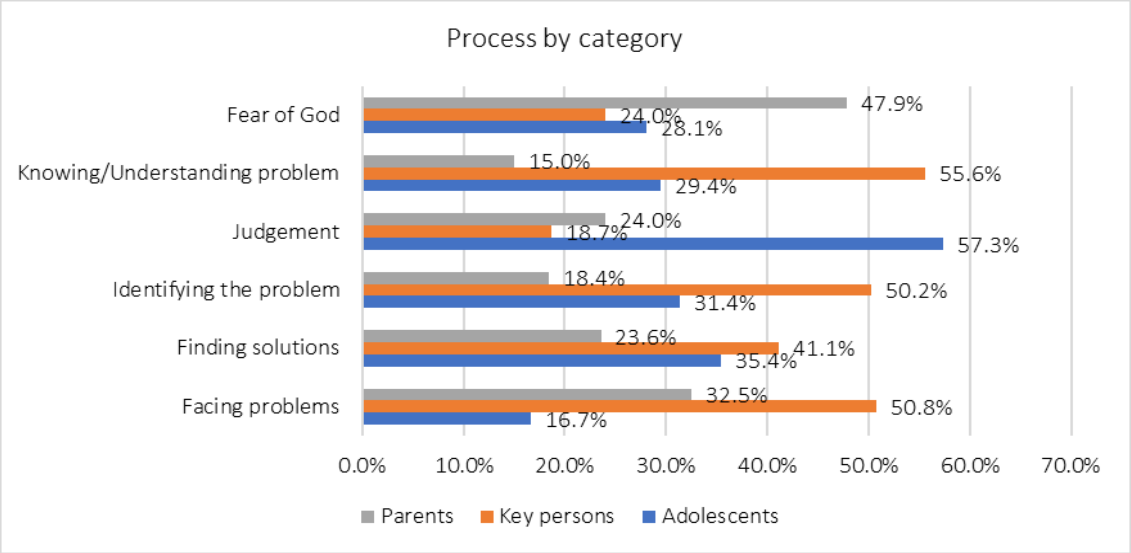
APPENDICES

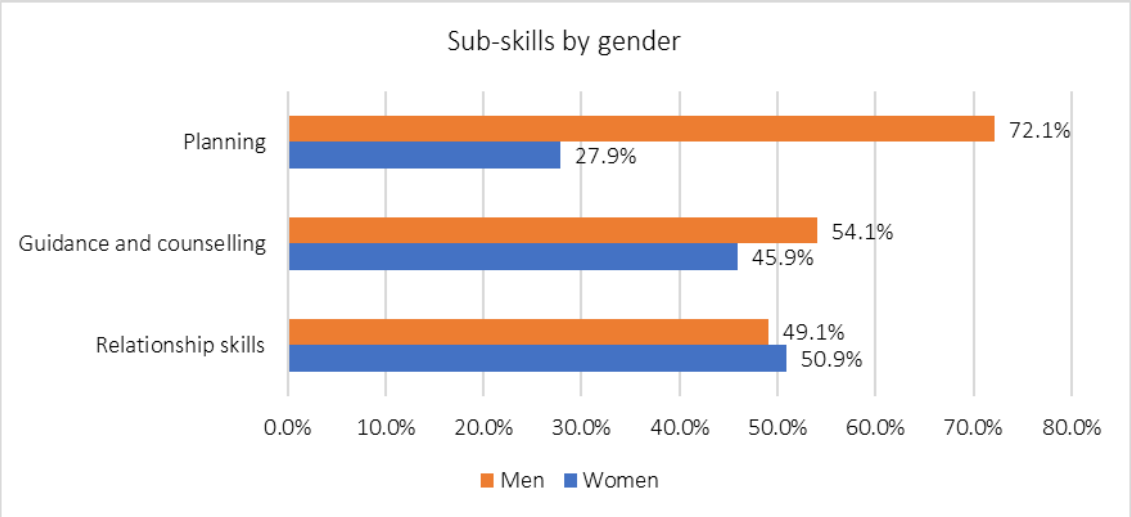
Appendix 1: Descriptive Analysis of the Process Codes by Descriptors

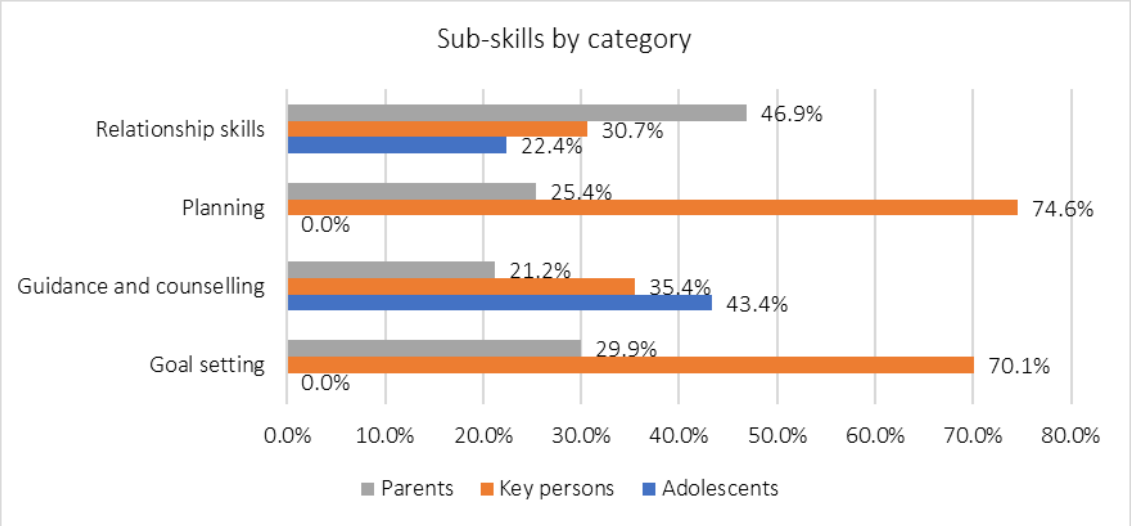


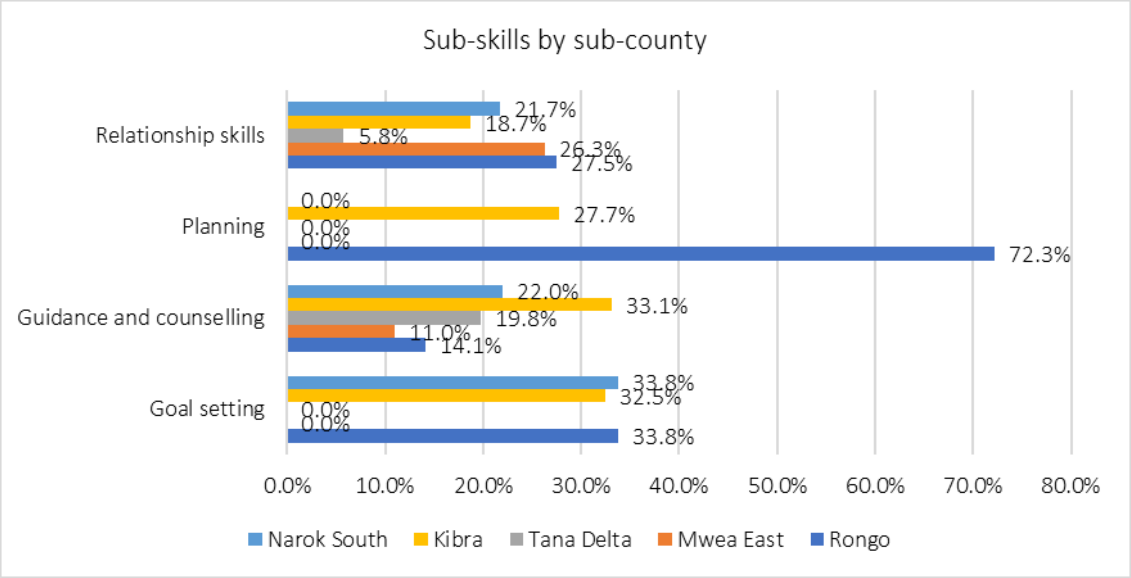




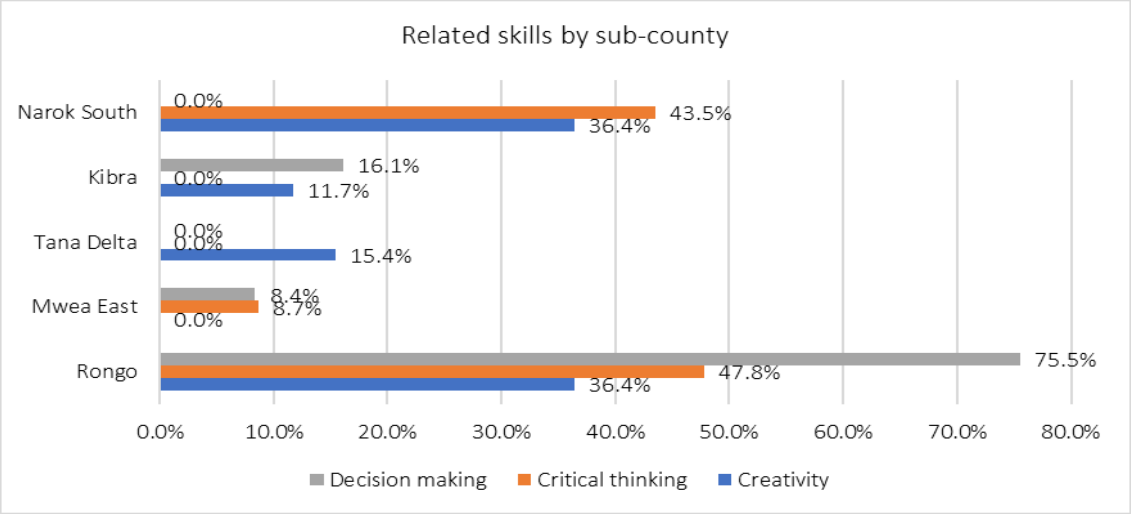
Appendix 2: Descriptive Analysis of the Subskills Codes by Descriptors

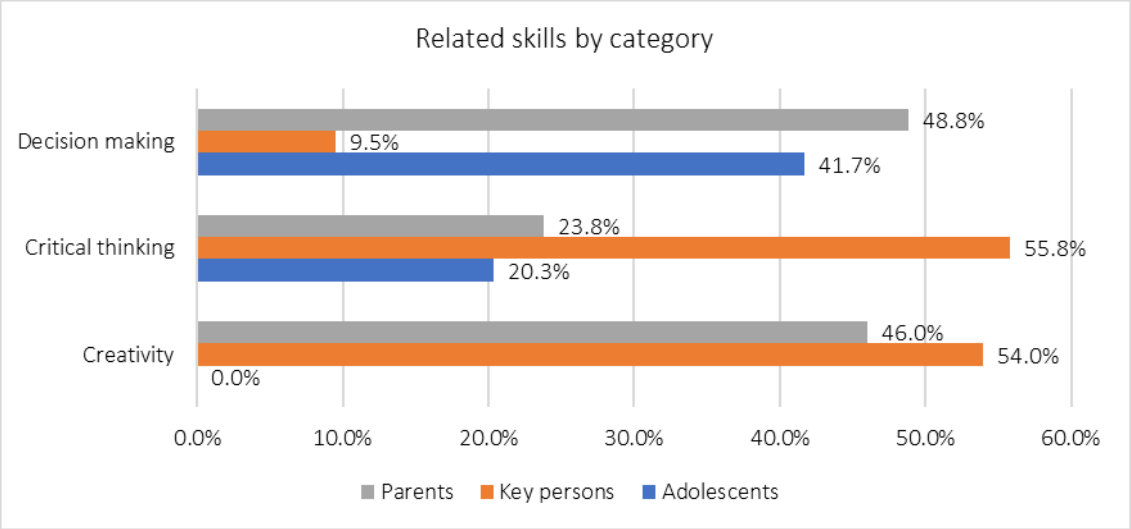


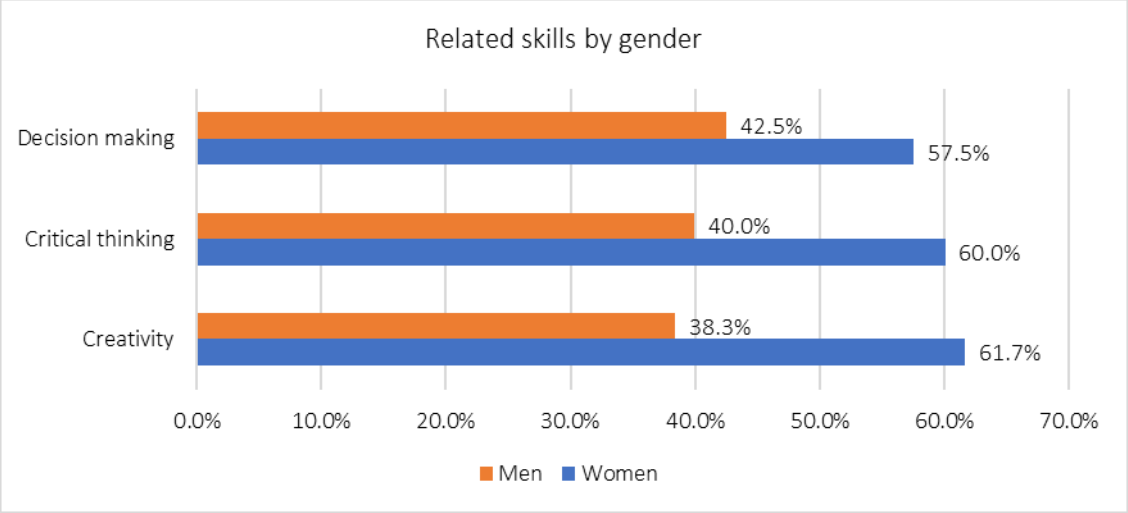




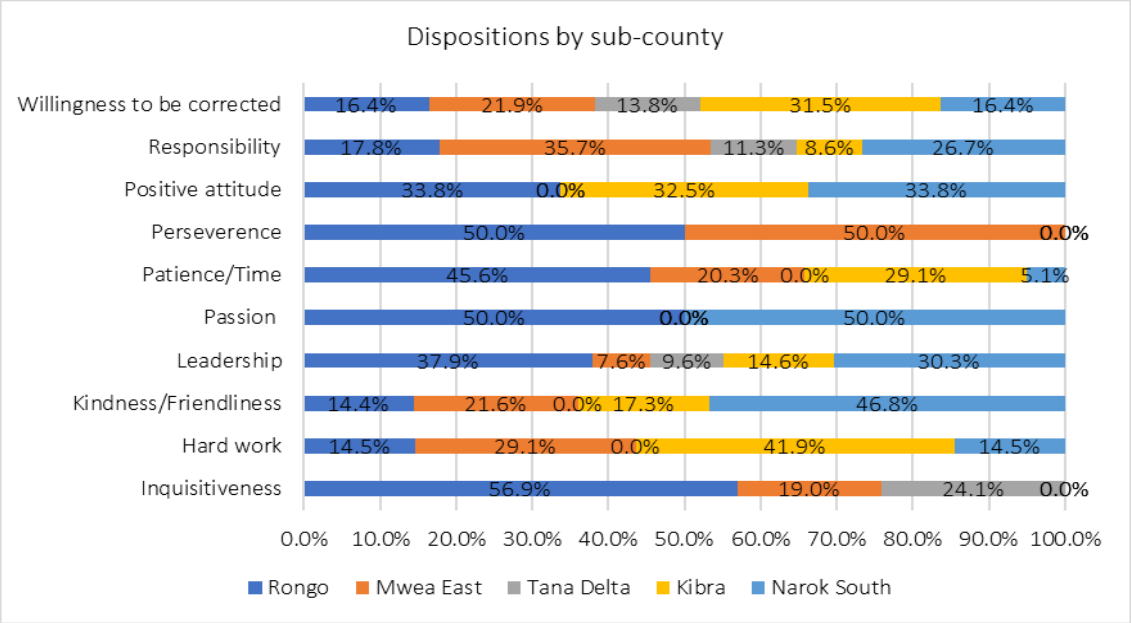
Appendix 3: Descriptive Analysis of the Related Skills Codes by Descriptors

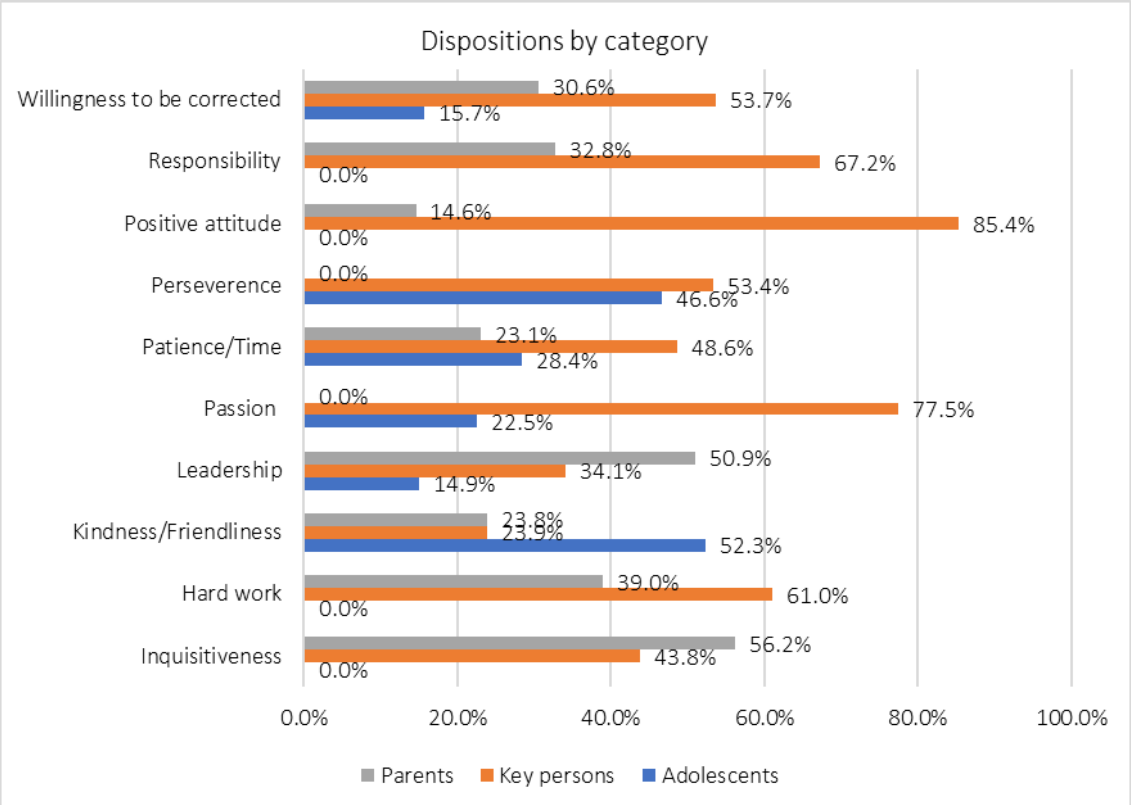


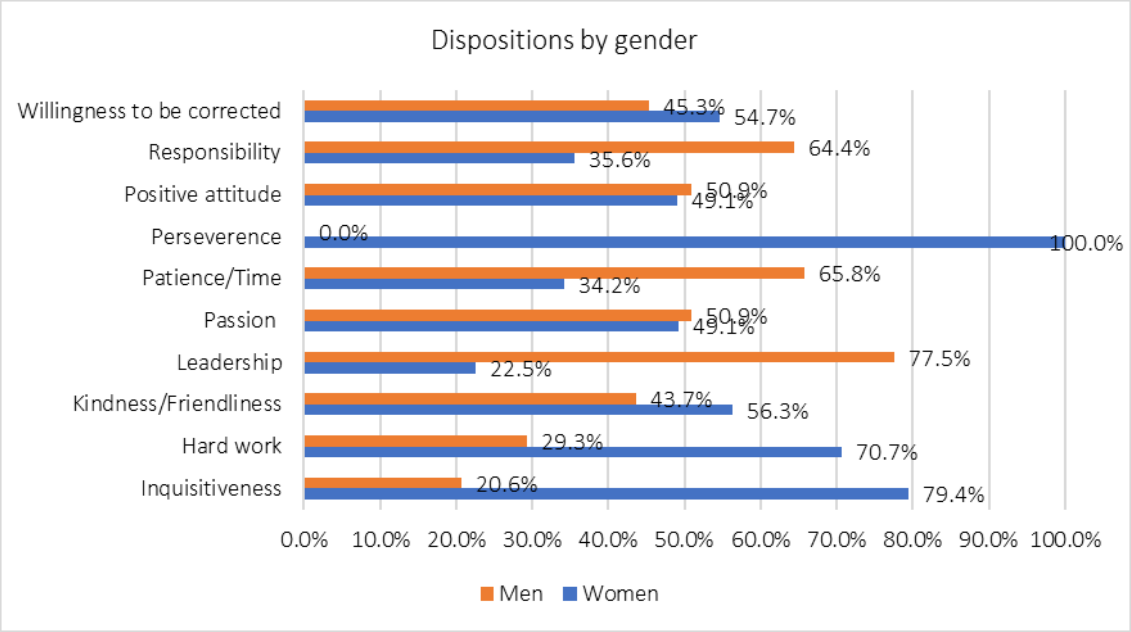




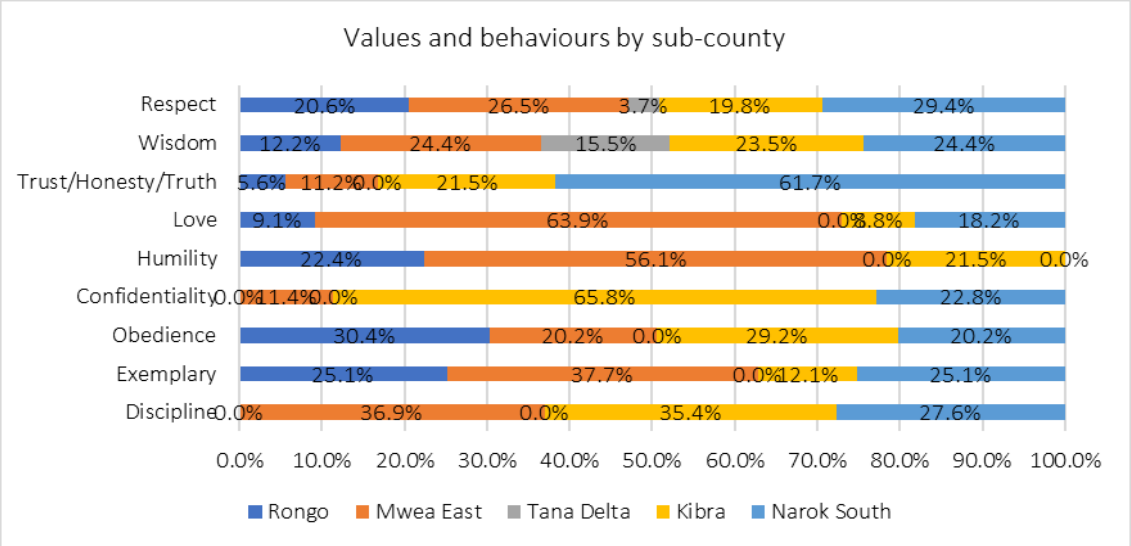
Appendix 4: Descriptive Analysis of Disposition Codes by Descriptors

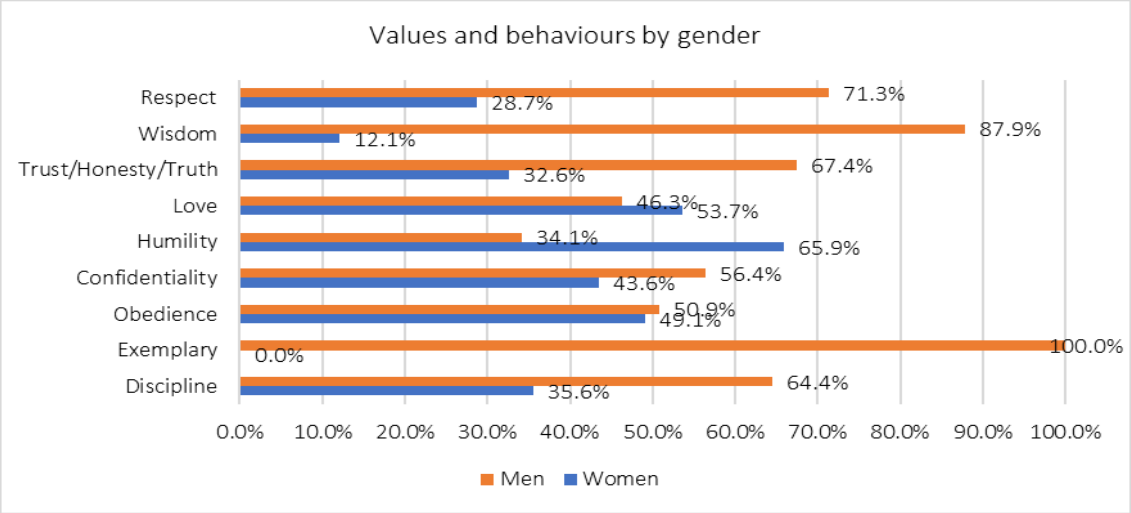

Dispositions by sub-county
Willingness to be corrected
Responsibility
Positive attitude
Perseverence
Patience/Time
Passion
Leadership
Kindness/Friendliness
Hard work
Inquisitiveness
16.4% 21.9% 13.8% 31.5% 16.4%
17.8% 35.7% 11.3% 8.6% 26.7%
33.8% 0.0% 32.5% 33.8%
50.0% 50.0% 0.0%
45.6% 20.3% 0.0% 29.1% 5.1%
50.0% 0.0% 50.0%
37.9% 7.6% 9.6% 14.6% 30.3%
14.4% 21.6% 0.0% 17.3% 46.8%
14.5% 29.1% 0.0% 41.9% 14.5%
56.9% 19.0% 24.1% 0.0%
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0% 90.0% 100.0%
Rongo
Mwea East
Tana Delta
Kibra
Narok South

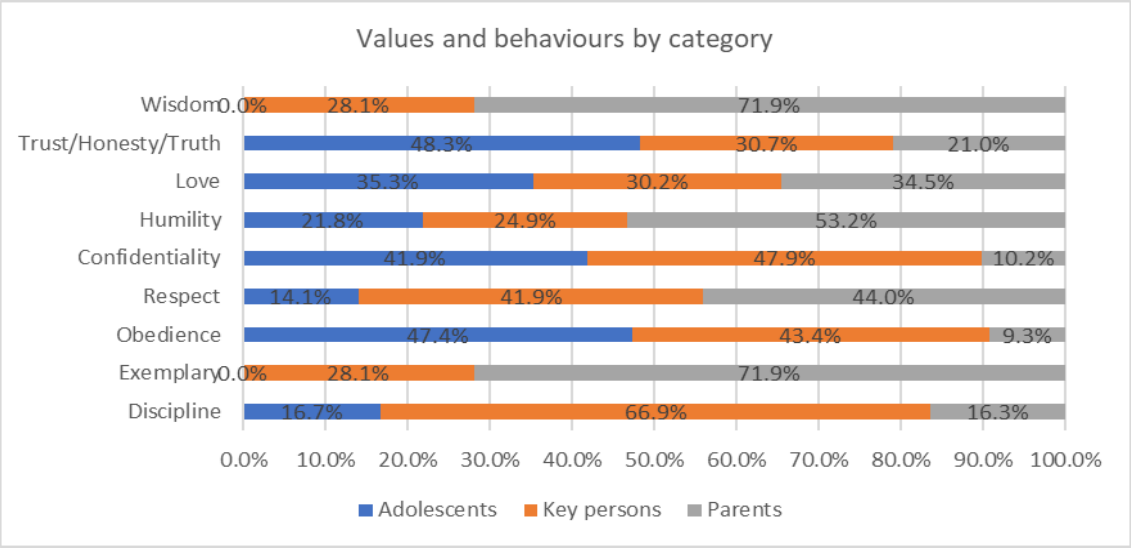

Dispositions by category
Willingness to be corrected
Responsibility
Positive attitude
Perseverence
Patience/Time
Passion
Leadership
Kindness/Friendliness
Hard work
Inquisitiveness
30.6% 53.7% 15.7%
32.8% 67.2% 0.0%
14.6% 85.4% 0.0%
0.0% 53.4% 46.6%
23.1% 48.6% 28.4%
0.0% 77.5% 22.5%
50.9% 34.1% 14.9%
23.8% 23.9% 52.3%
39.0% 61.0% 0.0%
56.2% 43.8% 0.0%
0.0% 20.0% 40.0% 60.0% 80.0% 100.0%
Parents
Key persons
Adolescents



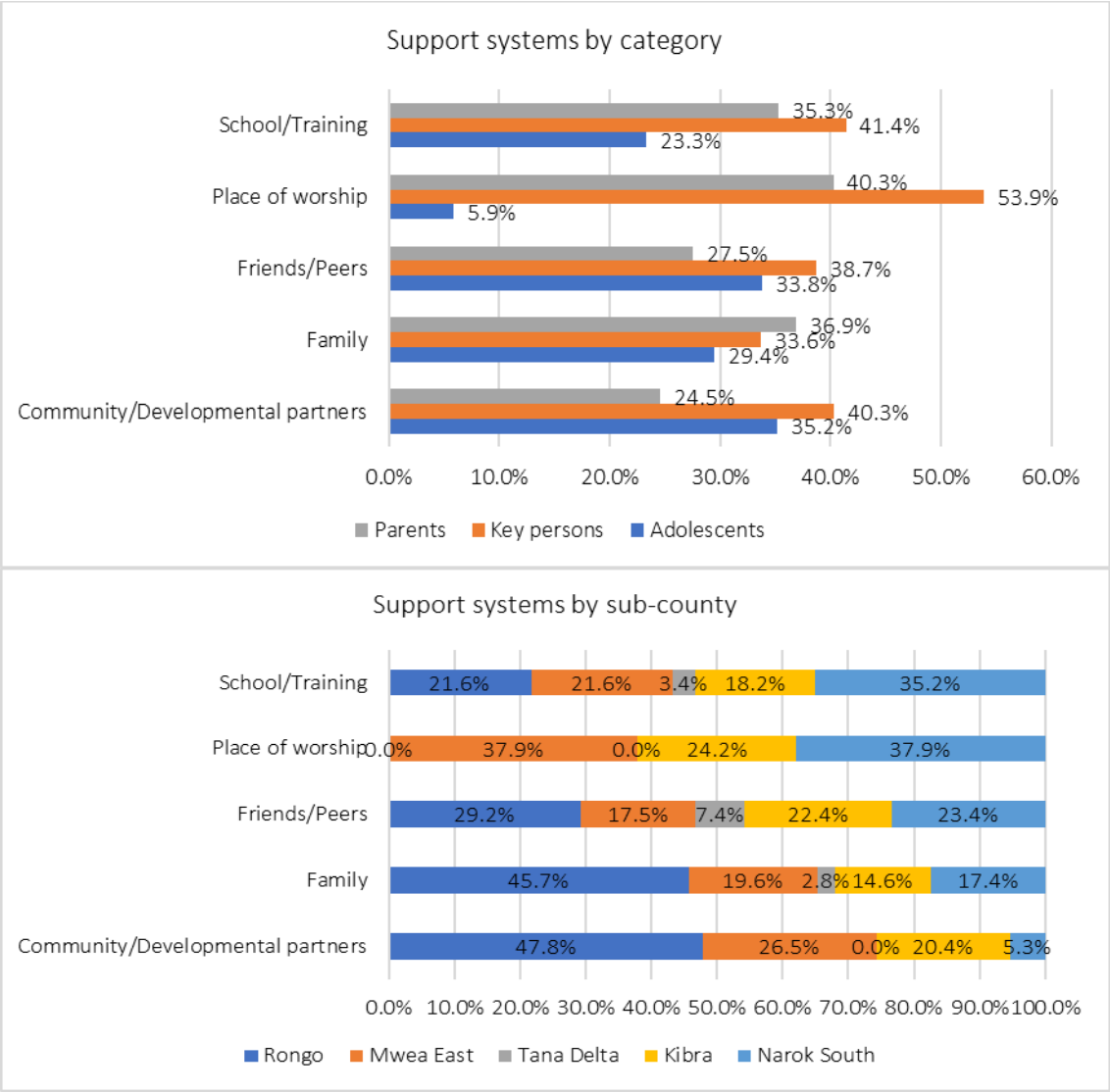
Appendix 5: Descriptive Analysis of Values and Behaviour Codes by Descriptors

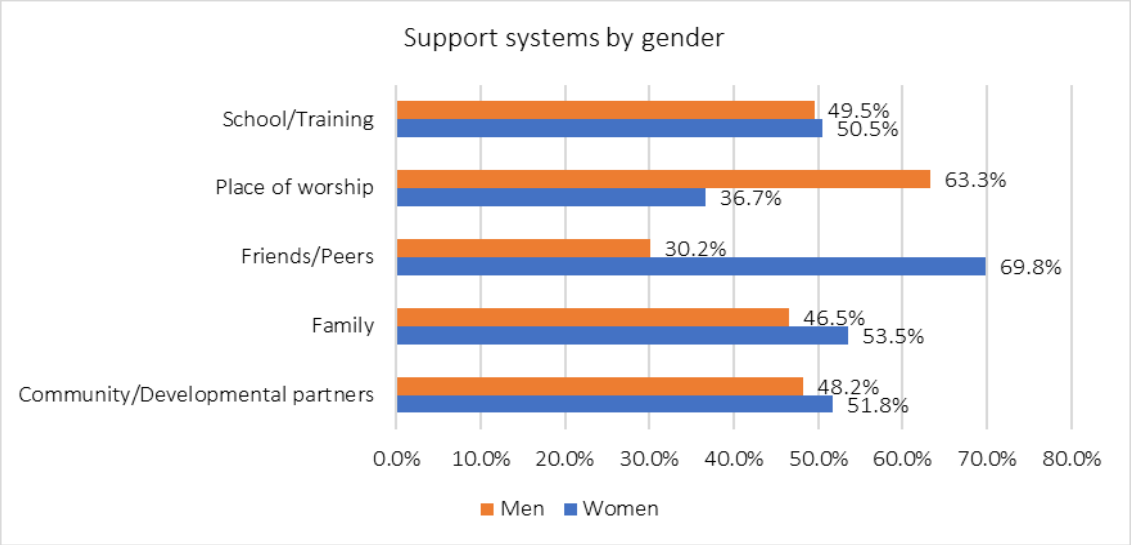



Values and behaviours by gender
Respect
Wisdom
Trust/Honesty/Truth
Love
Humility
Confidentiality
Obedience
Exemplary
Discipline
71.3%
28.7%
87.9%
12.1%
67.4%
32.6%
46.3%
53.7%
34.1%
65.9%
56.4%
43.6%
50.9%
49.1%
100.0%
0.0%
64.4%
35.6%
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0% 90.0% 100.0%
Men
Women

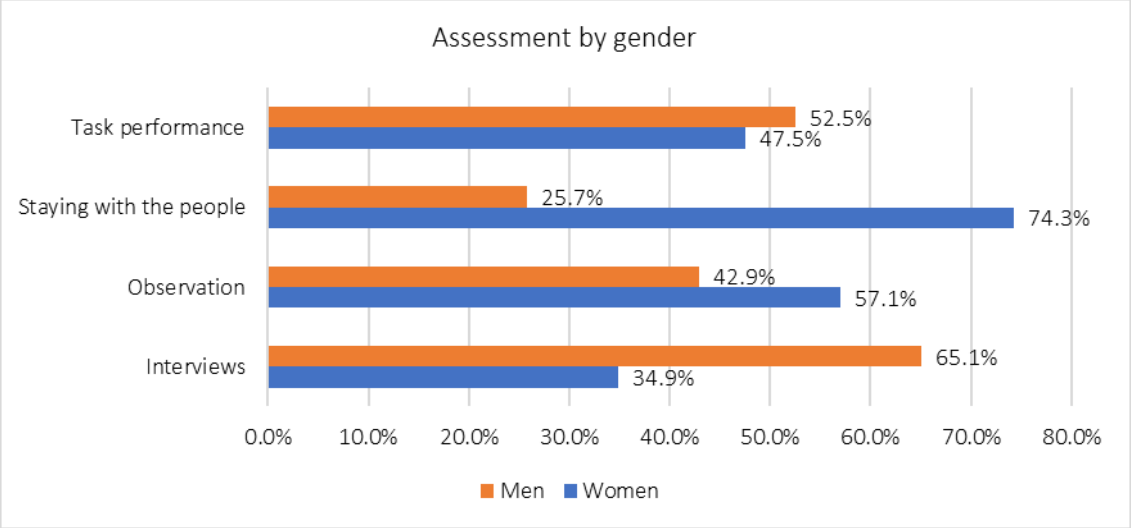

Values and behaviours by category
Wisdom
Trust/Honesty/Truth
Love
Humility
Confidentiality
Respect
Obedience
Exemplary
Discipline
0.0%
28.1%
71.9%
48.3%
30.7%
21.0%
35.3%
30.2%
34.5%
21.8%
24.9%
53.2%
41.9%
47.9%
10.2%
14.1%
41.9%
44.0%
47.4%
43.4%
9.3%
0.0%
28.1%
71.9%
16.7%
66.9%
16.3%
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0% 90.0% 100.0%
Adolescents
Key persons
Parents

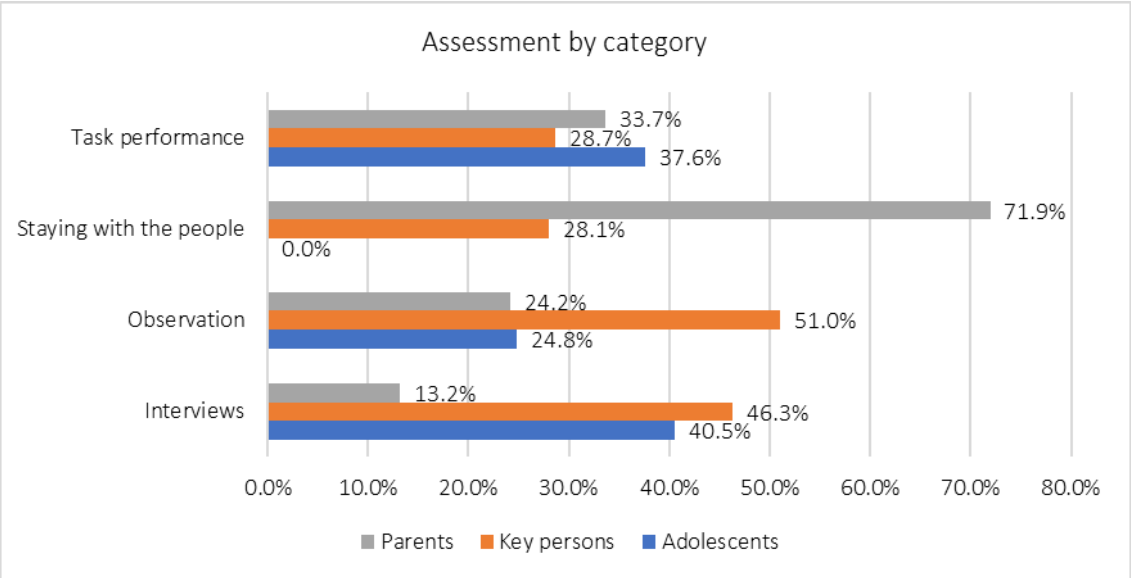
Appendix 6: Descriptive Analysis of Support Systems Codes by Descriptors

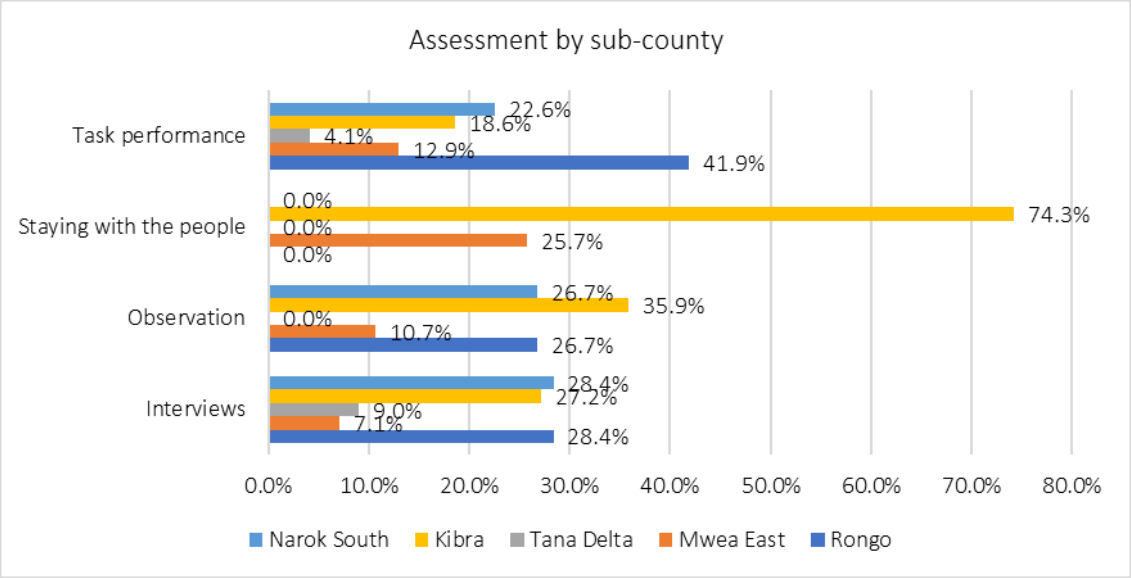




Appendix 7: Descriptive Analysis of Assessment Methods Codes by Descriptors




Assessment by category
Task performance
Staying with the people
Observation
Interviews
33.7%
28.7%
37.6%
71.9%
28.1%
0.0%
24.2%
51.0%
24.8%
13.2%
46.3%
40.5%
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0%
Parents
Key persons
Adolescents


Assessment by sub-county
Task performance
Staying with the people
Observation
Interviews
22.6%
18.6%
4.1%
12.9%
41.9%
0.0%
74.3%
0.0%
25.7%
0.0%
26.7%
35.9%
0.0%
10.7%
26.7%
28.4%
27.2%
9.0%
7.1%
28.4%
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0%
Narok South
Kibra
Tana Delta
Mwea East
Rongo

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