

# Factors affecting female enrolment in TVET male dominated courses

A CASE STUDY IN MUHANGA DISTRICT, RWANDA



A Master thesis in Management of Development

Submitted by

Agnes Uwiringiyimana

Van Hall Larentein University of Applied Sciences

# Factors affecting female enrolment in TVET male dominated courses

## A case study in Muhanga District, Rwanda

A research project submitted to  
Van Hall Larenstein University of Applied Sciences  
in partial fulfilment of the requirements for  
the degree of Master in Management of Development,  
specialization Rural Development, Social Inclusion, Gender and Youth

By

Agnes Uwiringiyimana

September 2022

## **Acknowledgements**

My thanks go to Almighty God for giving me this opportunity.

I express my consideration to all the participants in the research, who allowed me to conduct my thesis research and write the current report.

I am also grateful to the Government of Netherlands which, through the Orange Knowledge Program (OKP), offered me the opportunity to take up a professional master's programme in Management of Development.

I would like to acknowledge all the lecturers in the Management of Development (MOD) program for their support and efforts to make me a better professional through this remarkable program.

My appreciation goes to Fate consulting for guiding me during the field work.

I also thank the MOD program coordinator Annemarie Westendop and my specialisation coordinator Pleun van Arensbergen for their assistance in this program. Many regards to all the lecturers and VHL staff for various types of support.

Finally I express special thanks and gratitude to my thesis supervisor, Koos Kingma, for all her assistance and guidance for the completion of this work.

## **Dedication**

To my beloved mother, my siblings, the whole family of mine and my friends; I dedicate this achievement.

## Contents

Acknowledgements.....	1
Dedication .....	1
List of tables and figures .....	5
List of abbreviations.....	6
Abstract.....	7
Chapter 1: Introduction .....	8
1.1.Research context .....	8
1.2. Problem statement and problem owner .....	10
1.3. Research objective .....	10
1.4. Research questions: .....	10
Chapter 2: Literature review and conceptual framework .....	12
2.1: Key concepts .....	12
2.2. Regional and international context of TVET .....	13
2.3. Factors affecting female enrolment in traditional male-dominated courses in TVET .....	13
2.3.1. Formal policies influence on female enrolment in male dominated courses in TVET.....	13
2.3.2. Influence of parental beliefs and attitudes on female enrolment in male dominated courses in TVET .....	14
2.3.3. Stereotypes and practices in TVET schools.....	15
2.3.4. Female trainees perceptions about TVET .....	15
2.3.5. TVET trainees and graduates expectations.....	16
2.4. Conceptual framework .....	16
Chapter 3: Methodology.....	19
3.1.Research design .....	19
3.2. Study Area.....	19
3.3. Data Collection.....	19
3.4. Sampling method .....	22
3.5. Data Analysis and Processing.....	22
3.6. Ethical Considerations.....	22
3.7.Planning .....	23
Chapter 4: Research findings and results .....	24
4.1.Profile of respondents .....	24
4.2. Motivations and expectations of female trainees to join a TVET male dominated course.....	24
4.2.1. Motivation and awareness on TVET course before enrolment .....	24
4.2.2. Expectations toward careers opportunities.....	26

4.2.3. Providing a positive image in the society.....	27
4.2.4. Expectation of better school facilities.....	27
4.3.Stereotypes about female trainees studying male courses.....	29
4.3.1. Stereotypes about female capacities.....	29
4.3.2. Tacit acceptance of stereotypes by female trainees enrolled in male courses.....	30
4.3.3. Relative neutral attitude of teachers toward stereotypes .....	31
4.4.Parental beliefs and attitudes toward female enrolment in male dominated courses .....	32
4.4.1. A moderate interest of parents in female enrolment in male dominated courses.....	32
4.4.2. A relative parental support despite low interest for female enrolment in male dominated courses .....	34
4.4.3. Need of raising parents awareness about the value of male dominated courses for girls 35	
4.5.Policies supportive to female enrolment in TVET.....	36
4.5.1.Lack of information about existing policies .....	36
4.5.2.Reduction of fees in public TVET schools.....	37
Chapter 5: Discussion.....	38
5.1.Discussion of findings in relation to the existing literature .....	38
5.1.1.Motivation and awareness on TVET course before enrolment.....	38
5.1.2.Stereotypes about female trainees studying male courses.....	38
5.1.3.Parental beliefs and attitudes toward female trainees in male dominated courses .....	39
5.1.4.Policies supportive to female enrolment in TVET.....	39
5.2. Critical reflection.....	40
5.2.1.Strengths and limitations of the research .....	40
5.2.3.Implications and contribution of the research .....	41
Chapter 6: Conclusion and Recommendations.....	43
6.1.Conclusion.....	43
6.2. Recommendations .....	44
Reference list .....	45
Annexes.....	48
Annex 1: Table 1: Number of students in secondary schools.....	48
Annex 2: Table 2: Total number of TVET trainees .....	48
Annex 3: Table 3: Percentage of VTC (TVET LEVEL 1 TO 5) Students by Sex and by Trade in 2019 .	49
Annex 4: Table 4: Gender parity index (GPI) in enrolment.....	49
Annex 6: Table 6: Profile of respondents.....	50
Annex 6: Semi-structured interviews guide.....	52



## List of tables and figures

<i>Figure 1: Gender at work framework</i>	17
<i>Figure 2: Adapted framework for increased female enrolment in male dominated courses in TVET</i>	17
<i>Table 1: Number of students in secondary schools</i>	48
<i>Table 2: Total number of TVET trainees</i>	48
<i>Table 3: Percentage of TVET level 1 to 5, Students by sex and by trade in 2019</i>	49
<i>Table 4: Gender parity index (GPI) in enrolment</i>	49
<i>Table 5: Research schedule</i>	50
<i>Table 6: Profile of respondents</i>	50
<i>Picture 1: Interview with a respondent</i>	20
<i>Picture 2: Interview with a TVET graduate in her workplace</i>	21
<i>Picture 3: FGD with female trainees in male dominated courses</i>	21
<i>Picture 4: Interview with a female trainee in Carpentry</i>	25
<i>Picture 5: FGD with TVET teachers</i>	28
<i>Picture 6: FGD with male trainees in male dominated courses</i>	30
<i>Picture 7: FGD with female trainees in female courses</i>	33
<i>Picture 8: Interview with a female trainee parent</i>	35

## List of abbreviations

Abbreviations	Meaning
MINEDUC	Ministry of Education
TVET	Technical and Vocational Education and Training
RTB	Rwanda TVET Board
NISIR	National Institute of Statistics in Rwanda
MIGEPROF	Ministry of gender and family promotion
UNESCO	United Nations Educational, Scientific and Cultural Organization.
GPI	Gender Parity Index
ICT	Information communication and Technology
OKP	Orange Knowledge Program
MOD	Management of Development
SIGY	Social Inclusion Gender and Youth
KI	Key Informant
FDG	Focus Group Discussion

## Abstract

In Rwanda, the education system is characterized by a good representation of women as the gender parity index in education is to the advantage of girls. Policies allowed to favour an increase of female enrolment in general secondary school, but the government, through the Ministry of Education, sets now a priority on TVET. Indeed, TVET is characterised by low female enrolment, particularly in traditional male dominated courses, where the education targets are not achieved (RTB, 2021), and National Institute of Statistics in Rwanda (2021) showed that girls represent only 16% of total trainees in traditional male dominated courses.

This research had the objective of gaining knowledge into the factors affecting female enrolment in TVET male dominated courses in Muhanga District of Rwanda. It adopted a qualitative approach, and a systemic change perspective. The research was based on the insights from TVET female trainees enrolled in traditional male dominated courses (26 interviewed). The research also targeted diverse participants, including teachers, male trainees or girls in female dominated who all addressed through focus group discussions. Some key informants were also interviewed: a school director, a female graduate from a male dominated course and 3 parents of TVET female trainees from the courses that were concerned by this research (Masonry, Carpentry, and Automobile).

It was first shown that girls' personal ambitions, family members, relatives, or role models could influence their decision to join a male dominated course. Access to information about TVET curriculum was also a determinant in girls' choice. Regarding the stereotypes faced by female trainees, it appeared that boys addressed their peer female trainees with bias and stereotypes related to girls inability to perform tasks boys could do at school, the lack of physical strength for girls, and their incapacity to deal with reproductive roles and technical studies or jobs. However, boys could not recognise any harmful intention while girls ended up accommodating themselves with them; and teachers pointing out girls responsibility to prevent stereotypes. Besides, the research findings also presented that parental beliefs and attitude had an impact on female enrolment in male dominated courses, and these attitudes were influenced by parents' profession, religious belief, level of education or girls in the family having succeeded a similar course, and the financial situation of parents.

Finally, It was shown that female trainees lacked information about the existing policies that are supportive to female enrolment in male dominated courses, and schools did not have their own policies to promote female enrolment in male dominated courses, and rather referred to general national policies which govern TVET schools in Rwanda. Still, the main expectations shared by respondents to increase female enrolment in male dominated courses revolved around the increase of TVET schools, the hiring of more female teachers in male dominated courses, gender sensitive policies for employment of TVET female graduates, awareness raising for community members and parents on existing policies and importance to enrol girls in male dominated courses; or scholarships schemes for girls to enrol in male dominated course.

Based on the findings a strategy involving a multi-stakeholders process was suggested to address female enrolment as a complex issue and simultaneously address of policies, access to resources, gender stereotypes, as well as girls consciousness dimensions for change.

## **Chapter 1: Introduction**

The research proposal is written as a partial fulfilment of the requirements of the Master of Applied Sciences in Management of Development, with a specialization of Social Inclusion, Gender and Youth at Van Hall Larenstein University of Applied Sciences. The research was commissioned by Fate Consulting limited, an organisation in Kigali specialised in gender analysis and mainstreaming, strategic planning, policy analysis, programme development, monitoring and evaluation, trainings as well as capacity building.

The introductory chapter provides the research context, problem statement and problem owner, research objective and research questions.

### **1.1. Research context**

Rwanda is a country located in East Africa. According to statistics from the World Bank (2020), Rwanda has a total population of 12,952,209 among which the rural population represents 83% and women represent 50.8% of the total population. The overall youth population (16-30 years old) makes up 26.6% of the population according to data of latest Integrated Household Living Conditions Survey – Youth Thematic Report by the National Institute of Statistics of Rwanda (2018). According to this, report, the sex ratio of youth in Rwanda is 92 males for 100 females.

In terms of education, approximately 85% of young men and women aged 16-30 are literate in Rwanda (National Institute of Statistics of Rwanda, 2018); and according to the World Bank, the literacy rate of youth aged 15-24 is 86%, with young women in this range having a higher literacy rate (89%) than young men (84%). To achieve this relatively high level of female literacy, the country has adopted and implemented different policies on education.

The first major policy on education was adopted in 2003, following the tragic period of the genocide. At the adoption of the Education Sector Policy in 2003, literacy rates were estimated at 47,8% for women and to 58,1% for men, and the country only had 6 technical schools focusing on traditional skills (such as nursing and secretary) that were reinforcing gender stereotypes (Ministry of Education, Science, Technology and Scientific Research, 2003). This policy integrated pillars focusing on women accessibility to education particularly in rural areas and curriculum which are output and skills-oriented. Further education policies were adopted, and aligned with the sustainable development goals related to gender equality and quality education. The current general education policy is the Education Sector Strategic Plan 2018/19 to 2023/24 elaborated by the Ministry of education (2018). This policy acknowledges significant progress in access and enrolment in secondary education with a higher proportion of girls, but acknowledges moderate progress in TVET with little changes noticed over the past 5 years as the number of females students is still lower and even slightly reducing (MINEDUC, 2018). This situation is related to policies but also to some social cultural factors such as parental beliefs and attitudes which influence the enrolment of girls in TVET in Rwanda (Nshimirimana and Kitula, 2020). These beliefs are also linked with the level of education of parents in Rwanda and only 10% of parents without formal education have enrolled girls in TVET (Nshimirimana and Kitula, 2020).

According to statistics from Ministry of Education (2020), policies favoured increased enrolment rates with higher proportion of women (53,6% against 46,4 % for males) in general secondary education (Table 1 in Annex). Despite improvement of female participation in general secondary education, the focus of the government is now on TVET where the enrolment target is not achieved (RTB, 2021); and the TVET sub-sector is usually characterised by gender gaps in disfavour of women in TVET (Rubagiza, 2010).

According to the Rwandan TVET Board (2021), the government of Rwanda seeks to achieve an enrolment of 60 % of nine years basic education leavers into TVET by 2024, to align with labour market

that requires more TVET skills. However, only half of the enrolment target in TVET is met (RTB, 2021) and female participation in TVET remains one of the biggest challenge (MINEDUC, 2020). In fact, regarding the total number of TVET trainees (Table 2 in annex), statistics show a low participation of women in TVET as women make 43.2% of the total TVET trainees. More significantly, there is a huge gap in the last levels of TVET, as at level 6 and 7, a big difference is noticed for female and male who attend TVET schools as males represent 72.75% of total TVET trainees as compared to females who represent 27.25% (MINEDUC, 2020).

In order to improve access to and quality of TVET, as well as women participation in TVET, the Ministry of Education adopted in 2015, the TVET Policy. The stated vision for TVET is “to develop a regional and international TVET system that produces men and women quality graduates, with employability skills that responds to the changing demands of employers and the country’s labour market, providing them with the opportunity to engage in decent work, work for themselves, be competent entrepreneurs and engage in life-long learning”. This policy recognises gender inequalities in TVET and calls for supportive strategies to make TVET equitably available for women and men. Following this, the Government adopted the presidential order n° 123/01 of 15/10/2020 establishing the Rwanda technical and vocational education and training board (RTB), with the aim to coordinate and track TVET programmes.

Since the adoption of the TVET policy and the establishment of RTB, there is currently 366 TVET schools in the country; but the number of female trainees in TVET remains low and there is a gender gap across TVET courses (NISR, 2021). TVET is offered in Rwanda in different fields (courses) such as moto vehicle engine mechanism, Masonry, carpentry, tailoring, welding, food processing, domestic electricity, culinary arts, plumbing, knitting, painting, crop production, ICT, crop production, animal health, hair dressing and forestry (NISR, 2021). The enrolment rate of women in TVET varies from a course to another. Indeed some courses that represent traditional women roles like hair dressing, tailoring, culinary arts have higher rates of female trainees. However, there is still a low female enrolment in TVET fields that are traditionally male-dominated. Indeed, data from the National Institute of Statistics in Rwanda (2021) show that these courses have less than 25% of female students: 5% of female trainees in Auto mobile engine and technology, 5% in Moto vehicle mechanism, 9% in Welding, 15% in Masonry, 16% in Carpentry, 21% in Domestic electricity and 23% in plumbing. These courses have together an average female proportion of 16% (see Table 3 in annex).

The different policies related to TVET all aim at increasing the participation of female trainees in TVET. The TVET sector policy calls for removing barriers in access to TVET and increase the participation and outcomes of participation for girls (MINEDUC, 2015). Besides, the education sector strategic plan was adopted to “ensure gender parity in participation and achievement at all levels of education” (MINEDUC, 2018). According to this plan, the gender gap is significant at the TVET level, and initiatives should be taken to encourage girls to enrol in TVET and change mindsets, moving away from current choice limitations and traditional gender-based options. In this sense, female trainees should not only enrol, but also broaden their options beyond traditional gender roles, and take up scientific and technical courses (MINEDUC, 2018). Encouraging female enrolment in TVET is seen as a way to promote gender equality and women socio-economic empowerment by providing them with skills that meet the labour market needs and Rwanda’s social and economic development. In the same line, the Revised National Gender Policy also targets an increased enrolment of women in TVET and encourage them to focus on TVET courses dominated by males, yet offering relatively higher remuneration perspectives (MIGEPROF, 2021).

## **1.2. Problem statement and problem owner**

TVET has emerged as one of the most effective human resource development strategies that Rwanda has embraced in order to train and modernize the technical workforce for national development. Since its development in 2008, the Government put efforts to expand the TVET and make it equitably accessible to men and women (Ministry of Education, 2022).

The statistics show an underrepresentation of women in TVET as the gender parity is below 1 in TVET while it is in favour of women in other education programs (Table 4 in Annex). More critically, there is a large gender gap in traditionally male-dominated courses like mechanics, welding (Civil engineering), carpentry, masonry, plumbing, where there is an average of 16% females trainees (NISR, 2022). Yet the national policies aim for gender parity and an increased enrolment of women in TVET, in order to promote gender equality and women socio-economic empowerment for social and economic development of the country (MINEDUC, 2018).

It is well known that there is a low female enrolment in TVET schools and Fate Consulting, the commissioner of the research also pointed out a gender gap in TVET in a research. According to Fate consulting limited, some TVET courses are overwhelmingly male dominated, and the pathways in the selection of TVET courses leads to different outcomes for males and female trainees in the sense that male-dominated courses have better employment perspective (FATE, 2019). However, there is a lack of information about the factors affecting female enrolment in TVET from a systemic change perspective, and Fate consulting needed to investigate on these factors in order to provide strategies to enhance female enrolment in TVET. This improved enrolment would contribute to TVET national policy which aims to reduce gender gap and biases in TVET for gender equality (MINEDUC, 2015) and allow girls to get skills that are highly demanded for the labour market.

Fate Consulting is a registered company in Kigali, Rwanda, specialising in gender analysis and mainstreaming, strategic planning, policy analysis and programme development, monitoring and evaluation, trainings and capacity building. Its goal is to provide high quality consulting services that enables their clients' success and contributes to national development. In fact, Fate does consultation, supports different organisations to mainstream and integrate gender equality and social inclusion in their development projects and programmes, and also conducts qualitative and quantitative research to inform interventions.

## **1.3. Research objective**

The research objective is to gain insights into the factors affecting female enrolment in TVET male dominated courses in Muhanga District of Rwanda, with the aim of recommending strategies to increase enrolment of female trainees in TVET schools.

The research objective focused on the insights from TVET female trainees using a systemic change perspective, as based on the constraints (or opportunities) they experienced or are experiencing, their perceptions can be more relevant and factual insights to campaign for change and motivate more female trainees to be enrolled in TVET.

## **1.4. Research questions:**

The main research question was:

What are the experiences of TVET female trainees with enrolling in traditionally male-dominated courses in TVET?

The sub-questions were:

1. What are the expectations and motivations of female trainees about TVET male dominated courses?
2. How are educational policies supportive to female enrolment in TVET male dominated courses?
3. What are the beliefs and attitudes of parents toward females studying at TVET in male dominated courses?
4. What are the stereotypes about female trainees doing male dominated courses at TVET schools?

## **Chapter 2: Literature review and conceptual framework**

This chapter gives a definition of key concepts, main themes discussed by different authors as well as the conceptual framework used.

### **2.1: Key concepts**

#### **❖ Technical and vocational education and training (TVET)**

According to UNESCO (2021), TVET is seen as a mixture of formal, informal, and non-formal learning that provides youths the knowledge and skills they require for employment. TVET refers to studies in the field of technology, applied sciences, agriculture, business studies, industrial studies and visual arts which aims to providing learners with essential skills for employment or self-employment (Mahuyu and Makochekeka, 2020). TVET is perceived as a “lifelong learning and training process”, which usually starts during secondary school and could continue to tertiary education (Owais *et al.*, 2020). The education is career-oriented and according to Owais *et al.* (2020), is often referred to as a practical activity or a manual activity in relation to a specific profession. As such, TVET is seen as an instrument of economic transformation by producing skilled males and females for improving the labour productivity (Ridzwan *et al.*, 2017).

In Rwanda, TVET is concerned with the acquisition of knowledge and skills for the world of work (MINEDUC, 2021). TVET is defined by the Rwanda Education Board as any educational, training, or learning activity that leads to the acquisition of knowledge, understanding, or skills that are relevant for employment or self-employment. The vocational training is a system that strives to provide beneficiaries with the knowledge and skills they need to practice a profession and integrate the labour market. It involves both introductory and ongoing vocational training. Technical education part is a systematic system that aims to provide participants with the knowledge and skills they need to continue their studies at a higher level or to practice a vocation in order to be incorporated into the workforce (MINEDUC, 2008).

#### **❖ Gender gap and gender equality:**

Gender Equality can be defined as the equal treatment of men and women , in order to allow them to enjoy the benefits of development, including equal access to and control of opportunities and resources (Wanyaga Munyi, 2019). According to Ministry of gender and Family Promotion of Rwanda, gender equality implies that men, boys, women and girls, have equal conditions, treatment and opportunities to achieve their full potential, their human rights, as well as their dignity; and to contribute to, and benefit from economic, social, cultural and political development (MIGEPROF,2021). Gender equality also implies the equal valuing by society members of the differences and similarities of both men and women, and the roles they play (MIGEPROF,2021).

When applied to education, gender equality implies two dimensions: gender parity (equal participation of boys and girls in accordance with their proportion) and goals of gender equality which meansensuring equality in education between boys and girls (Aragonés-González, Rosser-Limiñana and Gil-González, 2020). In this sense, the conceptualisation of gender equality in education entails access and participation, and also the educational outcomes. Also, pursuing gender equality in education is seen to have a positive impact as it leads to women’s employment, as well as to economic growth (Fuller, 2019).

Gender gap is unequal difference between men and women and boys and girls, particularly as reflected in attainment of development goals, access to resources and levels of participation (MIGEPROF,2021).

### ❖ **Social norms and gender bias:**

Social norms are rules of action shared by people in a given society or group; they define what is considered normal and acceptable behaviour for the members of that group (Cislaghi and Heise, 2020). They are expressed under different forms and can influence the way people can dress for a wedding, stand in line for shopping, shake hands when they meet with someone, or offer their seat on the bus to an older person (Cislaghi and Heise, 2020). Social norms is a multiple faceted and cross-disciplinary concept but authors agree on three dimensions of social norms: They must be social, they influence actions and decisions in some way, and they can affect people's well-being (Legros and Cislaghi, 2020). Social norms also influence gender bias, which the European Institute for Gender Equality defines as "prejudiced actions or thoughts based on the gender-based perception that women are not equal to men" (Brown *et al.*, 2020).

## **2.2. Regional and international context of TVET**

Many advanced countries, such as Japan and the United States, regard the development of vocational skills and the promotion of lifelong learning as essential national strategies. Interventions in Sub-Saharan Africa are highlighting the relevance of vocational education as a way to narrow the gender gap in earnings, productivity, assets, and agency (Niklas *et. al.*, 2017). Increasingly, governments, development organisations and the private sector, in order to address the underlying causes of gender inequality in Africa, particularly in terms of women's economic and social empowerment, are focusing on technical and vocational training (Niklas *et. al.*, 2017).

UNESCO statistics revealed that the percentage of secondary learners involved in technical and vocational education varies from less than 20% to more to 45% in developed countries (MAHE, 2018). Latin America and the Caribbean had higher proportion of females in TVET while Africa has the lowest proportion: Females accounted for less than 15 % of the registration in TVET colleges, such as Eritrea, Nigeria, Ethiopia, Namibia, Malawi; and Uganda had proportion of TVET enrolment of less than 5 % of the overall secondary school enrolment (MAHE, 2018).

Since it assists individuals in becoming economically productive and thereby escaping poverty and marginalization, Technical and Vocational Education and Training (TVET) contributes to an enhanced quality of life. Individuals who are equipped with skills become entrepreneurs, employable citizens, and knowledgeable citizens, contributing to a country's economic progress. As a result, human resource development through TVET contributes not only to economic development in unemployment reduction, but also to increased social inclusion (Ngugi and Muthima, 2017).

## **2.3. Factors affecting female enrolment in traditional male-dominated courses in TVET**

### **2.3.1. Formal policies influence on female enrolment in male dominated courses in TVET**

Technical and vocational education gained interest from governments and donor agencies, especially in sub-Saharan Africa countries (King & Palmer, 2010). Policy makers in developing countries are driven by the assumption that TVET is a relevant pathway for equipping young people with the necessary skills and knowledge required by the labour market; and therefore TVET is considered as a way to reduce youth unemployment (UNESCO, 2021). The SDGs adopted by the global community to be achieved in 2030, also have specific targets on TVET towards "enhancing the participation rates of youth and adolescents in formal and non-formal training; providing quality programmes for skills development that meet the industrial needs now and in the future, where to some extent are able to create own jobs, and enhancing the participation of all" (MINEDUC, 2008) .

TVET policies focus on developing the work skills of men and women to contribute in economy of countries, as TVET policies aims to generate, highly-skilled, and well educated human capital (Diop, 2020). In developing countries, where skills gaps is commonly observed between men and women,

Rwanda is among the African countries that have implemented TVET as an integral part of their education system (Diop, 2020).

Chinyere (2014) considers that policies have an importance for increasing female enrolment in TVET. In her research in Nigeria, the author pointed out that lack of gender equality policies in TVET or the lack of monitoring of such policies could hinder female enrolment in TVET. Such a lack of policies and monitoring mechanisms do not enable formal frameworks to promote female enrolment or to track their enrolment. Also, school policies play a crucial role as facilities, availability of lecturers, school program and practices are policy related and may influence female enrolment (Chinyere, 2014).

### **2.3.2. Influence of parental beliefs and attitudes on female enrolment in male dominated courses in TVET**

Multiple and inter-linked social norms affects young women, constrained on their choices. Social norms and practices still compromise female capability and lead to girls's exclusion from participating in certain vocational programmes (Azeem *et al.*, 2022). The feminist theory argues that the society is unfair to women in terms of limiting them to access to and be maintained in certain fields of knowledge (Najoli, 2019). A study conducted on the factors affecting female enrolment in technical education programme in the Delta State University of Abraka, revealed that socio-cultural norms are influencing factors as it is considered for example that it is wasteful to invest in girls education in TVET as they would be married, and their role lies more in kitchen (Chinyere Shirley Mrs., 2014). The social and cultural factors assumed to affect the female's enrolment, "wrong parental attitudes" (Nshimirimana and Kitula, 2020) is considered to have an important role. During focus group discussions conducted by Nshimirimana and Kitula (2020) in a study, one female revealed that she wanted to pursue mechanical engineering but when her parents found out, they strongly advised her choose food processing or hairdressing because they never saw a female mechanic, and such a job requires muscles which they thought she did not have, as they associate engineering with physical strength. Parents also believe that since their girls will get married and join another family, men have some privileges women are not entitled to (Nshimirimana and Kitula, 2020). As a result, there is a parents' unwillingness to bear the educational costs such as cost of books, hand tools (Chinyere Shirley Mrs., 2014)

Perceptions are the process by which individual select, organize and interpret information about their environment. Parents perceptions of female child takes the form of belief that the sons are responsible for supporting parents in their old age. This, therefore makes the education of sons (male child) more valuable to parents. On the other hand, they believe that girls, upon marriage, join their husband family, and take with them the benefit of all the education, or acquired skills. This makes parents have few motivation to handle the costs pertaining to the educating of their girls, or supporting them to gain skills or get engaged in technical programmes (Prof.P.C.Okwelle and Kooli, 2021).

Beliefs tend to perceive males as more important than females, males have more capacity to acquire technical skills especially in traditional male reserved areas "dealing with things" such as construction, welding, electricity, mechanics. These can be seen in the perceived differences in male and female responsibilities and skills taught by socialisation in the home and family, reinforced by schooling, vocational/career advice services, job experiences, peer pressure, and the lack of female role models (Nshimirimana and Kitula, 2020).

Besides, there is a "poor societal attitude" towards technical education, parents may believe that technical education is for dull and unintelligent students, societal perception that technical education is for the less privileged in the society (Chinyere Shirley Mrs., 2014). Furthermore, there are cultural sanctions on women, religious and cultural traditions such as early marriage, refusal to allow girls to travel long distances, and conservative beliefs that a woman's role is limited to the kitchen or home,

contribute in child care, home production, agriculture, and trade, necessary for family survival and the education of siblings (Chinyere Shirley Mrs., 2014).

### **TVET financial cost influence on female enrolment**

In a research conducted in Nigeria, insufficient financial support and financial consideration are among contributing factors of low female enrolment in TVET (Chinyere Shirley Mrs., 2014). In their research Chinyere Shirley (2014) quoted TVET female trainees who associated financial situation of parents with female enrolment. Indeed, increase in TVET school fees, costs of study materials are identified as having an impact on female enrolment. In such situation, a lack of scholarships for female trainees to address the financial cost is also pointed out as a barrier (Chinyere Shirley Mrs., 2014). Also, in a research conducted in Kenya, it was noted that TVET courses are usually expensive which in turn undermines the motivation or the interests of students to take up such programs (Melak and Singh, 2021).

### **2.3.3. Stereotypes and practices in TVET schools**

The scholars revealed that several school factors affect female enrolment in technical education programme: lack of female TVET teachers, lack of child-care facilities, lack of medical department, entry requirements, masculine image of TVET projected in textbooks, or poor TVET facilities (Chinyere Shirley Mrs., 2014). It is also reported that inappropriate assumptions made by male TVET lecturers, as well as pressure from peers, physical facilities and hours of teaching, gender biased programmes, poor communication practice by administrators and lecturers in TVET schools (Chinyere Shirley Mrs., 2014).

A study conducted in Nigeria on gender experiences of women in TVET revealed that gender stereotypes persist against women who report to be labelled as 'wrong sex', or 'weak sex' (Caleb and Comfort, 2017). In this study, the female trainees shared their experience of being considered as less competent or naturally less able of performing activities without the support of their male colleagues. The gender stereotypes in TVET are sometimes sustained by teachers which affects the learning experience of female trainees (Matenda, 2020). Indeed, some female trainees studying mechanical engineering shared stories about attitudes: a teacher said for example that female trainees "chose Mechanical Engineering just because of the name but don't understand anything about it" (Matenda, 2020). Another student reported that her teacher (male) commented that females trainees are not good because engineering is for men, and such stereotypes from teachers generate practices that are intimidating for female trainees (Matenda, 2020).

It is experienced that the practices and attitudes by school staff, teachers and trainees influence the way a friendly teaching and learning environment can be sustained in TVET schools (Subedi and Shrestha, 2020), which is also influences female enrolment. In their research, Subedi and Shrestha (2020), quoted participants who acknowledged the role of schools and teachers in inducing confidence and creativity in students. According to the authors, the reluctance of teachers to change or adapt their teaching, also hinders the creation of a student-centred environment. On top of that, limited physical infrastructures and lack of educational resources are another challenge affecting enrolment and retention in many TVET schools (Subedi and Shrestha, 2020). Indeed availability and use of resources are a challenge to promoting conducive learning environment for trainees in TVET schools (Qutoshi & Poudel, 2014). Stories of stereotypes females are experiencing in TVET schools

### **2.3.4. Female trainees perceptions about TVET**

Cultural issues contribute to low enrolment in TVET program and affect female trainees' interest in the TVET program. Some studies demonstrate the influence of their interest on their decisions regarding TVET programs (Azeem *et al.*, 2022). Psychological attitudes, were found to have a

significant impact on female trainees career choices in TVET programs, showing that a lack of positive attitude, enthusiasm, and motivation toward specific TVET courses influenced their choices in science-based TVET programs (Azeem *et al.*, 2022). Many girls are not performing well in these subjects, as they perceive that these courses are drawing an unwanted attention to themselves. They think that any success may also isolate them from their peer females trainees and even males, who are frequently reported to discourage girls from positively participating in and achieving well in these subjects (Azeem *et al.*, 2022).

In addition, a research evaluated how a female student's choice is influenced by her own gender beliefs, her family, friends, her relationships with people employed in jobs she expects to go into (Niklas, et al, 2017). Also, girls fear engaging in traditional male occupations, and rather rely on traditional female role which leads to have the perception of being tailored for trainings related to childcare, social work, nursing, household management, and secretary (Nshimirimana and Kitula, 2020). They tend to choose degrees that are people-centred, for instance by choosing trainings in biomedical fields where there is a higher rate of female trainees as compared to electrical or mechanical engineering (Wang and Degol, 2017).

Besides, one of the main reasons contributing to low female enrolment in TVET, particularly for training in traditionally male dominated courses, is the lack of awareness about the benefit from TVET, as female trainees lack awareness on the objective and prospects of technical education (Chinyere Shirley Mrs., 2014).

### **2.3.5. TVET trainees and graduates expectations**

Career aspiration refers to a “goal, ambition, objective, purpose, dream, planning, design, intention, desire and hope” that students have upon completion of their studies (Bakar and Mahmud, 2020). Research shows that TVET graduates express concerns about future job prospects (Chinyere Shirley Mrs., 2014), which illustrate that the main expectation of TVET trainees is to be employed. Building on the development of TVET schools, many countries are striving to handle issues of youth unemployment through TVET, particularly female graduates; and this happens to be one of the biggest challenge face by developed and developing countries (Najoli, 2019).

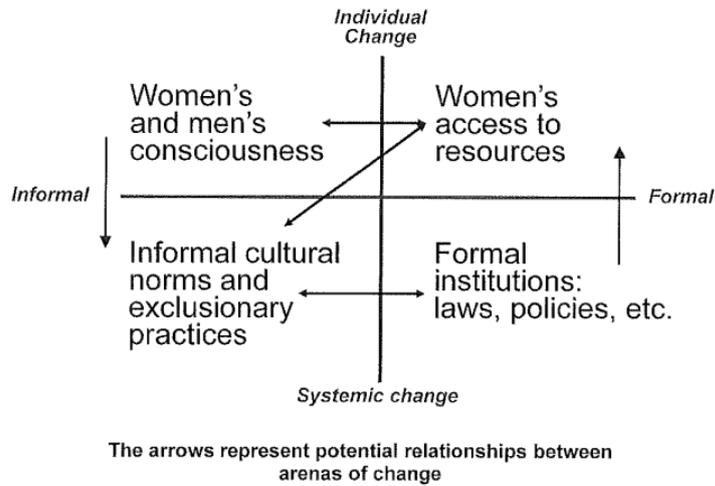
In Malaysia, a profiling conducted by Bakar and Mahmud (2020) about career aspiration and interest of Malaysian TVET school trainees, shows that graduates trainees from TVET are prone to choose a job or work in an environment that align with their career' interest. It is therefore obvious that there is a need of matching career aspirations with labour market in order to allow graduates develop[ their talents and achieve satisfaction with their employment and also career success (Bakar and Mahmud, 2020). Besides, while majority of trainees still have the interest in science and technical fields, female trainees are also getting more interested in TVET in order to explore other careers opportunities and get out of the gender stereotypes associating with specific job profiles (Bakar and Mahmud, 2020).

## **2.4. Conceptual framework**

Based on the literature review, different factors influencing female enrolment have been highlighted. The conceptual framework elaborated for increased female enrolment in TVET takes into account the interconnectedness of these factors and allows to focus also on specific that are the most relevant for the research context. In that way, the conceptual framework adopted is based on Gender at work framework (Rao and Kelleher, 2005). The choice for this framework is that it allows the researcher to have a different approach on looking at factors affecting female enrolment in TVET addressed by other authors, by adopting a system change approach which is necessary to make long lasting difference.

This framework implies that the factors are interrelated and all need to be addressed.

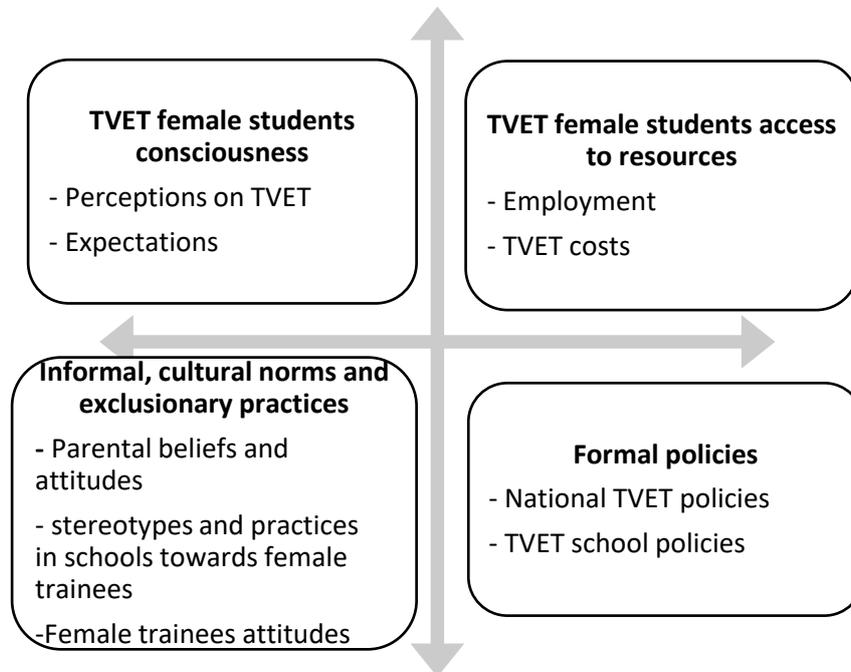
Figure 1: Gender at work framework



Source: (Rao and Kelleher, 2005).

This framework shows the interconnections of four dimensions (two formal and two informal) that influence a systemic change process for women. Based on this framework, the following figure is an adapted version for female enrolment in TVET in Rwanda. The systemic change framework is adapted for this research as achieving change for female enrolment in TVET is a complex issue that requires conducive factors related to female trainees access to resources, supporting policies, change of cultural norms prejudicing female's enrolment in TVET and also female trainees consciousness about TVET programmes and outcomes.

Figure 2: Adapted framework for increased female enrolment in male dominated courses in TVET



Source: The author, adapted from the gender at work framework

This framework present four dimensions and two indicators in each dimension, which are factors influencing female enrolment in TVET. The dimensions are interconnected as informal norms may influence formal norms (or vice versa), trainees access to resources and consciousness. Formal policies influence female enrolment in school since they set guidelines for equality and equity in TVET. In Rwanda there has been policies that are in place for promoting no discrimination in education and has proven to be effective as for the general education the gender parity index is in favour of women. The TVET financial costs and employment opportunities (access to resources dimension) may also influence enrolment as there can be girls who cannot afford TVET costs or are worried about future employment. Besides, female trainees own awareness about TVET and own expectations can also be a determinants. Still cultural norms most particularly parental beliefs have a crucial impacts on the decision to enrol girls in TVET and those who happen to be enrolled suffer from stereotypes in schools which can affect their learning process and dissuade other girls from enrolling in TVET.

The informal norms dimension of the framework appears to be the critical influencing factors which also influence the other dimensions. Therefore two sub questions addressed in the research are related to informal norms( parental beliefs and stereotypes in schools). One question addresses both women consciousness and access to resources as gaining insights about the expectations will allow the researcher to gain insights about the knowledge in TVET, the motivations, access to TVET (financial costs and conditions as well as jobs possibilities). Finally one sub question will address female trainees perceptions on the effects of TVET policies (both schools and national policies) for female enrolment in TVET.

## **Chapter 3: Methodology**

This chapter describes the methodology that will be used in the research. The research design and the research tools that will be used are explained. It shows the data collection methods, the sampling strategy, data analysis, and ethical issues.

### **3.1. Research design**

The qualitative research approach was used for the research, based on the research problem, research objective, and research questions. This strategy was adopted because it explores “meanings and aims to generate ideas about a social phenomenon can be valuable without being generalizable” (Laws Sophie et al., 2013). Indeed, it allowed for investigation into the community's values, perceptions, norms, beliefs, and cultural setup, revealing the networks and types of relationships that exist within the society. Therefore, this approach matched with the research that was conducted. Also, the research was a case study on TVET female trainees which allowed to better analyse the dynamics affecting the enrolment of girls in TVET.

### **3.2. Study Area**

The study was carried in Muhanga district. The District of Muhanga is one of the eight districts comprising the Southern Province of Rwanda. It has the second largest number of TVET schools (21 for Level 1 to 5) in Rwanda, with female trainees representing 38.8% of TVET trainees and male trainees representing 61.2% (MINEDUC, 2022). This was the main reason of selection of the District, and matched with the interest of the problem owner. The Muhanga district, where the research was carried out, had the second largest number of TVET schools (21 for Level 1 to 5) in Rwanda, with female trainees representing 38.8% of TVET trainees and male trainees representing 61.2% (MINEDUC, 2022).

### **3.3. Data Collection**

The research was based on data from secondary sources and also primary (main source). Before beginning field work, a desk study was conducted to explore relevant literature and gain in-depth knowledge of the chosen field of study, for literature review, research orientation and comparison, then later for research discussion.

Primary data was gathered directly by the researcher through interviews, focus groups and personal observations. The respondents of the research were TVET female trainees and were approached through semi-structured interviews for which interview guideline was developed. The semi-structured interviews were chosen since they allowed to get in-depth information of the views of the trainees on the different sub-questions. The total number of respondents was 26 female trainees from TVET schools. The researcher focused on TVET female trainees as respondents since they were facing (and face) different stereotypes, and their perceptions based on their experience brought relevant information for not only motivating more girls to go to TVET but also to address challenges girls in TVET are confronted with. The number of 26 was also selected based on the limited time that the researcher had for data collection and the low number of females in these courses. The selection of 26 respondents was done in three different courses which had the lowest number of female trainees, in order to get a comparative perspective of their experiences: Masonry, Carpentry and Automobile. It was initially expected 10 respondents per course, but availability of trainees and schedule constraints in schools led to 11 respondents in masonry, 9 respondents in Carpentry and 6 respondents in Automobile.

*Picture 1: Interview with a respondent*



*Source: Field work*

Furthermore, 4 key informants who had sound knowledge and experience about the topic were addressed: One school representative, one female graduate, one employer and 3 parents were also approached for semi-structured interviews. This number also took into account time limit. They provided inputs on the different sub-questions, allowing the researcher to triangulate the findings from the current trainees with graduates. The rationale behind the selection of the school representative and the teacher lied in their key involvement in the training provided to TVET trainees, and they gave information about effect of policies and stereotypes in schools on female enrolment. One female graduate was also selected as key informant, as she already has experience in TVET school and post-studies life, and shared her experience she passed through with regards to the different sub-questions. Additionally an employer of a TVET related field was also selected as key informants, to share his experience and perceptions on females, which gave information about stereotypes an equal treatment of men and women in access to work and performance at work place. The interview with parents mainly based on the sub-question related to parental beliefs and attitudes towards female in TVET male dominated courses.

*Picture 2: Interview with a TVET graduate in her workplace*



Source: Field work

Also, three focus group discussions (FGD) were held to get a group perspective on the issue triangulate with information from respondents and key informants: 1 FGD with teachers in TVET, 1 FGD with female trainees who were in a female dominated course, one FGD with boys in male dominated courses. The FGD with TVET trainees in a female dominated course concerned parental beliefs and their perceptions on female trainees in male dominated courses in TVET, the participants also gave insights on the reasons they were not interested or enrolled in a male dominated course in TVET. The FGD with boys in male dominated courses in TVET trainees was justified by the fact of gaining their perspective on stereotypes female trainees reproached to them and also the opinion on parental beliefs and attitudes. The FGD with teachers dealt with opinion on stereotypes and practices within TVET schools and also the knowledge or perception about policies supportive to female enrolment in male dominated courses.

*Picture 3: FGD with female trainees in male dominated courses*



Source: Field work

Regarding the flow of data collection, the researcher started with semi-structured interviews with female trainees, to gain deep knowledge through their point of view. Then focus groups were held using insights from the interviews to lead the different conversations. Finally interview with key informants to get the expert knowledge or their experience based on the sub questions or specific points that may have aroused during the previous steps.

Personal observations were done by the researcher during the data collection with interviewees to generate another type of information that may support the discussion of results.

### **3.4. Sampling method**

The sampling technique used was a purposive sampling which was more appropriate for qualitative research. Purposive sampling is a method in which samples are selected based on intentional criteria with regards to existing knowledge and characteristics the researcher wants to take into account (Laws Sophie *et al.*, 2013). The study area was also purposively selected based on knowledge of area and commissioner's directions, number of TVET schools in the area. Also this area was selected since it offered more possibilities to explore male dominated courses and therefore to analyse the influence of stereotypes and related factors on female enrolment in TVET. For the selection of the schools, the researcher took into accounts statistics from the ministry of education and Rwanda Institute of Statistics with regard to courses offered in those schools and proportion of women in traditionally male-dominated courses. The accessibility of the school was also taken into consideration through an assessment with the commissioner.

The selection of respondents was based on a quota sampling to identify female trainees in each of the three TVET courses that have the less female enrolment. Selection was done with participation of school staff who provided and facilitated the mobilisation of female trainees and connect the researcher with them. For the focus group discussions, for FDG all participants were also identified through the school administration. Key informants were also contacted purposely by the researcher based on the knowledge about the topic and area of residence Non TVET trainees will be identified through the involvement of school administration.

### **3.5. Data Analysis and Processing**

The data were analysed using a thematic categorisation process. Data analysis began in the field with verification from interviewees of researcher's notes to ensure that the summary given by researcher was consistent with what was discussed. During fieldwork, the researcher began sorting and organizing the data, and information was transcribed as well as organized into themes or categories. The research findings were analysed according to the sub questions themes which allowed to point out patterns, converging or diverging views; and the findings were compared with existing literature used during the desk study.

### **3.6. Ethical Considerations**

The researcher adhered to and took note of ethical concerns that could arise while conducting the fieldwork for data collection. When conducting the interviews, appropriate procedures were followed to take into account issues that could be sensitive or make respondents uncomfortable. To this end, respondents' consent was asked before every interview and the researcher ensured to maintain confidentiality or anonymity for participants. The researcher discussed the reasons for the research, stating that it was solely for academic purposes and that no compensation would be given for information provided. The researcher was respectful to participants schedule and ensured to conduct the interviews in their free time. To ensure good communication and comfort of respondents, the researcher used the local language spoken in Rwanda while conducting all interviews. Proper communication was done with relevant stakeholders to inform them or get needed permission. To that end the researcher inter into contact with an official from the Ministry of Gender, Muhanga district director of education, and TVET schools director, before starting collecting data.

### **3.7.Planning**

The activities of the research were carried out from June to September according to the plan in table 5 (in annex).

## **Chapter 4: Research findings and results**

This chapter presents the main findings and results from the fieldwork. The chapter gives an overview of the respondent's profile and highlights the main findings according to research sub-questions.

### **4.1. Profile of respondents**

The respondents of this study were 26 girls studying TVET courses in Muhanga district. These female trainees came from 2 different schools and also three different courses. Their age range was 18- 25, and the trainees are following courses ranging from TVET level 3 up to level 5 as presented in annex (table 6: Profile of respondents). They were all attending male dominated courses namely Masonry, Carpentry and Auto-mobile engine. All the TVET trainees were actually living in Muhanga district as the school they attend are boarding schools, but they came from different districts.

### **4.2. Motivations and expectations of female trainees to join a TVET male dominated course**

#### **4.2.1. Motivation and awareness on TVET course before enrolment**

The respondents reported a certain interest of joining TVET male dominated courses, but it appeared during the interviews that they were not all fully aware of the content of the programme they would follow. The decision to join TVET was motivated by personal ambition, but the external environment of a prospective trainee also has an influence on such a decision. Indeed, seven respondents were driven by secondary school classmates, friends or the decision of the parents to send them in TVET and follow the male dominated course. Three of the interviewed trainees said that both family and personal decision were important; however, the majority (16 out of 26 trainees) stated that they went into their by personal motivation as illustrated below:

*“Having in mind that I will study this because I liked carpentry for a long time, that was enough for me, what was remaining was the time to go and request the school” (Respondent 12, Carpentry level 5).*

Picture 4: Interview with a female trainee in Carpentry



Source: Field work

*“Actually I always had the dream of becoming a mason or a driver when I was a little kid then after finishing the ordinary level I was referred to study computer science but I told my parents that I like masonry and they let me follow my choice... And the information about this school was from one of my O’ level teachers who told me ‘I know a TVET school that can suit you’ and that was how I ended up studying here” (Respondent 1, Masonry level 3).*

*“I was just seeing masons around going to their work and I fell in love with this profession and it was easier for me to make this choice about coming to study masonry in this TVET, because my father used to be a mason and he made money from this career.” (Respondent 5, masonry level 4).*

Some others were motivated or pushed into TVET by family members:

*“I got the information from my brother’s friend who studied in this TVET. The friend told him everything about this kind of courses. I was actually supposed to study agriculture due to the ordinary level test results but I did wish to study that. Both my interest and information given by my brothers friend motivated me to get enrolled in this TVET...” (Respondent 6, level 5 Carpentry).*

*“It’s my father who used to motivate me, saying that Automobile is a good course to study. So, while choosing what to continue in A level, my choice was to study mechanic... now I am happy that I chose it and I am studying it” (Respondent 7, Masonry level 4).*

The answers from respondents show that female trainees took the decision to join a TVET male dominated course for personal reasons mainly from passion for the field and admiration of professionals in the field. It also revealed that female trainees personally got interested in their course, took initiative to inform their parents and get their consents. It also appears that, family members decide on the enrolment of girls in male dominated courses and that family members are also influenced by their relatives. Besides, due to a lack of information on TVET, girls could decide to enrol in TVET courses through the influence of their peers.

Throughout the discussions with female trainees, 15 respondents shared that they did not have enough information about TVET and the content of the courses before they join and also the outcomes of the programme. During a discussion with one key informant who is a TVET school director, he regretted the lack of information and misunderstanding about what TVET actually is.

*“ For me no, TVET is still not known to the extent that it is needed in the society, because people still have miss understanding on TVET. They think that TVET students are the ones who have low learning capacity and also the ones who misbehave in the society, which is a false understanding. It is better to make TVET known in way that it is good for them” ( KI 1, School director).* The school director’s opinion diverged from the one of interviewed trainees as for him they enrol because they know about the programme and its advantages. He rather talked about misunderstanding from other society members who perceive TVET in a negative way because of their bias.

The FGDs and key informant interviews revealed that lack of information influenced not only female trainees choice but also the perceptions of community members which ultimately impact female enrolment in TVET.

#### **4.2.2. Expectations toward careers opportunities**

Respondents who joined male dominated courses expressed that they had expectations for career opportunities while joining their respective courses and that these expectations helped them enrolling in TVET. They also showed that these expectations are important for them, but also important for motivating other girls to enrol in TVET if these expectations were fulfilled. Many indeed said that they dreamt about having jobs and positions like engineers, teachers or entrepreneurs in their field.

*“I made this choice because I like practical courses and it can be easier to get some connections which help you to easily get a job. And after finishing school I want to go to the university because I want to become an engineer” (Respondent 8, Masonry level 5).* This respondent wanted to go for higher education as the TVET organisation in Rwanda indeed allows TVET graduates to pursue university studies.

*“I loved and planned to be a driver after completing my studies...I will also be a good Mechanician, as I even planned to have my own garage. Studying this course for me is a blessing because you can access a job easily more than those who studied in general education” (Respondent 24, Automobile level 5).*

The respondents points of view reveal that they have a perception of TVET as a relevant field matching the needs of the labour market, thinking that jobs opportunities are available. As they all expect jobs, some are willing to continue studies in order to access higher positions.

On the possibilities of getting a job after the completion of studies, female trainees had mixed opinions, 12 of them were rather confident about career perspective while 14 were quite worried and called for any support to help them find a job.

*“Jobs are available, but in hard ways... have maybe someone who linked you with someone else to employ you. Corruption, friends and family members who connected you, money to pay ...if it is not that it cannot be easy for girls who studied technical courses to find jobs” (Respondent 5, Masonry level 4).*

*“Girls always have many chance to get job on the field due to the trust they have in girls, and also because of their attractiveness... Also, when you do a lots of internships in the field, it helps you get enough experience and makes it easier for you to find job” (Respondent 6, level 5 carpentry).*

However, school staff members were rather sharing the idea of those female trainees who are worried about finding a job, because for them the job market is not easily accessible and the support from government is needed. Yet, they did not have statistics about the number of female trainees who failed to meet obstacles for getting job opportunities.

*“The girls still face some challenges to find internships or job opportunities due to culture and societal belief on girls’ performance, when they apply for example for internships most of the times girls are overlooked over their brothers because they think boys can be better performers than their sisters. On the job field, girls really face challenges because they are underestimated compare to the boys.” (KI 1, school director).* The opinion of the school director revealed that obstacles not only concern job opportunities but also internships and he thought that this was the consequence of gender stereotype limiting girls in finding a job. This is also in line with the experience of a female TVET graduate:

*“It is not easy, me for example I finished my studies in 2016 but it is very hard to get a job sometimes you can even pass the exam and you are asked bribe...I wanted to work a mechanic in industries and factories but I ended up in welding because it is where I can somehow easily get jobs...” (KI 2, TVET Graduate).*

All female expressed their view of availability of jobs in their field of study and nearly half of the respondent were confident in the ease of getting a job. However, FGD and KI interview revealed that the labour market was not easily accessible for female trainees despite their aspirations. Also graduates of TVET male dominated courses could face few years of unemployment due to lack of transparency in recruitment, or seek for a job not directly related to their initial course.

#### **4.2.3. Providing a positive image in the society**

Among the respondents, eight reported that they joined male dominated courses having the goal to change the image of girls within communities. They wanted to show that girls can also make it in fields considered to be for males, and that girls can also have skills to succeed as boys do. This shows that being a role model for inspiring other girls to enrol in TVET is also a determinant of the choice of female trainees in their course.

*“I was much motivated to study this course as I wished to definitely reach my goal, wanted to spread a message to the society and give a good picture about male courses that people think it’s only for boys, and see also that girls can study them” (Respondent 13, Carpentry level 3).*

*“We grew up in a society where girls were always afraid of studying practical courses and I used to always wonder why, because I felt like I am able to, and I had another big inspiration... my aunt that I consider studied a similar course and she is now an engineer, and of course I liked this field from my childhood.” (Respondent 9, Masonry level 4).*

The motivation of spreading a positive image of girls in society shows a willingness of female trainees in male dominated courses to break gender biases within their community, and also be a source of motivation for other girls.

#### **4.2.4. Expectation of better school facilities**

Though the respondents of the research expressed the interest in TVET, many indicated that they are facing challenges and are still having expectations from the school that are not fulfilled, irrespective of the course they are following. Those expectations are related to lack of facilities and study materials to allow them to perform well at school. Yet, the lack of facilities and school materials are not affecting only female trainees because many trainees are also concerned with this situation.

One of the female trainees reported this: *“Schools should provide enough practices and advanced workshops, that have enough materials for practical works, advanced libraries like books that fit the curriculum and provide also expert teachers in all fields for us to be competent not only in national exams but also at work where we will be employed”*( Respondent 13, Automobile level 5).

Also another expectation that was shared by some female trainees is the willingness to have more female teachers in their course:

*“The school should consider that female teachers are also needed in this male courses, because sometimes they can understand us more than males do... so it’s better they provide both men and women teachers”*( Respondent 14, Carpentry level 4).

Although, teachers also recognised that school facilities are lacking, unlike the female trainees who pointed out the responsibility of the school, the teachers addressed the responsibility to the government. Also, instead of number of female teachers involved in TVET, the teachers rather wanted to talk about improving the working conditions that is more important for helping female trainees perform well.

*“For both teachers and students government can create specific libraries and laboratories to help teachers and students easily get books and other tools needed in their daily activities. The government can also create some specific research centres-for technical field studied in TVET schools.”*( FGD with teachers).

*“ First of all the government needs to raise their salary because ... this affects their usual teaching job.”*( FGD with teachers). It appeared through explanations from teachers that due to their insufficient salary (according to them), they teach in several schools which affects their performance.

Picture 5: FGD with TVET teachers



Source: Field work

The lack of facilities at school appeared to be an obstacle for a conducive environment to facilitate both girls enrolment and performance at school. The responsibility holder for improving such facilities is yet differently appreciated by female trainees who rather take their school accountable, and teachers who rather call for a government’s action.

### 4.3. Stereotypes about female trainees studying male courses

#### 4.3.1. Stereotypes about female capacities

All respondents mentioned that they were suffering from stereotypes fellow boys tell them.

Some female trainees shared stories about how boys used to address their physical appearance by teasing their beauty and possibility of getting a husband.

*“They tell us that girls that study these courses are ones who don’t trust their beauty (faces), who cannot find a job somewhere else apart from male jobs, that they are girls of bad attitudes who act and walk like guys, they can’t sit like girls...” ( Respondent 4, level 4 masonry).*

*“Boys say that they do not have any girl in the class... they say that we have turned into boys, they tell us that they can’t marry a woman who studied those courses, also saying that there is no girl to stand on scaffold...” ( Respondent1, level 5 Masonry).*

*“Boys in class or in other courses use to tell girls that no man can marry a mason girl because they do not look attractive, for example their hands are not smooth because of the job, and tell them for example that they cannot climb over the roof when they are pregnant or when they are in their menstrual period” (Respondent 13, level 4 Carpentry).*

Also 17 respondents reported that boys still didn’t trust their capacity to do the same work as them, for example when it comes to performing physical tasks.

*“As girls, we face a lots of discouragement in our field, like myself because I am doing masonry, at the beginning everyone was telling me that this is not for girls, you cannot perform this unless you are a boy, imagine when you have a job and you get pregnant will you still be able to go to work? There is no man who can even marry a mason woman...So you see boys themselves cannot encourage a girl to do Automobile, they will tell them to do something else” (Respondent 23, level 5 Automobile).*

*“See we are going in practice, will you be able to carry bricks from morning to evening or building materials and yet they are heavier than you? We are much discouraged and start thinking to go back in culinary...sometimes I regret my choice...When others [girls] hear about this, how can they be motivated to join this course...” ( Respondent 9, level 3 Masonry).*

However, during a FGD with teachers, they hardly admitted that girls are confronted to stereotypes within their schools. They rather accepted that they may be exposed to stereotypes out of the school, or said that girls should be the ones who can tackle the problem by performing well at school.

*In our school girls don’t face any stereotypes but outside there are still some, but girls themselves need to play a huge role in avoiding the stereotypes toward them by proving wrong those who always underrate them by performing excellently and thinking big enough to create the opportunities from what they acquired in schools, like for example creating hard ware stores and shops or by opening their own garage. This can be the facts to prove wrong those who always say only negative things towards girls who attend TVET schools.( FGD with teachers).* This position of teachers puts responsibility on girls as it is again girls that need to change, or that need to proof themselves instead of society changing their perceptions.

Yet, male trainees admitted that they do have stereotypes even though they said the comments they make are usually just jokes.

*“One time, a school leaders came to ask a head girl who represent our class...we start saying that we don’t have girls in our class, instead we just find a boy who is weak then say that he is the one, girls are three in class, but we really consider them like girls” (FGD with boys).*

Picture 6: FGD with male trainees in male dominated courses



Source: Field work

In conclusion, it appeared that the expressed stereotypes towards female trainees are usually related to underestimation of the abilities of girls about physical appearance and physical capacities, or how they should look or what they should do to be attractive. Boys however showed an attitude of denial of the harm these stereotypes could have. These stereotypes are sustained in their social interactions which negatively influence other girls to join TVET.

#### **4.3.2. Tacit acceptance of stereotypes by female trainees enrolled in male courses**

It was shown by female trainees that stereotypes exist from their male peers within the schools. These stereotypes, according to girls, but they could not do anything.

*“ It can really be hard for a girl who can join Mechanics and yet she does not like them, due to demotivation you receive from boys you study together or from the society in general. Of course you can sometimes be discouraged in your mind or be uncomfortable but later you change your mind as you can’t do anything on it...” (Respondent 18, level Carpentry).*

*“At the beginning they were telling me that I don’t deserve to study Automobile because of the look and the size, but it was only for the first week, of course I was uncomfortable with that, but the way I was much interested to join my courses, I could not give value to what they are telling me.”(Respondent 26, level 4 Automobile).*

*“They think that we are boys already by telling us that we have boys hormones, how a girl can join this or all those male courses and yet they need a lot of strength while doing them... just imagine if you are in your period, how can you survive? They tell us that we are not on the list of girls they can date. What is good is that a decided girl who joined these courses never pay attention to all those words.” (Respondent 15, carpentry level 5).*

Though female trainees revealed that stereotypes were upsetting, it appeared that they developed a coping strategy of indifference (or presumed indifference). This tacit acceptance was perceived not

only as a way for not being hurt, but also as the obvious solution due their perceived inability to make things change.

#### **4.3.3. Relative neutral attitude of teachers toward stereotypes**

The interviews with female trainees revealed that the teachers were not directly taking repressive actions against boys to address the issue of stereotypes, or to refer unacceptable attitudes to the school administration.

Their attitude were either supportive or motivational towards girls, yet not preventing or tackling directly the stereotypes, or some were even having stereotypes towards girls.

Only 2 female trainees said they felt stereotypes or dating proposals by teachers.

*“one of the teachers, due to the wrong image he has on girls that they are weak, show it sometimes in practices...he can pass on you and don’t hesitate to tell you “work quickly or I destroy it” which means neglecting what I am doing, without considering that today I can fail but tomorrow I can do it better” (respondent 12, level 3 carpentry).*

*“Oh, we see that here at school, they are some teachers or male students who sometimes try to approach you in another way which is not related to studies, in terms of dating relationships, asking sex...all this disturbs our performance or sometimes make other girls fear to join TVET courses due to those challenges they will meet in a community of lots of males” (Respondent 2, level 5 Automobile).*

However, many of the female trainees reported that felt motivation our encouragement from to teachers to perform in their studies

*“Teachers always motivates us and try their best to help us in class, like during practices they really focus on what we are doing, or sometimes make a group of girls only to be able to control and put much effort on it.”(Respondent 25, level 4 Automobile).*

*“They just only encourage us, they use to take session for teaching and inspiring us to love what we study. And this really increased the feeling of loving my field as well as my performance in class.” (Respondent 2, level 5 masonry).*

*“Our teachers do not discourage girls at school instead they always support them, telling them to feel comfortable because they can and they are able.”( Respondent 16, Carpentry level 4).*

FGD with teachers revealed that they did not agree on the existence of stereotypes in their school:

*“In our school girls don’t face any stereotypes but outside there are still some, but girls themselves need to play a huge role in avoiding the stereotypes toward them by proving wrong those who always underrate them by performing excellently and thinking big enough to create the opportunities...” (FGD with teachers).*

The respondents generally perceived a supportive attitude from their teachers, though two divergent opinions revealed stereotypes on their capacities to perform as boys as well as dating proposals. Yet teachers showed a denial of stereotypes in their schools or rather pointed out the responsibility of female trainees to address them.

#### 4.4. Parental beliefs and attitudes toward female enrolment in male dominated courses

##### 4.4.1. A moderate interest of parents in female enrolment in male dominated courses

fourteen female trainees out of the 26 respondents said that the parents showed a positive attitude towards them going for a male dominated course.

Some female trainees said that it was easy for them because sisters made it easy for them as they succeeded and parents were therefore motivated to enrol them.

*“It was easy for them because they saw that I really have courage and I like what I am going to study, and seeing my sister who studied the same course and is successful that was another motivation.” (Respondent 12, level 5 Carpentry).*

*“It was easy for them; they were excited as my sister open the door for me, so they were happy. For my own I was happy too, because it can be easy for me to get a job If I don’t have money, I can work and make it as my sister have a job now.” (Respondent 3, level 3 Masonry).*

Other female trainees also noted that their parents accepted their choice because they love technical courses or because some of them are already working as technicians and they know its importance.

*“My father like professional courses, so he was the one to tell me more about that, saying that he really appreciate seeing ladies working in garage or in other mechanics for him it’s a speciality, so he wishes to have a daughter like that. I also like it, so I didn’t hesitate to choose it.” (Respondent 21, level 4 Automobile).*

*“For me, it was easy because I liked masonry and my father used to be a mason for a long time, and it was hard for him to miss a job....that’s why I was much motivated.” (Respondent 5, level 5 masonry)*

Respondents also mentioned that due to the fact that their parents have been to school, it was easy for them to understand that their daughter goes in a technical male dominated course; or some also said that the parents accepted this because they are flexible to allow children’s choice.

*“From long time, my parents used to ask every child what he/she will study, because they were people who really like to consider children’s choice, so I told them that I like mechanics and is what I want to follow, so after the national exam, they were happy as I get what I wanted to study” (Respondent 23, level 4 Automobile).*

*“It was easy for my parent because they are educated and they do not have that mindset of pushing their children on a given path. Instead they support their children in following the course of their choices. This is one of the reasons I guess that we are few in class, those who don’t have to parents who stop their girls joining males courses ”(Respondent 1, level 5 masonry)*

However, there were female trainees who stated that their parents didn’t want to support them to join those male courses. Some of the reasons parents mentioned are unemployment and that the course they want to do is for men.

*“It was not easy to convince my parents that I am going to study this course of mechanic, but there is one person who came and give them experience and also explained that it’s better to allow me study what I like.”( Respondent 18,level 3 carpentry)*

*“My parents were not supporting my idea of studying Carpentry saying that my sister who joined those courses is not employed that she is doing part jobs, and yet me I was very much willing to study*

*it. I and my sister explained that girls are able, though they said that they liked those who are in general studies as anytime they can be employed.” (Respondent 20, level 3 Carpentry)*

“Due to their religion and attitudes, it’s hard to understand how 3 girls will study in a class of 50 boys and yet they have very different attitudes with boys. They just think of it in a negative way only. In society they normally underestimate what a girl can do. Yet for me, everything a person does to get knowledge should be valued.” (Respondent 7, level 4 masonry).

It also appeared through focus group discussion with girls in female dominated courses, that most of them wanted to do male dominated courses but their parents refused, still saying that it is not for girls.

*“Yes, it was not easy for me to come in this school, parents don’t understand or support us to study what we like and that’s the reality” (FGD with female trainees in female dominated courses).*

*“Me I did not like culinary, I wanted to study Automobile but they told me to study culinary which is called to be for girls, so I went there for their choices just to respect them” (FGD with female trainees in female courses).*

*“The course I am doing I didn’t like it or planned to choose it, with all my heart I liked studying Masonry and wanted to study it, unfortunately my parents refused and told me to join Culinary that I am doing now but I went there on their choices just to obey them like my parents .”(FGD with female trainees in female courses).*

Picture 7: FGD with female trainees in female courses



Source: Field work

The conclusion drawn from the respondents’ feedback revealed the interest of parents for enrolling a girl in a male dominated course was motivated by various factors. The main reasons associated with parents interests in such courses were among a previous success of a female child in male dominated course which showed the parents that there was also a way to go for another girls in a male dominated course; love of profession from parents, or parents who do same profession which gives them a better understanding of the field. Also, the level of education or open mindedness of parents were seen a key reason, as educated parents tend to be more flexible with their daughter choices. However, the opposition of parents towards female enrolment in TVET was justified by their religious or cultural

beliefs (women not allowed to do men's job), the lack of employment faced by a girl who followed a male dominated course in the family, or the influence of parents' relatives.

#### **4.4.2. A relative parental support despite low interest for female enrolment in male dominated courses**

The respondents agreed that their parents were supporting them for studies despite initial opposition or discouraging attitudes showed by some parents. This relative support was perceived by respondents based on their observation that though some parents did not appreciate their choice, maintaining them at school was still a kind of support for their studies.

*"I receive enough support from parents, by helping me in any problem, having conversation with any challenge I face at school or in the society, finding nice places to do internships during holidays ...and this really gives me the courage and increase the level of my knowledge and skills in this field" (Respondent 10, level 4 Masonry).*

Six respondents also reported that the support from their parents depended on their performance even if the parents were not initially supportive of their choice.

*"Seeing that I am encouraged and understand what I study, seeing the marks I get from school and also the success of my sister who studied this motivated them much to pay everything for me without hesitating" (Respondent 8, Masonry level 5).*

It appears from the illustrations above, that parents do pay school fees of their daughters once they are enrolled, though the level of support depends of their performance.

The expectations female trainees mainly have towards the parents are related to acceptance of girls choice, school fees payments, financial support to create own business

*"Parents should pay school fees on time, allow girls to make their choices of the study and be the ones to motivate and encourage them as well as supporting them financially when they complete studies. They should also have the idea of supporting any activity that needs their support whether financially or psychologically." (Respondent 25, level 4 Automobile).*

*"Though it is not easy to study these courses for girls, it's better to have good behaviours towards them, have trust in girls who study this, as well to search enough information about TVET to be aware of what is provided from there and help them change their negative mindsets" (Respondent 19, level 5 Carpentry).*

*"First of all parents need to understand their children's dreams and choices and provide support to their children to keep following what they dream of" ( Respondent 2, level 3 Masonry).*

*To support more girls , parents should avoid demotivating them and even neglecting their work, giving them all materials they can need, and changing their traditional mindset they have on TVET mainly on these courses" (FGD with female trainees in male courses).*

Girls studying in female courses also shared the same expectation, as female trainees wished to have parents supportive of their choice.

*"If parents respect children's choice, schools can notice the increase of girls who join male courses you are mentioning, because professional courses are now taking another level for providing jobs, or for being a source of creativity" (FGD with female trainees in female courses).*

For parents the best support they could give is helping to find internships or job opportunities for their daughters studying TVET courses though they admitted that lack of financial means can be an handicap.

*“Still the capacity is not easy, but I am planning to find a garage where she will be doing internship, I will find a teacher for her own for one year in a garage for her to gain enough experience and that can be easier for her to find a job.” (Parent of a female trainee studying Automobile).*

Picture 8: Interview with a female trainee parent



Source: Field work

In conclusion, it should be mentioned that the support from parents female trainees felt they are receiving is usually the school fees paid by parents, study materials, connections for jobs or internships, or even casual conversations about what they are doing. At the same time, their expectations of parental support remain also these types of support mentioned. Parents also showed a willingness to contribute to the employability of their daughters, though the financial considerations is reported to have an impact on the support they could give.

#### **4.4.3. Need of raising parents awareness about the value of male dominated courses for girls**

Female trainees recognized that a collective effort is needed to make parents enrol more girls in TVET male dominated courses.

Among the respondents, some noted that educated parents can play a big role in society, by helping to change the mindset of parents who don't allow their daughter to join male courses.

*“The ones who are advanced in understanding, can step and teach the society to change those traditional mindset should end, and help children to build their future by supporting their choices and assisting them by their capacity” (Respondent 12, level 5 carpentry ).*

A female trainee assumed that raising the awareness of parents in the communities can also change their perceptions of girls studying male dominated courses.

*“Teaching them from their local villages, organize enough meetings for only that intention... Tell them that if girls do not study, they can be bandies, or have other bad behaviours.” (Respondent 13, level 4 carpentry).*

Five respondents out of the twenty six stated that the government can communicate more about TVET and take initiatives to increase the number of girls enrolled in male dominated courses as well as increasing the number of schools of TVET.

*“If the Government increase more girls in TVET, parents can see that the government also thinks about it... in news it’s better to publish things related to TVET for them [parents] to know and like the TVET courses” (Respondent 15, level 3 carpentry).*

*“Expand access to TVET for students, mainly for girls in male courses as there is few schools, is among tools to communicate more about TVET. Government or businessmen can allocate enough TVET schools.”(Respondent , level 4 masonry).*

Boys studying in male dominated courses also agreed about campaigns that teach more about TVET, to make parents enrol their girls but focused on awareness raising campaign while girls also thought about more TVET schools as a way to draw parents attention.

*“Government should do different campaigns, by using the popular radio programmes like KAZI NI KAZI, NINYAMPINGA that is known for girls in Rwanda, village loudspeakers, sports ads... where people can provide stories related to what encourage and sensilize TVET courses.” (FGD with boys).*

It was noted by participants that an increased awareness of community members and parents on the importance of TVET male dominated courses for girls is needed. To reach this change, there is a necessity for the engagement of educated parents to influence their peers not educated, awareness raising campaigns, mass information by the government related to courses provided in TVET.

#### **4.5.Policies supportive to female enrolment in TVET**

##### **4.5.1.Lack of information about existing policies**

Most of respondents were not aware about existing government policies, because only three of the female trainees were able to give an example of a policy or a measure within a policy.

*“Nothing...I have never heard of that, I just come to study and know the money that I am supposed to pay for the school, and also school materials I am supposed to come with” (Respondent 9, Level 3 masonry).*

*“ I don’t have any idea about them, they just arrange meetings with us, give us rules and regulations to be following at school.”( Respondent 23, level 4 Automobile).*

The only policy that 4 female trainees could cite was related to reduction of school fees.

*“The only government policy I know is that for promoting TVET programs, the government pays 30% of the school fees for those who attend TVET schools. ”(Respondent 4, level 5 Masonry).*

*“At national level, Government reduced the school fees for students who study in TVET, they also have part to encourage girls to join TVET by making it known nowadays.”(Respondent 14, Carpentry level 4).*

Interview with a school director also showed that schools do not have specific policies related to the promotion of female enrolment in TVET which also justifies the lack of knowledge from female students on school policies. The director said this: “For us we follow the different laws governing TVET in Rwanda. There are many laws or policies that the ministry of education has, like the ministerial

instructions, education orders and there is a TVET law. So, we just follow these rules.” ( KI1, school director).

The general shared opinion is a lack of information or communication about policies aimed at increasing the enrolment of girls in male dominated courses. The lack of information is not only on government but also on school policies.

#### **4.5.2.Reduction of fees in public TVET schools**

Reduction of school fees is the policy measure few female trainees could refer to, as they were aware that the Government has an initiative to reduce the percentage of the fees for TVET schools to increase the enrolment of trainees.

*“The only government policy I know is that for promoting TVET programs, the government pays 30% of the school fees for those who attend TVET schools.”( Respondent 4, level 5 Masonry)*

*“They reduced the percentage of payments to students sent by the government to schools. On my view, enough policies supporting TVET courses can increase the number of girls enrolled in TVET, and also help a school to establish good rules and procedures as well as creating good standards for learning”(Respondent 1, Masonry)*

On the other hand, school leaders acknowledged lack of supportive policies, but mentioned initiatives from the schools to support female enrolment in TVET.

*“Actually no support, but the school offers extra support to girls who come to study here like by setting a reduction on the school fees for girls” (KI 1, School director).*

However, teachers while recognising the importance of school fees reduction, pointed out the final outcome which is employment:

*“The government should try and increase job opportunities so that those who conclude their studies can get enough income from their jobs. This will attract girls to study in TVET schools, provide also support for those ones who want to work on their own” (FGD with teachers).* For teachers, one priority for policy-makers is to create employment for future graduates which benefit current graduates and motivate more girls to join a male dominated course.

## **Chapter 5: Discussion**

In this chapter, the results and findings presented in the previous chapter are discussed in relation to the extant literature. Besides the critical reflection is proposed on key aspects pertaining to the quality of the research, influencing factors, or implications of the research.

### **5.1. Discussion of findings in relation to the existing literature**

#### **5.1.1. Motivation and awareness on TVET course before enrolment**

The findings revealed that there are various factors that underlie the decision of girls to enrol in TVET male dominated courses. The research showed that the motivations of girls were basically influenced by two types of considerations: personal ambitions and influence of external environment (family environment, relatives, role models and existing (or effect of) existing policies. The influence of external environment aligns with the findings of a research conducted by Niklas et al. (2017). In their research, the authors found that female students' choices were highly influenced by family members, friends, and people employed in jobs they intend to go into. Besides, on their interest in TVET, a study revealed that girls' lack of interest or low performance in some courses were justified by psychological attitudes as they did not want to isolate themselves from peer female trainees (Azeem *et al.*, 2022). However, this research rather showed that the interviewed girls enrolled in male dominated courses were interested in performing well with the intention of bringing a positive image of girls in the society. Also, Chinyere Shirley (2014) concluded that one aspect contributing to low female enrolment in TVET was the lack of awareness on objective and prospects of technical education. That was also confirmed in this research as the findings indeed brought an evidence that even female trainees enrolled in male dominated courses largely admitted that they knew TVET before, but they actually had few information on the content of the curriculum.

Besides, the findings showed that the respondents had a main expectation towards their programme: getting a job upon completion of studies. This was also confirmed by different authors, such as Bakar and Mahmud (2020) and Chinyere Shirley (2014) who stressed on career aspiration and concerns related to future jobs as one key motivation for female trainees. Yet, it appeared during the interviews with the respondents that quite some girls expressed the desire to pursue higher education in order to access better job positions like engineers.

#### **5.1.2. Stereotypes about female trainees studying male courses**

The findings of this research showed that all respondents are facing gender stereotypes within their male dominated courses. They shared being affected by two main types of stereotypes from boys in their class. Indeed, boys tend to manifest stereotypes regarding their abilities inferior to boys abilities for such courses, particularly in terms of physical strength, stress management, family and professional life. They also expressed stereotypes regarding physical attractiveness of girls enrolled in male dominated courses. This confirms the results of a study in TVET schools in Nigeria. In this research it appeared that female trainees reported that they were labelled as wrong sex or weak sex by male colleagues (Caleb and Comfort, 2017). Matenda (2020) further demonstrated that even teachers were also showing stereotypes towards girls and perpetuated the stereotypes. This assertion however partly contradicts the findings in this research as only 2 respondents admitted that they faced or noticed stereotypes from their teachers. The large majority reported that they were encouraged by their teachers. Still we concluded that this kind of support was rather neutral as teachers did nothing to sanction or prevent stereotypes from boys and instead put the responsibility on girls. Another finding that emerge from this research was the tacit acceptance by girls, in the sense that though we

mentioned that teachers were not directly addressing the stereotypes, female trainees also were not taking initiatives to address them and instead accepted to live with them.

### **5.1.3. Parental beliefs and attitudes toward female trainees in male dominated courses**

Parental beliefs and attitudes appeared to be an influencing factor in female enrolment and performance in TVET male dominated courses. Nearly half of the respondents stated that the parents were initially opposed to the enrolment in their course, thinking that it was reserved for boys or that it will affect their capacity of getting married, or their beauty. They said that though they finally accepted their choice, such attitudes are probably preventing other's girls to enrol in TVET male dominated courses. This is quite true as a FGD with trainees in female dominated courses showed that they would have appreciated enrolling in different courses but their parents would not allow. This confirms a study conducted by Nshimirimana and Kitula (2020) who concluded that "wrong parental attitudes" are among the key social and cultural factors assumed to affect female enrolment in male dominated courses. Besides, Okwelle and Kooli (2021) and Chinyere Shirley (2014) established that parental beliefs in boys privilege which girls are not entitled to, and their perception that girls will marry, are factors restricting the willingness to bear educational cost of female enrolment in TVET. However, this conclusion does not exactly match with findings of this research. Indeed, all respondents mentioned that their parents were supporting their studies by paying school fees and study materials even if they did not appreciate the male dominated course they were doing. This shows that parental beliefs tend to prevent female enrolment in TVET male dominated courses, but once they accept a girls' decision to go in such a course they rather keep their responsibility of paying school fees.

Besides, Another finding from this research is the belief from respondent that educated parents are more open to sending girls in TVET male dominated courses. Therefore, they think that the support of these parents is also needed in the engagement of increasing girls enrolled in male courses by encouraging or influencing other peer parents who are not educated to change their mindset on these courses. Also, this research showed that the financial cost of TVET was identified by both respondents and parents as a limiting factor for female enrolment in male dominated courses. This confirms the opinion of Chinyere Shirley (2014) that school fees and the financial situation of parents affects the enrolment of girls in male dominated courses.

### **5.1.4. Policies supportive to female enrolment in TVET**

Policies on girls enrolment in TVET male dominated courses are important for creating a favourable environment to support female enrolment and performance on such courses. This research demonstrated that the respondents usually lacked information not only about national policies but even school policies. Despite their lack of information, they still considered that policies are very important for increasing the number of girls enrolled in TVET. This goes along with the point of view expressed by Chinyere (2014). For the author, the lack of gender equality policies in TVET or the lack of monitoring of such policies are preventing female enrolment in TVET. She also thinks that school policies related to curriculum, availability of teachers and supportive facilities are important for female enrolment. This also relates to findings from this research, as some expectations shared by the respondents were related to availability of better school facilities and more teachers, though on this last aspect, they rather talked about more female teachers. In this research, some female trainees were able to talk about school fees reduction policy which is a supporting factor for female enrolment. However, it should be mentioned that this reduction is not only intended for girls as it is a general policy for students enrolled in a public TVET school.

## **5.2. Critical reflection**

### **5.2.1. Strengths and limitations of the research**

#### **Strengths and quality of the research**

With regards to the strengths of this research, it should be noted that the research was carried in a participatory way and the research relied on the experience, knowledge and connections of key persons for ensuring a conducive environment for data collection. All clarifications and trajectory of the research was carefully discussed with the commissioner who managed to link the researcher with relevant professionals to facilitate the research process. As such, the researcher met with the gender planning officer in MIGEPROF (Ministry in charge of gender), as well as the District director of education, who linked me with the two schools that participated in the research.

Also, the researcher moved to stay in the Muhanga district for being close to the data sources. Another strength of the research lied in the variety of participants that were involved which allowed different perspectives and points of view on the topic. Also, interviews conducted with TVET trainees, teachers and TVET graduates were done in their place of study or work which made them comfortable and facilitated their availability.

Besides the researcher managed to ensure the quality of the research by collecting relevant data based on the sub-questions, summarizing and verifying the authenticity of the notes and participants responses. Subsequently, appropriate coding and data categorization were done according to themes, and relevant quotes were selected to emphasise on the findings presented in this report. And to facilitate a critical reading of the findings, triangulation was done to present the point of view of different data sources.

#### **Limitations of the research**

The researcher inevitably met some challenges though they did not prevent for conducting a quality research. One of the limitations met in the field was related to schools planning. Indeed, they were in a period of exams for students and were transitioning to vacations. This obliged the researcher and participants to comply with the schedule of exams and therefore had strict periods of time available. This was a limitation as the tight agenda for finishing the school year could either bring a stress on respondents due their exams or excitement and impatience to go for their vacations.

Moreover, a focus group discussion with parents happened to be not possible as it first required going through students to inform them and request for their contact. Also few parents who positively reacted to the research couldn't managed to have neither the time nor the capacity to gather in a common place with others parents. Though, this limitation prevented from getting a group perspective from parents, the quality of research was still ensured as parents were interviewed as key informants, with larger time for getting deep personal views without any influence of other parents, and those who accepted were actually willing to contribute in the research.

Also, the availability of girls and their mobilisation based on the school staff. It was purposely intended to involve school staff in the research, as school directors were informed about the research and asked to support the research process. On one part girls selection were difficult as they had to take into account the exams schedule of each course, and the available girls within specific period. Also, as the schools got involved for their mobilisation, there was a likelihood that few could refuse to participate with affect their informed consent. Yet the researcher made sure to insist on voluntary participation and their freedom to respond to the questions.

### **5.2.2. Research process**

The research followed a specific guideline as a research proposal was prior elaborated with the qualitative method as a research approach. Though everything was planned, it was realised that things could happen differently in the field and the researcher had to make a reasonable choice to adapt to the new or unexpected circumstances. Thus, with regards to the data collection (data sources and collection tool), it was initially planned to do a FGD with parents to discuss parental beliefs and stereotypes. The researcher initially thought that it would be easy to reach them but was then confronted to rejections or impossibility for parents to join a FGD. So, an alternative has been to decide taking parents, as key informants as an option of individual interview was possible.

Also, it was agreed to rely on schools to select the participants for a participatory approach consideration. This appeared to be indeed a good choice, but it also put pressure on school staff who did their best though the initial number of 30 respondents couldn't be reached. In addition, throughout the discussions with respondents, it appeared that it would be relevant to talk to boys (from the male dominated courses) and females enrolled in female dominated courses which was also a good adaptation and initiative as it brought more insights.

It should also be acknowledged, that the researcher had a particular passion for gender questions and the topic. Still the researcher managed to stay detached and neutral during interviews, but took the opportunity to sustain a conversation with girls who were willing to discuss some issues. In any case this also was appreciated by girls who got awareness and more confidence.

### **5.2.3. Implications and contribution of the research**

This research used a systemic change perspective and was primarily based on the perceptions of female trainees in male dominated courses on the factors that affect female enrolment in TVET for such courses. They gave us a deep insight from their perspective, and though the research also gave voice to boys, the researcher acknowledges that it was not a substantial representation of boys views. In this sense this research implies to further investigate on the impact of boys stereotypes on female enrolment by putting an emphasis on male trainees perceptions. Also the performance gap in TVET couldn't thoroughly be explored hence the relevance of further research on this aspect. Besides it appeared that level of education of parents can have an impact, a research could therefore focus on the effect of parents education level and social status of parents towards female enrolment as this research couldn't get relevant information from girls on the socio-economic status of the households they come from.

In terms of policies, the research also has some implications for policy-makers. Indeed it appeared that increase in TVET schools number could ultimately lead to an increase of female enrolment in male dominated courses. This should also be supported by policies towards the training and hiring of more female teachers; as well as policies fostering scholarships for girls and orientation in male dominated courses to address the existing gap. Also gender sensitive policies for professional insertion of the TVET graduates is needed as well a communication or awareness strategy for enlightening parents and community members on the relevance of enrolling girls in male dominated courses.

In terms of actual and potential contribution, the research itself was perceived as an awareness raising activity for girls involved in the research. By raising their voices and giving their opinions, some female trainees admitted they realise they could also play a role individually by motivating girls in their circle. Female trainees also gain confidence within the discussions for exploring opportunities that are relevant to their careers goals and stand away from bias that it would be difficult as women. This

research also made school staff realise the importance of establishing their own policies and strategy (in line with national policies) to support girls go into male dominated courses and perform well.

Also, the research approach itself was a contribution to existing studies on female enrolment in TVET. Indeed, rather than focusing on single dimension like the cultural norms, the research was based on the assumption that enrolment is a complex issue and tackling various dimensions can lead to a systemic change. All the factors (policies, access to resources, cultural norms, girls' consciousness) need to be addressed which is an added value of the research.

## **Chapter 6: Conclusion and Recommendations**

### **6.1. Conclusion**

This research explored the factors affecting female enrolment in male dominated courses. The research is mainly based on the voices of female trainees enrolled in such courses in the Muhanga district of Rwanda. It also took into account of points of view of different stakeholders concerned by the issue in order to get a broad understanding and analyse the complexity of the issue.

The research established that various factors are interconnected and influence female enrolment in male dominated courses. Policies, access to resources, cultural norms and girls' consciousness were all influencing dimensions which brings the necessity to address the issue with a systemic change perspective. The participants in the research shared their opinions and experiences on the different influencing factors.

It was first shown that girls motivations and awareness on existing male dominated courses had an influence on their decision to enrol in TVET for male dominated courses. It appeared that their personal ambitions, as well as family members or relatives could influence their decision. Indeed, the findings showed that girls' prior awareness on TVET or admiration for role models could make them decide on their own to join a TVET male dominated course. Findings also revealed that some girls were highly influenced by or pushed into TVET by their parents, siblings, or close friends from secondary schools. Also, it appeared that female trainees had few information on the curriculum delivered in TVET and such an access to information could also be a determinant in girls choice to join a male dominated course.

The research also explored the stereotypes faced by female trainees enrolled in male dominated courses in their schools. The findings showed that boys addressed their peer female trainees with bias and stereotypes which happened to be discouraging for girls. The stereotypes related to girls inability to perform tasks boys could do at school, the lack of physical strength for girls, incapacity to deal with reproductive roles and technical studies or jobs. Stereotypes from boys also related to their perception that female's attractiveness could not be associated with jobs they are meant to do with the male dominated course they are following. Though, girls argued that these stereotypes were unpleasant or discouraging, the findings suggested that boys could not recognise any harmful intention as they took it as simple jokes; while girls ended up accommodating themselves with a situation they did not (or could not) take action to change. In addition, the vast majority of female trainees did not acknowledge any stereotypes from teachers but rather their supportive and encouraging attitude. However, it appeared that teachers did not also take an active responsibility to prevent stereotypes from boys and rather transferred the responsibility on girls to stop the stereotypes.

Besides, the research findings also presented that parental beliefs influenced girls decision to join a TVET male dominated courses and perform well in their courses. The findings revealed that some parents were opposed to the initial choice of their daughter to join male dominated courses as they believed in traditional gender roles for ladies. Other parents on another hand encourage their daughters because of initial love of the subject, their profession related to such courses or prior success of girls within the family in a male dominated course. In any case, it was established that though some parents could be uninterested with the daughter's choice and showed stereotypes, they ultimately tend to fulfil their role as parents to pay school fees and school materials; despite the fact that amount of school fees could be a financial constraining factor of girls enrolment in TVET male dominated courses.

Finally, It was shown that female trainees lacked information about the existing policies that are supportive to female enrolment in male dominated courses. They hardly knew about policies neither at national level (policies from ministry of education or gender) nor within their school. Yet, few respondents could mention school fees reduction from government. It also appeared that schools did not have their own policies to promote female enrolment in male dominated courses, and rather referred to general national policies which govern TVET schools in Rwanda. Still, the main expectations shared by respondents to increase female enrolment in male dominated courses revolved around the increase of TVET schools, the hiring of more female teachers in male dominated courses, gender sensitive policies for employment of TVET female graduates, awareness raising for community members and parents on existing policies and importance to enrol girls in male dominated courses; or scholarships schemes for girls to enrol in male dominated course.

## **6.2. Recommendations**

The objective of this research was to gain insights in the factors affecting female enrolment in TVET male dominated courses, in Muhanga District of Rwanda, with the aim of recommending strategies to increase enrolment of female trainees in TVET male dominated courses. The commissioner of this research was Fate consulting limited which is a consulting organisation specialising in gender equality and social inclusion analysis and integration, by conducting or providing research, assessments, or capacity building. Regarding the findings of the research some recommendations are suggested to the commissioner.

Considering that the research looked at the factors affecting female enrolment from a systemic change perspective, a strategy which is based on multi-stakeholder process is therefore appropriate to tackle the different dimensions of factors affecting female enrolment in male dominated courses:

On the level of stereotypes, it was established that boys have stereotypes which affect female enrolment, as well as parents beliefs and attitudes. To address this issue, the strategy should target parents, siblings, students and boys trainees in TVET schools. An awareness raising campaign has to be conducted to give voice to the fathers, and parents who support their daughter for sharing their stories to influence community members and other parents. Similarly, radio programmes highlighting the performance of girls in traditional male fields have to be broadcasted to target students to change their perceptions on girls capacities.

Regarding the policies, a lack of information of supportive policies was established. It is recommended that the integrated strategy entails the adoption of policies by the ministry of education, related to scholarships and orientation of girls in male dominated courses; as well as communication about this policy. Also, schools' administrations have to elaborate their own gender policies to establish mechanisms for preventing and reporting gender stereotypes.

Concerning female access to resources, it was established that employment after graduation was a main concern. The strategy entails partnerships building from schools and the connection of female trainees to employers in order to get internships or jobs; as well as the establishment of funds from the ministry of gender and education to support businesses creation of female trainees.

Finally, the motivations and awareness of TVET programmes were influencing factors of female enrolment in male dominated courses. To this regards role models will share their stories to girls and coach them to enrol in TVET male dominated courses, and orientation sessions from education officers in secondary schools have to be conducted on the outcomes of the different TVET courses.

## Reference list

- Aragonés-González, M., Rosser-Limiñana, A. and Gil-González, D. (2020) "Coeducation and gender equality in education systems: A scoping review," *Children and Youth Services Review*, 111. doi:10.1016/j.chilyouth.2020.104837.
- Azeem, N. *et al.* (2022) "The Secondary School Students' Interest toward the TVET Programs: Demographic Differences," *International Journal of Learning, Teaching and Educational Research*, 21(4), pp. 80–96. doi:10.26803/ijlter.21.4.5.
- Bakar, A.Y.A. and Mahmud, M.I. (2020) "The profiling of aspiration and interest towards STEM and TVET careers among Malaysian school students," *Journal for the Education of Gifted Young Scientists*, 8(1). doi:10.17478/jegys.669034.
- Brown, M.E.L. *et al.* (2020) "Too male, too pale, too stale: A qualitative exploration of student experiences of gender bias within medical education," *BMJ Open*, 10(8). doi:10.1136/bmjopen-2020-039092.
- Buehren, Niklas; Van Salisbury, Taylor (2017). *Female Enrollment in Male-Dominated Vocational Training Courses : Preferences and Prospects*. World Bank, Washington, DC. © World Bank. [Online] Available from: <https://openknowledge.worldbank.org/handle/10986/27481>. [Accessed: 6th June 2022].
- Chinyere Shirley Mrs., A. (2014) "Factors Affecting Female Participation in Technical Education Programme: A Study of Delta State University, Abraka," *Journal of Education and Human Development*, 3(3). doi:10.15640/jehd.v3n3a18.
- Cislaghi, B. and Heise, L. (2020) "Gender norms and social norms: differences, similarities and why they matter in prevention science," *Sociology of Health & Illness*, 42(2), pp. 407–422. doi:10.1111/1467-9566.13008.
- Fuller, S. (2019) "Education Diplomacy at the Intersection of Gender Equality and Quality Education," *Childhood Education*, 95(5). doi:10.1080/00094056.2019.1663103.
- Laws Sophie *et al.* (2013) *Research for Development: A Practical Guide*. Edited by Aguilera Natalie.
- Legros, S. and Cislaghi, B. (2020) "Mapping the Social-Norms Literature: An Overview of Reviews," *Perspectives on Psychological Science*, 15(1). doi:10.1177/1745691619866455.
- MAHE, M.A. (2018) *INSTITUTIONAL BASED FACTORS AND FEMALE ENROLLMENT IN RWANDA: A CASE STUDY OF SAINT JOSEPH INTEGRATED TECHNICAL COLLEGE*. Mount Kenya University.
- Mahuyu, J. and Makochekanwa, A. (2020) "Perspectives of Parents towards Technical and Vocational Education and Training (TVET) in Zimbabwe," *Advances in Politics and Economics*, 3(4). doi:10.22158/ape.v3n4p1.
- MIGEPROF (2021). *Accelerating the Effectiveness of Gender Mainstreaming and Accountability for National Transformation, Revised National Gender Policy*. [Online] Available from: [https://www.migeprof.gov.rw/fileadmin/user\\_upload/Migeprof/Publications/Guidelines/Revised\\_National\\_Gender\\_Policy-2021.pdf](https://www.migeprof.gov.rw/fileadmin/user_upload/Migeprof/Publications/Guidelines/Revised_National_Gender_Policy-2021.pdf). [Accessed: 6th June 2022].
- MINEDUC (2015). *TVET Policy*. [Online] Available from: [https://planipolis.iiep.unesco.org/sites/default/files/ressources/rwanda\\_tvete\\_policy\\_final.pdf](https://planipolis.iiep.unesco.org/sites/default/files/ressources/rwanda_tvete_policy_final.pdf). [Accessed: 4th June 2022].

MINEDUC (2018). *Education Sector Strategic Plan 2018/19 to 2023/24*. [Online] Available from: [https://www.mineduc.gov.rw/fileadmin/user\\_upload/Mineduc/Publications/ESSP/1\\_Education\\_Sector\\_Strategic\\_Plan\\_2018\\_2024.pdf](https://www.mineduc.gov.rw/fileadmin/user_upload/Mineduc/Publications/ESSP/1_Education_Sector_Strategic_Plan_2018_2024.pdf). [Accessed: 4th June 2022].

MINEDUC (2022). *2020/21 EDUCATION STATISTICAL YEARBOOK*. [Online] Available from: <https://www.mineduc.gov.rw/index.php?eID=dumpFile&t=f&f=41941&token=f2b4cacbfa02e2c86fe309244c7e416180c4d28a>. [Accessed: 4th June 2022].

MINEDUC (2022). *Technical and Vocational Training*. [Online] Available from: <https://www.mineduc.gov.rw/technical-and-vocational-training>. [Accessed: 4th June 2022].

Ministry of Education (2008). *Technical and Vocational Education and Training (TVET)*. [Online] Available from: <https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/98536/117301/F995349745/RWA-98536.pdf>. [Accessed: 5th June 2022].

Ministry of Education, Science, Technology and Scientific Research (2003). *Education Sector Policy*. [Online] Available from: [https://www.mineduc.gov.rw/fileadmin/user\\_upload/Mineduc/Publications/POLICIES/Education\\_Policy.pdf](https://www.mineduc.gov.rw/fileadmin/user_upload/Mineduc/Publications/POLICIES/Education_Policy.pdf). [Accessed: 5th June 2022].

Moyo, A., Sankhulani, L. and Namalima, S. (2022) "Socio-Economic Factors Contributing to Female Students' Dropout in Community Technical Colleges in Thyolo and Phalombe Districts: A Case of Milonga and Naminjiwa Technical Colleges," *Journal of Education and Practice*, 5(4). doi:10.47941/jep.754.

Najoli, E.K. (2019) "The Effectiveness of Wited Programme on Enrollment of Women in Technical and Vocational Education and Training (TVET)," *EURASIA Journal of Mathematics, Science and Technology Education*, 15(3). doi:10.29333/ejmste/103034.

National Institute of Statistics of Rwanda (2011). *EICV 3 - Muhanga District profile*. [Online] Available from: <https://www.statistics.gov.rw/publication/eicv-3-muhanga-district-profile>. [Accessed: 5th June 2022].

National Institute of Statistics of Rwanda (2021). *2020/21 Rwanda statistical yearbook*. [Online] Available from: <https://www.statistics.gov.rw/publication/1767>. [Accessed: 5th June 2022].

Ngugi, M. and Muthima, P. (2017) "Female participation in Technical, Vocational Education and Training Institutions (TVET) subsector: The Kenyan experience," *Public Policy and Administration Research*, 7(4).

NISR (2018). *The EICV5\_Youth Thematic Report*. [Online] Available from: <https://www.statistics.gov.rw/statistical-publications/subject/youth>. [Accessed: 5th June 2022].

Nshimirimana, P. and Kitula, M.D. (2020) "The Socio-Cultural Barriers Young Females Face in Accessing Technical and Vocational Education Training (TVET) in Rwanda," *International Journal of Management and Humanities*, 4(12), pp. 33–40. doi:10.35940/ijmh.K1054.0841220.

Owais, A.K. et al. (2020) "Technical and vocational education and training in the UAE," *International Journal of Emerging Technologies in Learning*, 15(13). doi:10.3991/ijet.v15i13.13801.

Prof.P.C.Okwelle and Kooli, P. (2021) "Societal Perception Of Female Participation In Technical Vocational Education And Training (Tvet) Programmes In Rivers State Universities graduates.," 2(4), pp. 1–200.

Ridzwan, C.R. *et al.* (2017) "Skills and Knowledge Competency of Technical and Vocational Education and Training Graduate," *Asian Social Science*, 13(4). doi:10.5539/ass.v13n4p69.

Rubagiza, J. (2010) "Gender analysis of the technical and vocational education and training (TVET) policy in Rwanda," *Forum for African Educationalists Rwanda* [Preprint].

Subedi, R. and Shrestha, M. (2020) "Student Friendly Teaching and Learning Environment: Experiences from Technical Vocational Educational Training Schools in Nepal," *European Journal of Educational Technology*, 2020(1).

UNESCO (2021) Sub-Educational policy review report. [Online] Available from: [https://en.unesco.org/sites/default/files/tvet\\_final\\_-\\_january\\_2021.pdf](https://en.unesco.org/sites/default/files/tvet_final_-_january_2021.pdf). [Accessed: 6th June 2022].

UNESCO (2021). *Sub-Educational policy review report*. [Online] Available from: [https://en.unesco.org/sites/default/files/tvet\\_final\\_-\\_january\\_2021.pdf](https://en.unesco.org/sites/default/files/tvet_final_-_january_2021.pdf). [Accessed: 6th June 2022].

Wang, M. te and Degol, J.L. (2017) "Gender Gap in Science, Technology, Engineering, and Mathematics (STEM): Current Knowledge, Implications for Practice, Policy, and Future Directions," *Educational Psychology Review*. doi:10.1007/s10648-015-9355-x.

Wanyaga Munyi, F. (2019) *Gender Inclusion in TVET: An Examination of Sustainable Interventions In Selected TVET Institutions In Kenya*, *Technology, Education & Management Research*.

World Bank (2020). *Population, total - Rwanda*. [Online] Available from: <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=RW>. [Accessed: 4th June 2022].

Yi, H. *et al.* (2015) "Exploring the dropout rates and causes of dropout in upper-secondary technical and vocational education and training (TVET) schools in China," *International Journal of Educational Development*, 42, pp. 115–123. doi:10.1016/j.ijedudev.2015.04.009.

## Annexes

### Annex 1: Table 1: Number of students in secondary schools

Table 1: Number of students in secondary schools

Description/Year	2017	2018	2019	2020/21
<b>Total Students</b>	<b>592,501</b>	<b>658,285</b>	<b>732,104</b>	<b>782,846</b>
Male	276,437	308,367	341,691	363,214
Female	316,064	349,918	390,413	419,632
% of Male	46.7%	46.8%	46.7%	46.4%
% of Female	53.3%	53.2%	53.3%	53.6%

Source: School census, Ministry of Education (2020)

### Annex 2: Table 2: Total number of TVET trainees

Table 2: Total number of TVET trainees

Levels	2,017	2,018	2,019	2020/21
<b>Total trainees</b>	<b>107,501</b>	<b>102,485</b>	<b>107,167</b>	<b>110,954</b>
Male	65,327	57,643	63,138	63,008
Female	42,174	44,842	44,029	47,946
% of Male	60.8%	56.2%	58.9%	56.8%
% of Female	39.2%	43.8%	41.1%	43.2%
<b>Trainees in TVET special program</b>	<b>17,486</b>	<b>9,650</b>	<b>9,932</b>	<b>8,561</b>
Male	13,946	4,397	6,430	5,908
Female	3,540	5,253	3,502	2,653
<b>Trainees in TVET level 1 to 2</b>	<b>13,351</b>	<b>9,412</b>	<b>15,788</b>	<b>16,535</b>
Male	6,958	4,980	9,412	7,269
Female	6,393	4,432	6,376	9,266
<b>Trainees in TVET level 3 to 5</b>	<b>66,244</b>	<b>69,976</b>	<b>67,369</b>	<b>72,686</b>
Male	36,542	38,605	37,161	40,249
Female	29,702	31,371	30,208	32,437
<b>Trainees in TVET level 6 to 7</b>	<b>10,420</b>	<b>13,447</b>	<b>14,078</b>	<b>13,172</b>
Male	7,881	9,661	10,135	9,582
Female	2,539	3,786	3,943	3,590

Source: School census, Ministry of Education (2020)

### Annex 3: Table 3: Percentage of VTC (TVET LEVEL 1 TO 5) Students by Sex and by Trade in 2019

Table 3: Percentage of TVET level 1 to 5, Students by sex and by trade in 2019

Trades	Number of Trainees			Percentage by sex	
	Male	Female	Total	Male	Female
Moto Vehicle Engine Mechanics/Automobile Engine Technology	2,977	166	3,143	95%	5%
Masonry	11,164	2018	13,182	85%	15%
Culinary arts	1,307	3,953	5,260	25%	75%
Dressmaking/Tailoring	658	5,550	6,208	11%	89%
Carpentry	1,393	264	1,657	84%	16%
Welding	815	76	891	91%	9%
Hairdressing- Aesthetics	232	1,077	1,309	18%	82%
Food processing	246	639	885	28%	72%
Domestic Electricity	1,389	378	1,767	79%	21%
Plumbing	538	160	698	77%	23%
Food and Beverage	38	237	275	14%	86%
Knitting	0	0	0	0%	0%
Leather Craft	95	90	185	51%	49%
Painting	16	28	44	36%	64%
House Keeping	0	0	0	0%	0%
Crop production	618	922	1540	40%	60%
Film making	383	276	659	58%	42%
ICT	5,703	4,771	10,474	54%	46%
Veterinary (Technicians)/ Animal Health	954	1,140	2,094	46%	54%
Beauty Therapy/Beauty and Aesthetics	232	1077	1309	18%	82%
Forestry (For technicians)	151	145	296	51%	49%
<b>Total</b>	<b>28,909</b>	<b>22,967</b>	<b>51,876</b>	<b>56%</b>	<b>44%</b>

Source: NISR (2021)

### Annex 4: Table 4: Gender parity index (GPI) in enrolment

Table 4: Gender parity index (GPI) in enrolment

Indicators	2,017	2,018	2,019	2020/21
GPI at Nursery	1.03	1.04	1.05	1.07
GPI at Primary	1.00	1.01	1.00	1.00
GPI at Lower Secondary	1.24	1.25	1.27	1.17
GPI at Upper Secondary	1.07	1.12	1.09	1.17

GPI in TVET enrolment	0.65	0.78	0.70	0.76
GPI at Higher Education	0.79	0.71	0.72	0.79

**Source:** School census, Ministry of Education (2022)

## Annex 5: Table 5: Research schedule

Table 5: Research schedule

Activity	Period
<ul style="list-style-type: none"> <li>• Desk study</li> <li>• Proposal writing and submission</li> <li>• Field work materials preparation</li> </ul>	June
<ul style="list-style-type: none"> <li>• Key informant interviews</li> <li>• Semi-structured interviews</li> <li>• Focus group discussions</li> <li>• Observations</li> <li>• </li> </ul>	July/August
<ul style="list-style-type: none"> <li>• Transcriptions</li> <li>• Data analysis and writing of findings</li> <li>• Data interpretation</li> </ul>	July/August
<ul style="list-style-type: none"> <li>• Report writing</li> <li>• Report review</li> <li>• Submission of the report</li> </ul>	August/September

## Annex 6: Table 6: Profile of respondents

Table 6: Profile of respondents

Respondents	Course	Level	Age
R1	Masonry	3	19

R2	Masonry	5	22
R3	Masonry	5	23
R4	Masonry	4	21
R5	Masonry	3	20
R6	Masonry	4	23
R7	Masonry	5	24
R8	Masonry	3	19
R9	Masonry	4	21
R10	Masonry	5	23
R11	Masonry	3	18
R12	Carpentry	4	19
R13	Carpentry	5	24
R14	Carpentry	3	19
R15	Carpentry	4	22
R16	Carpentry	5	24
R17	Carpentry	4	19
R18	Carpentry	3	18
R19	Carpentry	4	20
R20	Carpentry	5	23
R21	Automobile	4	24
R22	Automobile	5	24
R23	Automobile	5	24
R24	Automobile	3	19
R25	Automobile	3	19
R26	Automobile	4	19

## **Annex 6: Semi-structured interviews guide**

Interview guide for semi-structured interview with respondents

Introduction

Hello! Thank you accepting my invitation for the interview.

Before we start I would like to remind you about the purpose of this interview.

I am Agnes Uwiringiyimana, a masters' student in Management of Development, with Specialisation of Social Inclusion Gender and Youth at Van Hall Larenstein University of Applied Sciences, in the Netherlands. I am researching a project titled: " Factors affection female enrolment in TVET. A Case of Muhanga district". The objective of this research is to get information about the reasons why there is a low female participation in TVET particularly in male-dominated courses. This will help recommend strategies to increase female enrolment in TVET schools. Your participation will contribute in this objective. You are free to express your views on the questions, and your identity and responses will be treated in confidentiality.

There is no right or wrong answers in this discussion. We are interested in knowing what you think, so please feel free to be frank and to share your point of view. It is very important that we hear your opinion.

Introduction:

- Name, age, TVET name
- What course are you enrolled
- Why did you choose this course
- Is there a reason why you choose to follow the course at this TVET?

### **Subquestion 1: What are the expectations of female students about TVET?**

- Motivation (decision) to study in TVET – This course in particular

How did you get information about TVET before coming to enrol?

Do you think information about TVET is easily accessible to allow girls in general to decide if they want to study in TVET or not?

How does access to information affect the number of girls that join male dominated courses in TVET schools ?

What can be done to communicate more about TVET?

Why have you decided to study in TVET?

Why this course in particular?

What did you know about this TVET before enrolling? What stories did you hear of girls studying at this TVET?

- Opinion about the organisation of the course

How is your course organised?

- Opinion about the interest of girls in TVET

What do you think about girls interest in general for TVET? About those male-dominated courses like the one you are following? What could be done to increase girls interest in TVET?

- Opinion about girls performance in general in TVET

You are few girls in you course, how are they performing? Do they need any support to do better? What do they need to perform better?

- Career perspectives

What do you want to do at the end of your studies? What kind of job do wish to get? How is the job market accessible for girls after finishing their course?

- Support for getting job

What is done in your school to prepare you well for the job market? Any specific support for girls? What kind of support do wish to get for getting a job after your studies?

### **Subquestion 2: How are educational policies supportive to female enrolment in male dominated courses in TVET?**

- Knowledge and perception about national policies

What do you know about current national policies that support girls enrolment in TVET? How do you think they increase female enrolment in courses like yours? What needs to be done to more facilitate female enrolment?

If no knowlege? Give example of national policies and ask what she thinks about it, relevance, what you be done to ensure more enrolment?

- Knowledge and perception about school policies

What do you know about school policies that support girls enrolment ?How do you think they increase female enrolment in courses like yours? What needs to be done to facilitate more female enrolment?

### **Subquestion 3: What are the beliefs and attitudes of parents toward females studying male dominated courses at TVET?**

- Parents support for enrolling girls in TVET male dominated courses

How is easy for parents to accept enrolling their girls in male dominated courses at TVET? How was it for your own experience? What motivated your parents or family members to support you (or not) studying in this course?

- Parents attitudes

A part your personal experience, what do you notice in general in your community about how parents see these courses for girls? Are there any differences in the way they treat boys and girls for these courses? How do you notice these difference? What kind of words do they have? What kind of

attitudes for female who study such courses? Any examples of good attitudes you noticed? How could parents support more girls? What should be done to change parents attitudes in the positive way?

**Subquestion 4: What are the stereotypes about female trainees going for male dominated courses in TVET?**

- Stereotypes from fellow male trainees

How do boys think about girls who are studying this course? How do they behave with you? Are there attitude that makes you uncomfortable with you? Do they treat you as equal to them? How? Are there examples of stereotypes you noticed from boys?

- Stereotypes held by teachers

How was the introduction day, before enrolling, how were you approached, were you stimulated to join certain courses?

What about teachers ? Are there examples of stereotypes do you want to share? How does it affect your performance – girls interest in TVET?