UNIVERSITY OF EDUCATION, WINNEBA

CHALLENGES FACING ICT EMPOWERMENT OF GIRLS IN BONGO DISTRICT: THE ROLE OF THE SCHOOL COUNSELLOR IN JUNIOR HIGH SCHOOLS

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A thesis in the Department of Counselling Psychology, Faculty of Applied Behavioural Sciences in Education, submitted to the School of Graduate Studies in partial fulfilment of the requirements for the award of the degree of Master of Philosophy (Counselling Psychology) in the University of Education, Winneba

OCTOBER, 2025

DECLARATION

Student's Declaration

I, Charles Amantara Atanga, hereby declare that this thesis except for references to other peoples' work which are dully acknowledged, all other materials in the research are solely mine. I declare further that this research has not been presented for another degree in this university or elsewhere.

Signature: …….……

Date: …….

Supervisor's Declaration

I hereby declare that the preparation and presentation of this thesis was supervised by me in accordance with the guidelines for the supervision of thesis laid down by the University of Education, Winneba.

Name of Supervisor: Professor Bedu Addo, P.K.A.

Signature: …….……

Date: …….

DEDICATION

This thesis is dedicated with gratitude to my wife Madam Leticia Atipoka and my lovely daughters and son; Victoria, Bernice, Benedicta and Benedict Amantara, and to my entire family for their motivation and support.

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I am most grateful and forever indebted to the Almighty God for His grace and divine guidance throughout this work. This work would not have been completed but for the constant and diligent supervision of Professor Bedu Addo. I say, thank you for your resourceful and constructive directions, suggestions and advice that have immensely enriched my knowledge and understanding of this research work. I express my appreciation to Dr. Nyuiemedi Agordzo Edoh-torgah (Head of Department, Counselling Psychology), for given me the introductory letter which enabled me to have access to the premises of the participants for the data collection. I also express my appreciation to Mr. John Naa. (School Improvement Officer in the North-North East Circuit), the headteachers of Junior High Schools in the North-North East Circuit in the Bongo District and their staff, for their understanding, permission and access to their schools and students. I thank my wife, Madam Leticia Atipoka for her understanding and support. I wish to specially appreciate the wonderful commitment exhibited by all the participants in this work. Truly, without your responses, this work would not have been completed.

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ABSTRACT

This study explored challenges facing ICT empowerment of girls in Junior High Schools in the Bongo District, focusing on the role school counsellors play in supporting girls‘ engagement with ICT. The study employed a qualitative approach and used face-to-face interviews to gather data. Guided by an interpretivism paradigm, a phenomenological design was adopted to capture the essence of how girls in Junior High Schools in the Bongo District experience ICT access and usage for empowerment. The research population consisted of 116 participants, including 4 school counsellors, 108 form three female students, and 4 ICT teachers. From this population, 28 participants were purposively selected based on their direct involvement in ICT and girls‘ empowerment activities. However, following the principle of data saturation, where no new information or themes emerged during analysis, the final sample size was 18 participants. These included 4 school counsellors, 10 female students, and 4 ICT teachers, which was sufficient to provide comprehensive insights into the study‘s objectives. A semi-structured interview guide facilitated data collection, while inductive thematic analysis was used to identify recurring patterns and themes. Findings revealed critical challenges such as limited access to ICT resources, inadequate infrastructure, and sociocultural barriers that limit girls‘ participation in ICT activities. The study also highlighted the need for continuous psychosocial and academic support to sustain girls‘ interest in ICT. Based on the findings, it is recommended that the Ministry of Education, in collaboration with local government and NGOs, take immediate steps to equip all Junior High Schools in the Bongo District with essential ICT resources. Additionally, awareness campaigns should be conducted to educate parents and communities on the importance of ICT for girls' empowerment. School counsellors should also receive additional training and resources to strengthen their role in promoting ICT access and usage among female students.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Information and Communication Technology (ICT) has emerged as a potent tool in promoting education and empowerment worldwide in recent years. Globally, women make up 31% of research and development positions in science, with the lowest proportions in Southwest Asia (24%) and East Asia and the Pacific (27%). Women are also under-represented at all levels in the technology sector. This is particularly so in leadership positions, where they represent only 24% of professionals (World Economic Forum, 2022).

Smith (2019) highlights that despite global initiatives to bridge the digital divide, women continue to experience structural inequalities that limit their participation in ICT. He explains that systemic barriers, such as gender stereotypes and lack of mentorship, restrict women's access to technology-related careers, thereby perpetuating the cycle of underrepresentation. Similarly, Chen (2020) stresses that ICT has transformative potential in education, but cultural and institutional biases disproportionately disadvantage women. According to Chen, although digital learning platforms provide new opportunities, women often face greater challenges in access due to limited digital literacy, economic barriers, and societal restrictions.

Patel (2021) further argues that gender disparities in ICT must be addressed through inclusive policies that actively promote female participation. He notes that without deliberate interventions, such as scholarships for women in ICT, gender-sensitive curricula, and increased access to digital resources, the empowerment gap between men and women will continue to widen.

González (2023) provides a more recent perspective, emphasising that increasing women‘s participation in ICT leadership is essential for sustainable development. He argues that women‘s inclusion in decision-making roles fosters innovation and ensures that technology solutions address diverse societal needs, particularly in education and community development.

The President of the United States of America, Donald J. Trump‘s National Security Strategy (NSS) states, the United States, ―will support efforts to advance women‘s equality, protect the rights of women and girls, and promote women and youth empowerment programmes.” The NSS clearly identifies women‘s equality and empowerment worldwide as both American values and foreign-policy priorities, by noting that, ―governments that fail to treat women equally do not allow their societies to reach their potential.” (UNESCO Global Education Monitoring Report, 2023).

Further, the Joint Strategic Plan (JSP) of the U.S. Department of State (DOS) and USAID for Fiscal Years (FY) 2018-2022 recognizes, ―societies that empower women to participate fully in civic and economic life are more prosperous and peaceful.” The JSP also endorses the transformative effects of women‘s economic empowerment for families and communities and commits to supporting women‘s economic empowerment as a driver of development, including by championing girls‘ education and striving to eliminate gender-based violence, which affects women‘s ability to thrive and succeed. Through this Policy, USAID supports the JSP, which directs USAID and the DOS to strengthen democratic, transparent, representative, and citizen-responsive governance, and to include women in political and economic processes.

In the field of artificial intelligence (AI), only 22% of the professionals are women. Just 18% of authors at leading AI conferences are women. The under-representation of women in this sector contributes to the reinforcement of gender stereotypes through AI systems, such as misogynistic voice assistants. Siri, a female-gendered voice assistant used by hundreds of millions of people, for example, has been shown to give submissive responses in the face of gender abuse (UNESCO, 2021).

More men than women have access to the internet. It is estimated that globally in 2022, 69% of the male population was using the Internet compared to 63% of the female population. This means 259 million more men than women were using the internet in 2022. And over the last three years, gender parity in internet access in the world has increased only slightly, moving from a gender parity index of 0.90 in 2019 to 0.92 in 2022 (International Telecommunications Union, 2022).

In Africa, out of 101 cases classified by ITU in 2018, 74 cases women were deprived of equal access to ICT tools and services; for men, ICT access and use of ICT rates are higher than for the female population. Digital gender gaps are especially visible in Arab states and less-developed economies. The largest digital gender gaps (in 2018) were reported in Côte d'Ivoire (−20.2pp), Algeria (−12.2pp), Turkey (−12.8pp), Egypt (−11.0pp), and Uzbekistan (−10.4pp). Persistent gender gaps are recognised as one of the obstacles impeding women's economic impact and engagement. Needless to stress that compulsory schooling is a critical factor enabling women to gain basic skills and competences, but also skills to use digital tools effectively; ensuring affordable access to ICT is essential and should be one of the priorities in state-policy interventions (ITU, 2020).

Many girls and women do not have the same ICT skills as boys and men, and the gender gap in these skills is apparent at every level. Among 10 low- and middle-income countries with detailed data, women are less likely to have used a basic arithmetic formula in a spreadsheet in the 7 poorest countries, while parity in this area was found only in the 3 richest countries. (Hastedt et al., 2021**).** Over the past 20 years, gender gaps in enrolment and attendance have been in decline. Still, the primary enrolment rate of girls has increased by only 11 percentage points since 1995 from nearly 79% to 90% in 2020 – less than half a point per year. Girls still face significant barriers to their right to education in some countries. In Afghanistan, girls have been banned again from secondary schools and tertiary education. In Benin and Chad, boys are more than twice as likely as girls to complete upper secondary school.

Female populations in developing countries are usually deprived of access to educational, health, and financial systems; due to social norms and attitudes or religious regimes, women are prevented from entering the formal labor market but, instead, are recognised as ~~–~~hidden and usually unpaid" labor, exposed to poverty. Female poverty and feminisation of vulnerability is often a direct effect of women's poor education, low professional skills and competencies, high illiteracy, and lack of permanent income from stable, contracted work. In developing countries, women usually run informal, home-based, and small-scale businesses, mostly in traditional sectors that bring relatively low returns and benefits. In the developing world, the female population remains unused in formal economic activities, which impedes both the social and economic progress of a country. Over time, there have been gradual shifts in the statistical representation of female labor-force participation. These changes, although not rapid or substantial, underscore the progressive increase in women's economic influence **(**Lechman & Paradowski, 2021).

Poverty is one of the most important barriers to girls‘ education. In over 20 countries, mostly in sub-Saharan Africa but also in Afghanistan, Bangladesh, Guatemala, Haiti, India and Pakistan, less than 10% of poor, rural, young women have completed upper secondary school. In Benin, Cameroon, Congo and Mali, hardly any of the poorest girls have completed upper secondary education (Amaro, Pandolfelli, Sanchez-Tapia & Brossard, 2020).

In Ghana, efforts to bolster girls‘ education in ICT are underway through collaborative initiatives involving the Ministry of Communication and Digitization, alongside key partners such as the Ghana Investment Fund for Electronic Communications (GIFEC), National Communications Authority, Kofi Annan ICT Centre of Excellence, and MTN-Ghana, American Towers Company (ATC), Ministry of Education, and other relevant stakeholders. These entities collectively organised a national event called ―Girls-in-ICT, Digital for Life" aimed at elevating the competence and capabilities of young girls while advancing their academic journey. Spearheaded in 2012 by the International Telecommunications Union (ITU), the Girls-In-ICT programme was to create a global environment that empowers and encourages girls and young women to consider studies and careers in the growing field of Information and Communication Technologies (Kwadjo &Acquaye, 2023).

The Bongo District in Ghana faces various challenges concerning gender inequality and the empowerment of girls, particularly in the context of education. Girls' empowerment is a crucial aspect of social development and plays a pivotal role in achieving sustainable growth and inclusive progress. In this context, information and communication technologies (ICT) have emerged as potentially transformative tools that can contribute significantly to girls' empowerment and overall educational

outcomes. This research aims to explore the challenges confronting ICT empowerment among girls in Junior High Schools in Bongo District, focusing on the role school counsellors play in supporting and promoting girls‘ engagement with ICT.

1.2 Conceptual Framework

Conceptual Framework: School Counsellors Mediating ICT Empowerment for Girls in Bongo District

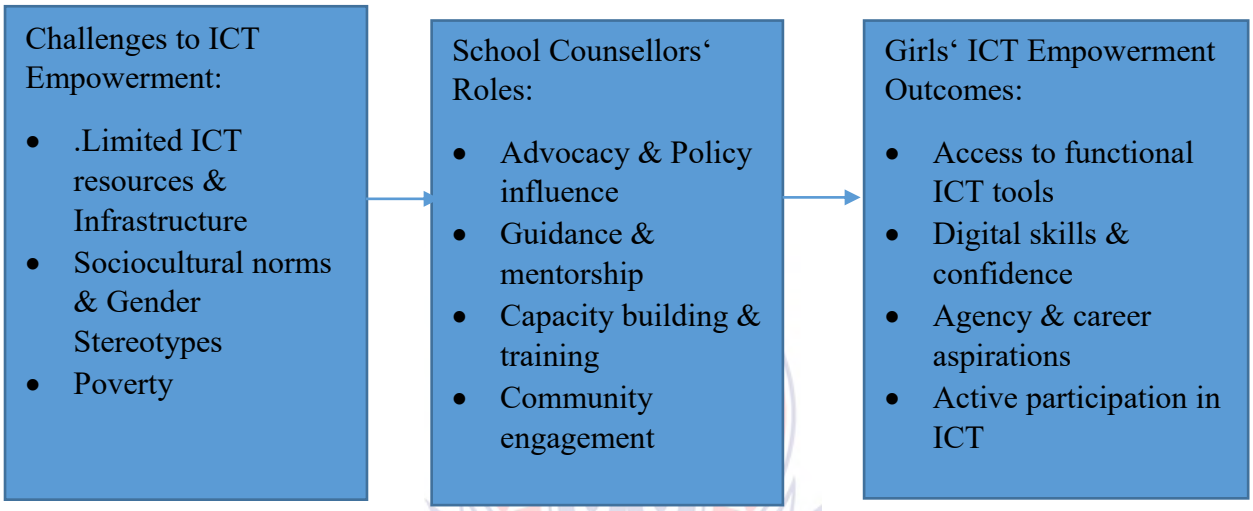

Figure 1.1: Conceptual Framework, (2024)

The conceptual framework for this study is structured around three key components, reflecting the challenges, interventions, and outcomes associated with ICT empowerment for girls in Bongo District

1. Challenges to ICT empowerment (left)

   These represent the contextual constraints identified in the literature and in the research objectives:1sswa

- Limited ICT resources and infrastructure (e.g., few computers, unstable electricity, poor connectivity)
- Sociocultural norms and gender stereotypes (e.g., expectations that technology is ―for boys," domestic workload for girls)

- Poverty (e.g, socioeconomic barriers)

These barriers hinder girls‘ access to and engagement with ICT, and form the foundational issues that the study seeks to address.

2. School Counsellors Roles (centre)

Acting as mediators, counsellors connect what the school can offer with what girls actually need:

- Advocacy and policy influence – lobbying administrators and district officials for gender sensitive ICT policies.
- Guidance and mentorship – career talks, role model programmes, psychosocial support.
- Capacity building and training – workshops on basic digital skills, confidence building sessions.
- Community engagement – sensitising parents and local leaders, forming ICT clubs.

The solid arrows into—and out of—this box capture the idea that counsellors translate barriers into tailored interventions and, in turn, channel positive effects toward empowerment outcomes.

3. Girls ICT Empowerment Outcomes (right)

When barriers are mitigated through effective counselling support, four interrelated outcomes emerge:

- Access to functional ICT tools
- Digital skills and confidence
- Agency and career aspirations (shaped by Social Learning & Super‘s theories)
- Active participation in ICT (courses, clubs, competitions)

These outcomes illustrate the potential transformation achievable when targeted interventions by school counsellors are effectively implemented.

Linking back to the study elements

The conceptual framework aligns directly with the study's objectives and research questions:

- Research Objective 1 and Question 1 (identify challenges) – Barriers box
- Objective 2 and Question 2 (sociocultural influence) – Barriers box and counsellors' need to respond
- Objective 3 and Question 3 (role of counsellors) – Central mediator box
- Objective 4 and Question 4 (strategies) – Specific bullet points inside counsellor box

This structure supports a focused and coherent understanding of how school counsellors serve as a bridge between identified challenges and desired empowerment outcomes for girls in ICT education.

1.3 Statement of the Problem

Globally, gender disparities in ICT access and use persist despite increasing recognition of ICT as a catalyst for empowerment. In 2022, 69% of the male population used the internet compared to 63% of the female population, translating into 259 million more men than women online (International Telecommunications Union, 2022). This figure means that for every 100 men, 69 had access to and used the internet, while only 63 women out of 100 could do the same. The six-percentage-point gap, though seemingly small, represents hundreds of millions of women who remain excluded from the digital space. The difference of 259 million highlights the magnitude of the disparity and underscores that men continue to dominate internet

usage globally. Although progress has been made, gender parity in internet access has only marginally improved, with the gender parity index rising from 0.90 in 2019 to 0.92 in 2022. The gender parity index (GPI) is a measure that compares women's internet use to men's, with 1.0 representing perfect equality. A GPI of 0.92 therefore indicates that women are still behind men in terms of internet use, only 92 women use the internet for every 100 men. This slow improvement (from 0.90 to 0.92 over three years) shows that closing the digital gender gap remains a challenge despite global awareness and advocacy. Such gaps highlight structural inequalities that continue to disadvantage girls and women. International initiatives such as Girls in ICT Day, celebrated annually, have sought to address this divide by encouraging and empowering girls to consider ICT as a viable career path. However, the persistence of cultural stereotypes, limited access to ICT resources, and policy shortcomings continue to limit girls' engagement with ICT globally (UNESCO, 2018; World Bank, 2022; UNICEF & PUSKAPA, 2020).

In Africa, the digital gender divide is particularly stark. Bruine (2021) highlighted that ICT infrastructure in Sierra Leone is underdeveloped, with only 5.7% of households owning a computer, meaning fewer than 6 out of every 100 households have a computer. Internet penetration is equally low at **14%**, which shows that only about 14 in every 100 people are connected to the internet. Similarly, Mullan and Taddese (2020) found significant urban–rural gaps in ICT access, where rural populations are almost entirely excluded from digital participation. Dorji, Gurevych, and Lam (2015) further argue that in many African contexts, ICT-enabled learning often fails to account for gender differences in access and usage, thus reinforcing educational inequities. Such findings demonstrate that while ICT has transformative potential, its

benefits are unevenly distributed across gender and geography, necessitating targeted interventions.

In Ghana, several studies have documented persistent gendered barriers to ICT access and empowerment. Steeves and Kwami (2012, cited in Alleman & Chriscaden, 2019) argued that ICT policies and resources remain male-dominated, with women facing structural exclusion from decision-making and access. Hafkin (2002, cited in Alleman & Chriscaden, 2019) identified domestic responsibilities and cultural norms as barriers limiting women‘s participation in ICT. Soronko Solutions, through its coding initiatives, has sought to address these challenges, but Alleman and Chriscaden (2019) caution that while coding initiatives are important, many Ghanaian girls still lack even basic digital skills such as typing or email usage, which are essential for broader empowerment. Empirical studies by Boateng (2017), Owusu-Acheaw and Larson (2015), and Agyeman (2020) reinforce that unequal access to ICT resources in schools limits girls‘ academic and career opportunities, thus widening the gender digital divide.

At the district level, similar patterns are evident. In the Bongo District of the Upper East Region, studies have shown that ICT infrastructure and access remain critically underdeveloped, particularly for girls in Junior High Schools. Sumathi (2024) reports that limited ICT resource centres and unreliable electricity supply restrict students‘ ability to acquire digital skills, with girls disproportionately disadvantaged. Alhassan (2020) also found that sociocultural norms in northern Ghana, including Bongo, limit girls‘ mobility and engagement in digital spaces compared to boys, who are often permitted to travel outside the district to access ICT resources. These findings point to

both infrastructural and cultural barriers that jointly constrain ICT empowerment for girls in the district.

This situation presents a profound problem in the context of counselling psychology**.** School counsellors are strategically positioned to influence students‘ career aspirations, provide guidance, and advocate for equitable access to opportunities. Yet, their role in ICT empowerment, particularly for girls in rural contexts such as Bongo District, remains underexplored. Without deliberate counselling interventions, girls risk being excluded from the digital economy, reinforcing existing gender inequalities in education, employment, and socio-economic participation.

This study is therefore justified on two grounds. First, it seeks to address the critical gap in research on the role of school counsellors in ICT empowerment for girls in rural Ghana, an area that has received insufficient scholarly attention. Second, the study contributes to counselling psychology by providing insights into how counsellors can serve as agents of empowerment, advocacy, and equity within marginalised contexts such as Bongo District.

1.4 Purpose of the Study

This study explored challenges facing ICT empowerment of girls in Junior High Schools in Bongo District, focusing on the role school counsellors play in supporting and promoting girls‘ engagement with ICT.

1.5 Objectives of the Study

The specific objectives of this study were:

1. To identify the challenges girls face in accessing and using ICT in Junior High Schools in ccBongo District.

2. To examine the influence of sociocultural factors on girls' ICT empowerment.
3. To explore the role of school counsellors in supporting girls' participation in ICT in Junior High Schools in Bongo District.
4. To identify the measures that can be put in place to help improve female students‘ access and usage of ICT in Bongo District.

1.6 Research Questions

1. What challenges do girls face in accessing and using ICT in Junior High Schools in Bongo District?
2. How do sociocultural factors affect girls' ability to engage with ICT in Junior High Schools in Bongo District.?
3. What role do school counsellors play in supporting ICT empowerment for girls?
4. What measures can be put in place to help improve female students‘ access and usage of ICT in Bongo District?

1.7 Significance of the Study

The findings of this study would inform policy, practice, and future research by:

Highlighting the contextual barriers to ICT access faced by girls in rural Ghana.

Expanding the discourse in counselling psychology on the intersection of gender, technology, and career development.

Providing a foundation for comparative studies across districts and regions in Ghana and beyond, thereby contributing to global conversations on bridging the gender digital divide.

This research would serve as a motivational call for establishment of ICT Resource Centres in the Junior High Schools, particularly in the Bongo District by Stakeholders such as the GES and NGOs.

1.8 Delimitations

This research focused on Junior High Schools in the North-North East Circuit in Bongo District, Ghana.

The content of the study was to explored challenges facing ICT empowerment of girls in Junior High Schools in the Bongo District, focusing on the role school counsellors play in supporting and promoting girls‘ engagement with ICT.

This study was conducted using mainly the qualitative approach.

The population of the study was made up of School Counsellors, Form Three Female Students and ICT Teachers.

1.9 Limitations

There is an undeniable fact that every researcher faces challenges at some stage of their research. Some of the challenges faced in this study were substantial and required considerable effort and resources. Traveling to various schools in Bongo District for data collection proved costly.

The process of data transcription also presented a technical difficulty. Converting the spoken words of participants into written text was not an easy task. This step was laborious, time-consuming, and required a high level of concentration. Ensuring that participants' thoughts and experiences were accurately represented in written form was particularly challenging, given the varying languages and expressions used by different respondents.

Data collection and analysis extended over several weeks, partly due to unexpected circumstances in some schools which delayed the data collection process. The lengthy process was not only time-consuming but also demanding, requiring constant adaptation to the changing schedules of participants and school administrators. Because I used only the qualitative approach, my findings cannot be generalised.

In summary, the limitations shaped the methodology by pushing the researcher toward a qualitative, flexible, and purposive design. Traveling costs and time constraints required narrowing down the sample; transcription challenges necessitated careful translation, verbatim reporting, and credibility checks; and delays in schools required flexibility in data collection and analysis. Ultimately, the methodology became more focused, adaptive, and participant-centered because of these challenges.

1.10 Definition of Terms

Information and Communication Technology (ICT): In this study, ICT refers to the digital tools, systems, and platforms such as computers, mobile devices, and internet-based applications, used in Junior High Schools within the Bongo District to enhance teaching, learning, and girls‘ empowerment.

Girls’ Empowerment: In this study, girls‘ empowerment refers to the process by which female students in Junior High Schools gain confidence, digital skills, and access to ICT resources that enable them to make informed decisions about their education and future careers.

Gender Stereotypes: In this study, gender stereotypes refer to the culturally constructed beliefs and attitudes within the Bongo District that influence perceptions

of ICT as a male-dominated field and discourage girls from engaging with technology-related activities.

Gender Parity Index: This term, as used in the study, measures the level of equality between male and female students in accessing and using ICT resources within Junior High Schools in the Bongo District.

Girls-in-ICT Programme: This refers to the initiative implemented in Ghana under the Ministry of Communication and Digitalisation, aimed at motivating and training schoolgirls, including those in the Bongo District, to pursue education and careers in Information and Communication Technology.

Equals Initiative: In this study, this term represents the international collaborative effort that advocates for gender equality in ICT and has inspired local programmes in Ghana, including activities that promote digital inclusion for girls in the Bongo District.

ICT Empowerment: In this study, ICT empowerment refers to the ability of female students to effectively access, use, and apply ICT tools for academic growth, self-development, and decision-making.

Ghana Education Service (GES): This term refers to the government agency responsible for implementing education policies in Ghana. In this study, it represents the institutional body overseeing Junior High Schools in the Bongo District and guiding ICT integration initiatives.

Artificial Intelligence (AI): As applied in this study, AI represents advanced computer technologies that mimic human intelligence and are used to demonstrate

how women's underrepresentation in ICT fields can influence the design and bias of emerging digital systems.

Gross Domestic Product (GDP): In the context of this research, GDP is used as an indicator of national economic performance, highlighting how ICT-related skills and the inclusion of women in the digital economy contribute to overall development.

UNESCO (United Nations Educational, Scientific and Cultural Organization): In this study, UNESCO represents the international body that advocates for gender equality and ICT integration in education. It provides statistical and policy support that informs the global perspective of this research.

International Telecommunication Union (ITU): Operationally, ITU serves as the UN agency that promotes digital inclusion. In this study, its reports and initiatives form part of the global evidence base on gender disparities in ICT access and use.

UNICEF (United Nations Children's Fund): Within this research, UNICEF is referenced as an organisation that advocates for children's rights and education, providing data on the socio-cultural factors that affect girls' access to ICT and schooling.

PUSKAPA: As used in this study, PUSKAPA represents the Center on Child Protection and Wellbeing in Indonesia, cited for its collaborative research with UNICEF on how early marriage and cultural norms affect girls' education and access to ICT.

Department of State (DOS) and USAID (United States Agency for International Development): In the context of this study, these institutions are referenced as

international development partners that support global and national policies promoting women's equality, education, and ICT empowerment.

Joint Strategic Plan (JSP): Operationally, JSP refers to a policy framework by the U.S. Department of State and USAID that recognises the role of women's empowerment and ICT in national development. In this study, it provides contextual support for global commitments toward gender equality.

Fiscal Year (FY): This term, as used in this research, denotes the financial year within which international development programmes such as USAID's ICT and education projects are implemented and evaluated.

1.11 Organisation of the Study

The study has been organised into five chapters. The first chapter comprises the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, delimitation, limitations, and definition of terms. Chapter two presents a review of related literature. Chapter three consists of the research methodology. This includes the research paradigm, research approach, research design, population of the study, sample and sampling techniques, sample size, research instruments, validity and realibity, trustworthiness of the study, data collection procedure, data analysis procedures, ethical consiration and study area. Chapter four deals with the analysis of data and findings, and chapter five presents the summary of the study, conclusion, and recommendations.

CHAPTER TWO

REVIEW OF LITERATURE

2.0 Introduction

The purpose of the study was to explore challenges facing ICT empowerment of girls in Junior High Schools in Bongo District, focusing on the role school counsellors play in supporting and promoting girls‘ engagement with ICT.

The chapter presents a review of related literature under the following subheadings.

1. The concept of empowerment.
2. Empirical review
3. Albert Bandura‘s Social Learning Theory and how it relates to ICT on girls‘ empowerment.
4. Super‘s Theory of Career Development and how it relates to ICT on girls‘ empowerment.
5. Feminist Theories of Technology in Organisations

2.1 Conceptual Review

2.1.1 The Concept of Empowerment

The term empowerment surfaced in the 1920s but was not widely accepted in its use until the 1970s. Empowerment's prevailing ideology refers to increasing the power of a low power group so that it is equal to the high-power group. Empowerment is the interpersonal process of providing the proper tools, resources, and environment to build, develop, and increase the ability and effectiveness of others to set and reach individual goals (Brady et al., 2019).

Empowerment has found its use in a wide variety of causes and groups, such as the women‘s movement, gay rights, the black power movement, AIDS patients, students,

teachers, and employees. Empowerment has become well-studied in various disciplines such as education, philosophy, social work, business, and nursing (Bodolica & Spraggon, 2019).

. In the context of girls‘ education, empowerment refers to the ability of girls to make strategic life choices, access resources, and challenge traditional gender roles and expectations (Kabeer, 1999). It is multidimensional and includes psychological, economic, educational, social, and political dimensions.

In educational settings, girls' empowerment through ICT involves enhancing their capacity to access, understand, and apply digital tools for learning, problem-solving, and decision-making (UNESCO, 2015). ICT can provide platforms that amplify girls‘ voices, offer career information, and break down geographical and cultural barriers to learning.

Empowerment also has cognitive dimensions. Spreitzer (1995) and Thomas & Velthouse (1990) outline four psychological dimensions**:**

- Meaning (alignment between one‘s values and tasks),
- Competence (self-efficacy),
- Self-determination (autonomy),
- Impact (influence on outcomes).

These psychological components are particularly relevant to how girls perceive their ability to navigate and utilise ICT effectively.

The reviewed literature conceptualises empowerment as multidimensional (psychological, social, educational, and economic), with ICT acting as a key enabler. Most studies emphasise the general empowerment of women and marginalised groups

but do not specifically interrogate how ICT-related empowerment unfolds within rural Junior High Schools. Moreover, while previous studies (e.g., Kabeer, 1999; UNESCO, 2015) stress access to resources and decision-making, they are less explicit about the psychosocial processes through which empowerment occurs. This study fills this gap by linking the concept of empowerment directly to the counselling role, exploring how counsellors support girls in translating ICT access into actual empowerment. This aligns with Objective 1 (identifying challenges girls face in accessing ICT) and Objective 3 (examining the role of counsellors).

2.1.2 The Role of School Counsellors in Girls' Empowerment

School counsellors play a key role in supporting the personal, academic, and career development of students. In relation to girls‘ ICT empowerment, counsellors are expected to:

- Provide career guidance related to digital literacy and STEM fields,
- Offer psychosocial support to overcome gender-based barriers,
- Partner with parents, teachers, and community leaders to challenge cultural norms (Aziato & Adei, 2018).

An empowered counsellor can thus be a critical agent in facilitating access to ICT opportunities and mentoring girls to use technology confidently and purposefully.

Previous literature highlights counsellors as facilitators of career guidance, psychosocial support, and advocacy (Aziato & Adei, 2018). However, few studies situate counsellors within the ICT empowerment discourse, particularly in rural Ghanaian contexts. Existing works largely attribute empowerment to policy, infrastructure, or teacher attitudes, leaving a gap in understanding the school

counsellor's mediating role. This justifies the focus of this study, especially in addressing Objective 3, to explore the role of counsellors in supporting ICT participation

2.2 Empirical Review

Studies across Ghana and sub-Saharan Africa highlight several challenges impeding girls' access to ICT. For instance, Mbangwana (2018) conducted a study in Cameroon and identified that male-dominated traditions, lack of policy support, and teacher attitudes significantly hinder girls' participation in ICT education. Similarly, Owusu & Essilfie (2021) found that in Northern Ghana, girls faced greater difficulty accessing ICT tools due to societal gender roles and economic barriers. Amponsah & Boateng (2020) reported that in rural Junior High Schools, limited ICT infrastructure and lack of electricity were major constraints.

A study by Amedorme & Fiagbe (2021) in rural Ghana revealed that girls had limited access to ICT tools in school due to prioritization of boys, lack of ICT labs, and teacher biases. Moreover, parental attitudes and fears around girls' exposure to technology further limited their use. Boateng and Dzandu (2020) reported that digital literacy among girls in Northern Ghana was significantly lower than among boys, largely due to socio-cultural and infrastructural barriers.

In the Bongo District, Atanga and Alhassan (2020) investigated the intersection of gender and ICT access, finding that female students often experienced digital marginalization due to cultural norms and infrastructural deficiencies. Likewise, Bugri and Abane (2021) identified that the absence of targeted ICT interventions for girls in Bongo District schools further deepened the digital divide.

Comparatively, studies across Sub-Saharan Africa (Mbangwana, 2018; Owusu & Essilfie, 2021) identify cultural norms and infrastructural deficits as common barriers. Ghana-specific studies (Amponsah & Boateng, 2020; Amedorme & Fiagbe, 2021) echo similar challenges but highlight gendered prioritisation in resource allocation. Research in Bongo District (Atanga & Alhassan, 2020; Bugri & Abane, 2021) shows the persistence of cultural exclusion and infrastructural deficits but stops short of considering counsellors as agents of change. The present study differs by examining counsellors‘ unique interventions alongside infrastructural and cultural challenges. This aligns with Objective 2 (examining sociocultural influences) and Objective 4 (identifying measures to improve ICT usage).

2.3 Theoretical Review

2.3.1 Bandura's Social Learning Theory

Bandura's Social Learning Theory, propounded in 1977, emphasizes the role of observational learning, imitation, and modeling in shaping human behaviour**.**

Observation: According to Bandura, individuals learn by observing others. This learning occurs through paying attention to the behaviours and actions of role models, peers, or significant others.

Imitation: Once an individual observes a behaviour, they may imitate or model that behaviour. This process involves replicating actions or attitudes displayed by others, especially those they perceive as influential or authoritative.

Modeling: This refers to the process of learning by replicating observed behaviours. Modeling involves not only imitation but also the incorporation of observed behaviours into one's own repertoire, especially if the behaviour is seen as rewarding or beneficial.

2.3.1.1 Justification of Bandura's Social Learning Theory to the Study

This is how this theory relates to the challenges facing ICT empowerment of girls in the context of school counselling in Junior High Schools in the Bongo District.

Observation: School counsellors can play a pivotal role in exposing girls to opportunities where they can observe and learn from the positive use of ICT. They can organise workshops, presentations, or invite guest speakers who serve as role models, women who have utilised ICT for empowerment or achieved success in fields related to technology.

Imitation: When girls see other girls or women succeeding and thriving through the use of ICT, they may be more inclined to imitate similar behaviors. Counsellors can encourage the showcasing of successful role models who have used technology to advance in their careers or advocate for change.

Modeling: Through guidance and mentorship, counsellors can actively model the use of ICT tools and demonstrate how they can be employed for learning, skill development, career advancement, and advocacy. They can create programmes that involve hands-on experiences, teaching girls how to code, design, or utilise technology for various purposes, fostering confidence and competence.

By leveraging Bandura's Social Learning Theory, school counsellors can create an environment that encourages girls to observe, imitate, and model positive uses of ICT. This can empower them to embrace technology confidently, utilise it for personal and academic growth, and ultimately contribute to their empowerment in the Bongo District and beyond.

Social Learning Theory provides a behavioural lens, showing how girls learn ICT practices through observation, imitation, and modelling of peers, teachers, and counsellors. This theory is particularly relevant to Objectives 1 and 3 because it explains how counsellors can structure learning experiences that foster ICT empowerment. Unlike Super's Career Theory, which emphasises career trajectories, Bandura's theory situates empowerment in the social learning environment, directly addressing the lived school experiences of girls.

2.3.2 Super's Theory of Career Development

Super's Theory is a combination of Stage Development and Social Role Theory (Super et al., 1996), which posits that people progress through five stages during the career development process, including growth, exploration, establishment, maintenance, and disengagement. It should be noted that Super's theory is not a rigid stage theory in which an individual's age dictates his or her progression from stage to stage, a process referred to as maxi cycling. Super contended that movement through the five stages could be a flexible process where people recycle through certain stages during various periods of life. Super referred to this process as minicycling. For the purposes of this study, the exploration stage will be discussed in-depth within the context of its traditional occurrence during adolescence.

There are several key constructs included in Super's theory that serve as a foundation for the career development process, including vocational self-concept and career maturity. According to Super (1957), the growth stage begins as children and adolescents are introduced to a variety of occupations and begin to develop their careers or vocational self-concepts. Giannantonio and Hurley-Hanson (2006) defined general self-concept as ~~o~~ne's abilities, personality traits, values, self-esteem, and

self-efficacy" (p. 320). Vocational self-concept includes attributes that are vocationally relevant to the individual (Super, 1963). This sense of vocational self-concept is advanced during the growth stage as individuals are exposed to occupations through family, school, community, and the media, among other sources. Through these experiences, young people develop a sense of autonomy and industry, begin to develop work-related skills and habits, and identify relevant role models, all the while developing a better understanding of their own interests along with a burgeoning awareness of their abilities (Super et al., 1996).

During the exploratory stage, individuals engage in experiences that aid in developing their vocational identity by investigating careers, engaging in educational training and apprenticeships, and other work-related experiences. They learn about themselves, their interests, and abilities, furthering the development of their self-concepts. According to Super (1957), individuals apply what they learn through the exploratory process by matching their interests and abilities to occupations and applying their self-concepts to both work and life roles. Moreover, Blustein (1988) has suggested that exploration is intrinsically motivated by natural curiosity.

2.2.3.1 Justification of Super's Theory for Career Development to the Study

Absolutely, Super's theory of career development emphasises several stages individuals go through in their career development. The exploration stage, in particular, is crucial, especially in the context of the challenges facing ICT empowerment of girls and the role of school counsellors in junior high schools in the Bongo District. Here is a breakdown of how the exploration stage of Super's theory connects with the challenges facing ICT empowerment of girls and the role of school counsellors:

2.2.3.1.1 Self-concept development

Super's theory highlights that during the exploration stage, individuals begin to shape their self-concept by exploring their interests, values, and abilities. In the context of the challenges facing ICT empowerment of girls**,** this stage allows young girls to explore various ICT tools, platforms, and applications. School counsellors can facilitate this exploration by providing access to diverse ICT resources, guiding girls to discover their interests within the technology field, and encouraging them to recognise their potential in this area.

2.2.3.1.2 Decision-making

Exploration involves making decisions about one's interests and aspirations. School counsellors play a vital role in guiding girls through this process by introducing them to various ICT-related careers and opportunities. They can organize workshops, invite guest speakers, to talk students and facilitate exposure trips to technology companies to help girls understand the possibilities within the ICT field. This exposure aids in informed decision-making regarding future careers in technology.

2.2.3.1.3 Exposure to opportunities

The exploration stage is about exposure and learning. ICT presents vast opportunities for empowerment. School counsellors can help girls explore the diverse applications of ICT, from coding and programming to digital design and entrepreneurship. By organising seminars, coding camps, or skill-building sessions, counsellors enable girls to gain hands-on experience and exposure to the potential career paths available in the ICT sector.

2.2.3.1.3 Overcoming stereotypes and barriers

In many societies, gender stereotypes still persist in certain career domains, including ICT. During the exploration stage, school counsellors can address these stereotypes by promoting a gender-inclusive approach to ICT exploration. By challenging biases and encouraging girls to explore ICT without limitations, counsellors can help break down barriers that might hinder girls' interest and progression in this field.

2.2.3.1.4 Personal growth and empowerment

Ultimately, the exploration stage is about personal growth and empowerment. ICT offers girls a chance to develop skills, gain confidence, and pursue careers that might have seemed inaccessible before. School counsellors act as mentors, who is guiding them through this process of exploration and empowering them to embrace technology as a tool for personal and professional advancement.

In summary, the exploration stage of Super's theory of career development aligns with the challenges facing ICT empowerment of girls. School counsellors, through their guidance and support, facilitate this stage by providing opportunities, challenging stereotypes, and nurturing the girls' exploration of ICT, thereby empowering them to make informed career decisions and pursue pathways in technology that lead to empowerment and success.

Super‘s theory contributes a developmental perspective, linking ICT empowerment to career exploration and identity formation. While Bandura explains how girls learn ICT behaviours, Super explains why these experiences matter for their long-term vocational self-concept. This directly connects with Objective 3 (role of counsellors) and Objective 4 (measures to improve ICT access) since counsellors guide girls‘ career decision-making and exposure to ICT careers. Thus, Super‘s theory uniquely

highlights how ICT empowerment impacts career maturity, complementing Bandura's focus on learning processes.

2.3.3 Feminist Theories of Technology in Organisations

The interdisciplinary feminist theories of technology call attention to three focal interests. First, there are relatively straightforward questions about representation, referring to the (non) participation of women and men in different technologies, and about the displacement of gendered jobs by technology. Second, there is critique of dominant frameworks representing technology and technological artefacts as neutral and impartial innovations, deconstructing technology as gendered. And third, feminist work interrogates how technology can be mobilized to undo gender inequality, by problematizing the boundaries between body and mind, human and machine, and idealism and materialism (Benschop, 2021).

Traditionally, technology is stereotypically associated with white men, building on constructions of technology as a strength of men, and emphasising men's technological prowess (Cockburn, 1983). Feminists have long unpacked such stereotypes, drawing attention to the technological proficiencies' women obtain through their engagement with everyday technologies in the household and the workplace, as well as in the digital sphere with, for example, social media (Rogan & Budgeon, 2018). Nevertheless, the underrepresentation of women in the information science, engineering and technology sector is persistent and well documented (Kenny & Donnelly, 2020). It means not only that men continue to dominate engineering work, computer science and hi-tech entrepreneurship (Wellner & Rothman, 2020), but the underrepresentation of women in technical designs also profoundly affects how the world is made, as every aspect of contemporary life is touched by sociotechnical

systems. As Wajman puts it, _unless women are in the engine rooms of technological production, we cannot get our hands on the levers of power‘ (Wajcman, 2004, p. 111).

The impact of advanced automation, robots and artificial intelligence is now felt in all nooks and corners of the labour market, within low-skilled occupations and high-skilled knowledge work alike. Technology and digitalisation are not restricted to male-dominated sectors but have entered female-dominated sectors such as healthcare as well. The care–tech link, for instance, illustrates how care and technical work intersect in health care occupations, with medical and nursing models of care increasingly merging (Lindsay, 2008, p. 348). Women‘s jobs in these and other sectors are even more at risk of technological displacement due to their overrepresentation in jobs with routine tasks that are prone to automation (Brussevich, Dabla-Norris, &Khalid, 2019).

2.3.3.1 Justification of Feminist Theories of Technology in Organisations to the Study

2.3.3.1.1 Representation and participation

The Feminist Theories of Technology highlights the persistent under-representation of women in technology-related sectors like information science, engineering, and technology. This under-representation might influence young girls' perceptions of these fields. School counsellors could play a crucial role in challenging stereotypes and encouraging girls to explore and participate in technology-oriented subjects and careers. By actively promoting inclusive participation, counsellors can empower girls to envision themselves as integral contributors in technology-related domains.

2.3.3.1.2 Deconstructing gendered notions in technology

Feminist theories of technology question the prevalent idea that technology is neutral and impartial. It emphasises how technology is often depicted as a domain primarily for men. School counsellors, being influential figures, can engage in discussions and educational programmes that debunk these stereotypes. By portraying technology as a space open to everyone regardless of gender, they can empower girls to embrace technology without the perceived limitations imposed by societal biases.

2.3.3.1.3 Addressing the challenges of technology on empowerment

The discussion regarding the challenge of automation and technology on the labour market, especially within female-dominated sectors like healthcare, resonates with the counsellors' role in preparing girls for the evolving job landscape. Counsellors can provide guidance on choosing careers that blend technology and traditionally female-dominated sectors, preparing them for the intersection of care and technology in fields like healthcare. Additionally, they can highlight the importance of acquiring adaptable skills to thrive in a rapidly changing technological landscape.

2.3.3.1.4 Empowering girls for technological leadership

The Feminist theories of technology emphasis on the necessity for women's involvement in technological production echoes the need for girls to enter technology-related fields not just for employment but also to gain influence and leadership positions. School counsellors can encourage girls to consider roles in technology beyond just participation, inspiring them to aspire for leadership roles in shaping technological innovations and systems.

Feminist theories provide a structural and critical perspective, highlighting how technology is gendered and how women‘s underrepresentation perpetuates inequality.

Unlike Bandura and Super, which focus on individual-level learning and career development, feminist theories interrogate systemic barriers and sociocultural biases that shape girls' ICT empowerment. This theoretical lens aligns with Objective 2 (sociocultural factors) and Objective 4 (measures for improvement) by showing how counsellors can help dismantle stereotypes and promote girls' participation in ICT.

2.3.4 Underlying Assumptions

Drawing from the reviewed concepts, empirical evidence, and theories, this study is guided by three key assumptions:

This study assumes that empowerment is a multidimensional process encompassing psychological, social, educational, and economic domains. Within this framework, ICT functions as a critical enabler of girls' agency by providing tools and opportunities that enhance voice, participation, and decision-making capacity.

It is further assumed that school counsellors play a pivotal, though underexplored, role in mediating access to ICT and guiding girls in shaping their career trajectories. Beyond academic support, counsellors influence how female students perceive technology, explore opportunities, and connect ICT skills to long-term aspirations.

Finally, this study assumes that structural inequalities and entrenched sociocultural norms continue to disadvantage girls. Addressing these barriers requires deliberate interventions informed by feminist critiques that interrogate and transform systemic constraints limiting girls' engagement with ICT.

2.3.5 Identified Gaps

Despite the growing body of research on ICT and education, limited attention has been given to the role of counsellors in ICT empowerment, particularly in rural

Ghana, where their influence could be critical in bridging educational and technological divides. Moreover, existing studies have not sufficiently integrated psychosocial processes, as outlined in empowerment theory and social learning, with career development trajectories such as those proposed by Super. This gap constrains understanding of how ICT engagement connects both to personal growth and to future aspirations. Additionally, feminist critiques of technology have been minimally applied to explain the ICT experiences of rural girls. Without this perspective, structural and cultural dimensions of exclusion remain under examined, thereby weakening strategies aimed at equitable empowerment of girls in the technological field. .

The present study addresses these gaps by triangulating three theoretical perspectives: empowerment and social learning theories, Super‘s career development framework, and feminist critiques of technology, to capture the personal, developmental, and structural dimensions of ICT empowerment among girls in rural Ghana

2.4 Summary of Chapter

Chapter two delves into an exploration of various theoretical frameworks related to the challenges facing ICT empowerment of girls**.** It begins by elucidating the concept of empowerment, emperical review and subsequently discusses Albert Bandura's Social Learning Theory in the context of how it intersects with ICT in empowering girls. The chapter also examines the relationship between Super‘s theory of career development and ICT in addressing the challenges facing ICT empowerment of girls**.** Moreover, it delves into the Feminist Theories of Technology in Organisations, elucidating their relevance to understanding and promoting girls' empowerment through ICT.

CHAPTER THREE

METHODOLOGY

3.0 Introductionz

This chapter discusses the rationale behind the choice of qualitative approach and how it influences the methodological choices which include the research paradigm, research design, population, sample and sampling techniques, sample size, research instrument, validity and realibity, trustworthiness of the study, data collection procedure, methods for analysing the data obtained, and ethical consideration.

3.1 Research Paradigm

This study was conducted using the Interpretivism paradigm. Interpretivism is a philosophical perspective in social sciences that emphasises the understanding of human behavior through the interpretation of subjective experiences, meanings, and social contexts. Berryman (2019 p.273 as cited in Pervin & Mokhtar, 2022 p.421), who believes that –social construction, language, shared consciousness, and other social interactions" are important means for interpretive to invent facts. To achieve this goal, Berryman (2019, p.273) believes that for interpretive researchers to find answers to qualitative questions, they need to structure their research questions in a way that focuses on understanding the "how and why." Interpretations' is related to the philosophical position of idealism, and is used to combine different methods, including social constructivism, phenomenology, and hermeneutics; the method of rejecting objectivist views, meaning that, meaning exists independently in the world (Collins, 2010, as cited in Pervin & Mokhtar, 2022), According to the interpretive approach, it is important for researchers as social participants to understand the differences that exist between people (Saunders et al., 2012, as cited in Pervin & Mokhtar, 2022). Interpretations'- also known as interpretive, involve researchers

explaining the elements of research, so the researchers who do interpretive research incorporate their subjective notions and beliefs into research because they believe that through the exploration of human language, the meanings can be understood and shared in qualitative research (Carey, 2012, as cited in Pervin & Mokhtar, 2022). Therefore, it is important to understand who are interpreting, why they are interpreting and how they are interpreting.

In this study, the focus is on understanding challenges facing ICT empowerment of girls within a specific cultural and educational context, in Junior High Schools in the Bongo District. By employing Interpretivism, the researcher aims to delve into the subjective experiences and perceptions of the female students, school counsellors, and other stakeholders regarding the role of ICT on empowerment. This paradigm allows for the exploration of diverse perspectives and the contextualisation of the challenges facing ICT empowerment of girls beyond mere quantitative measures. This paradigm applies to this research because this research can identify in depth life experiences. Through the analysis of data, the researcher can explore, explain, express and attempt to place themselves in the participant's vision or thinking pattern in order to reconstruct the text's intended meaning. (Pervin & Mokhtar, 2022).

Philosophically, this study is grounded in Interpretivism, which assumes that reality is socially constructed and best understood through participants‘ subjective meanings. This orientation guided the researcher to privilege participants‘ voices, acknowledge multiple realities, and interpret meanings within the cultural and educational context of Bongo District. In doing so, the study aligned its paradigm with both the qualitative approach and the phenomenological design, ensuring coherence between philosophy, methodology, and objectives.

3.2 Research Approach

Qualitative method was used. "Qualitative research is a methodological approach where researchers explore complex social phenomena by collecting non-numerical data, analysing patterns, and generating in-depth insights".(Saldana, 2021). ―Qualitative research is a systematic, reflexive approach to inquiries that seeks to understand social phenomena in their natural settings, employing methods such as interviews, observations, and textual analysis". (Tracy, 2019). ―Qualitative research is characterized by its focus on exploring and understanding the richness, depth, and complexity of human experiences, behaviors, and social phenomena through interpretive and holistic methods" (Patton, 2020).

Building upon their previous work, Creswell and Poth (2018). Emphasised that qualitative research involves gathering data from multiple sources, such as interviews, observations, and documents, to understand a phenomenon from the participants' perspectives, thus enabling a deep exploration of experiences and behaviors within a specific context (Crewell & Poth. 2018). The researcher chose a qualitative method for this study because of the following reasons:

In Qualitative research, the researchers tend to collect data in the field where participants experience the issue or problem under study. Researchers do not bring individuals into a laboratory (a contrived situation), nor do they typically send out instruments for individuals to complete. This up-close information gathered by actually talking directly to people and seeing them behave and act within their context is a major characteristic of qualitative research. In the natural setting, the researchers have face-to-face interaction, often extending over a prolonged period of time (Crewell & Poth, 2018).

Qualitative researchers collect data themselves through examining documents, observing behavior, or interviewing participants. They may use a protocol, an instrument for recording data, but the researchers are the ones who actually gather the information and interpret it. They do not tend to use or rely on questionnaires or instruments developed by other researchers (Creswell & Poth, 2018).

Qualitative researchers typic ally gather multiple forms of data, such as interviews, observations, documents, and audiovisual information rather than rely on a single data source. These are all open-ended forms of data in which the participants share their ideas freely, not constrained by predetermined scales or instruments. Then the researchers review all of the data, make sense of it, and organise it into codes and themes that cut across all of the data sources (Marshall & Rossman 2016 as cited in Creswell & Poth, 2018).

Qualitative researchers typically work inductively, building patterns, categories, and themes from the bottom up by organising the data into increasingly more abstract units of information. This inductive process illustrates working back and forth between the themes and the database until the researchers have established a comprehensive set of themes. Then deductively, the researchers look back at their data from the themes to determine if more evidence can support each theme or whether they need to gather additional information. Thus, while the process begins inductively, deductive thinking also plays an important role as the analysis moves forward (Creswell & Poth, 2018).

In the entire qualitative research process, the researchers keep a focus on learning the meaning that the participants hold about the problem or issue, not the meaning that the researchers bring to the research or that writers express in the literature.

The research process for qualitative researchers is emergent. This means that the initial plan for research cannot be tightly prescribed, and some or all phases of the process may change or shift after the researcher enters the field and begins to collect data. For example, the questions may change, the forms of data collection may shift, and the individuals studied and the sites visited may be modified. These shifts signal that the researchers are delving deeper and deeper into the topic or the phenomenon under study. The key idea behind qualitative research is to learn about the problem or issue from participative research, inquirers reflect about how their role in the study and their personal background, culture, and experiences hold potential for shaping their interpretations, such as the themes they advance and the meaning they ascribe to the data. This aspect of the methods is more than merely advancing biases and values in the study, but how the background of the researchers actually may shape the direction of the study.

Qualitative researchers provide holistic account: Qualitative researchers try to develop a complex picture of the problem or issue under study. This involves reporting multiple perspectives, identifying the many factors involved in a situation, and generally sketching the larger picture that emerges. This larger picture is not necessarily a linear model of cause and effect but rather a model of multiple factors interacting in different ways (Marshall & Rossman, 2016, as cited in Creswell & Poth, 2018).

The qualitative approach was considered most suitable for this study because the research objectives required an exploration of participants‘ lived experiences, perceptions, and interpretations. For instance, identifying the challenges girls face in accessing ICT (Objective 1) and examining sociocultural influences (Objective 2)

required gathering personal narratives and contextual insights that cannot be quantified. Similarly, exploring the role of school counsellors (Objective 3) and identifying strategies to improve ICT access (Objective 4) demanded an in-depth understanding of perspectives and practices, which aligns with qualitative inquiry. Therefore, the research approach directly supports the study‘s objectives by providing a holistic, participant-driven account of the phenomena under investigation.

3.3 Research Design

The Phenomenological design was adopted for this study. Phenomenology refers to a study of how people experience issues. It tends to study participants' perspectives of issues with respect to their thoughts and feelings of an experience. It focuses on experiences that are unique to the participants, their circumstances and their settings. This study is premised on the idea that there are various ways of interpreting the same experience and that the meaning of the experience to each person is what makes up reality (Kuranchie, 2021). Phenomenological study seeks to describe and interpret an experience by determining meaning of the experience as perceived by the people who have participated in it. This kind of qualitative study permits subjects to pour out their experiences on the issues of study in sufficient depth and detail to enable those who have no experience on the issues to comprehend (Ary et al., 2010, p.447, as cited in Kuranchie, 2021).

This design was suitable because the study sought to capture the essence of how female students in Bongo District experience ICT empowerment and how counsellors and teachers perceive and support this process. It enabled the researcher to explore participants‘ feelings, behaviours, and interpretations in their natural setting.

3.4 Study Area

The North-North East Circuit, located in the Bongo District of the Upper East Region of Ghana, serves as the focal point for investigating the Influence of Information and Communication Technology (ICT) on girls' empowerment. This circuit shares its border with Burkina Faso and encompasses three communities: Feo, Amanga, and Abelinzanga. The combined population of these communities is approximately 2500 people. The predominant ethnic group in this circuit is Guresi, and the primary language spoken is Gurene.

Economically, the residents of the North-North East Circuit engage in various activities such as peasant farming, trading, and traditional craftsmanship, notably weaving smocks and local baskets. Despite the diverse economic pursuits, a prevailing perspective among the majority of the residents is the devaluation of formal education. There exists a prevalent belief that informal education, focusing on vocational skills, trading, and agricultural practices, is more beneficial for preparing children for their future lives. Formal education, according to this perspective, is considered a delayed process in equipping individuals to fend for themselves.

Within the North-North East Circuit, there are ten primary schools and five junior high schools, serving as the educational backbone for the community. The academic institutions play a crucial role in shaping the educational landscape and influencing the perceptions of the community towards formal education. However, the challenge lies in overcoming the prevalent notion that formal education is a secondary matter.

Another significant aspect of the community's cultural norms is the inclination towards early marriage. The belief in early marriage is deeply rooted, prompting interventions from external organisations such as the Centre for National Culture. On

January 27, 2024, a programme titled "Social Drive to End Early Marriage" was conducted in this circuit. This initiative aimed to educate parents about the adverse consequences of early marriage on their children. The programme sought to challenge prevailing attitudes and encourage a reconsideration of the traditional norms surrounding early marriages.

In this context, the role of school counsellors in the junior high schools within the North-North East Circuit becomes pivotal. As agents of change, they can contribute significantly to shifting perceptions, promoting the value of formal education, and leveraging ICT as a tool for empowering girls in the face of entrenched cultural beliefs. The research delved into the dynamics of this setting, exploring the challenges and opportunities for girls' empowerment through the lens of ICT, and assessing the potential Influence of school counsellors in fostering positive change within the community.

3.5 Population

The population of this study was 116 participants, consisting of 4 counsellors, 108 form three female students, and ICT 4 teachers in the North-North East Circuit Junior High Schools in the Bongo District. Population refers to the target group that the researcher is interested in obtaining information from to draw conclusions (Polit and Hunglar 1996, as cited in Kuranchie , 2021). Population is the entire aggregation of cases that meet a designated set of criteria. All members of well-defined group of people, events or objects constitute population in research (Ary et al., 2010 as cited in Kuranchie, 2021). Although the primary target population of this study was school counsellors and form three female students, ICT teachers were also included because of the pivotal role they play in ICT integration and skill acquisition. ICT teachers are

directly responsible for implementing ICT in the classroom, facilitating practical learning, and guiding students in using digital tools. Their perspectives provide valuable insights into the availability of ICT resources, the challenges students, particularly girls, face in engaging with ICT, and the support structures needed to enhance ICT empowerment. Including ICT teachers ensured a more holistic understanding of the challenges and opportunities surrounding ICT empowerment of girls, complementing the views of counsellors and students counsellors, form three female students, and teachers

3.6 Sample and Sampling Technique

Purposive sampling was used to select 28 participants who have direct involvement or experience with ICT implementation and girls' empowerment initiatives. Although the researcher targeted school counsellors and form three female students, ICT teachers were also included because of the pivotal role they play in ICT implementation and skill acquisition. Sample is a carefully chosen part of a population for a study, when it is not practically possible to all members of a population in a study due to reasons such as time, energy, cost and volume of data, part of it is used as a sample (Kuranchie, 2021).

3.7 Sample Size

This refers to the number of subjects, participants that is finally used in research. Researchers indicate it in their write-up (Kuranchie 2021). The sample size for this study was determined by the principle of saturation. Saturation refers to the point at which no new data or themes are emerging from the data set, which indicates that the data have been fully explored. It is considered an important concept as it helps to ensure that the findings are robust and that the data are being used to their full

potential emerged to achieve the research aim (Naeem et al 2024). The idea behind saturation is that the researcher stops collecting data when no new information or themes are observed in the data. For phenomenological studies, a sample size ranging from 5 to 25 participants is typically adequate to reach saturation (Creswell and Creswell 2018). In this study, although 28 participants were initially selected, it was observed that, 4 counsellors, 10 female studnts and 4 ICT teachers, totaling 18 participants provided unique and diverse insights, while the remaining 10 female students reiterated information already provided. Therefore, data saturation was achieved at 18 participants. This is consistent with Creswell and Creswell‘s (2018) guideline, which suggests that once no new themes or variations in responses are emerging, the sample is considered sufficient, and further data collection becomes redundant.

3.8 Instrumentation

Semi-structured interview guide was employed for the data collection in this particular study. A semi-structured interview is a qualitative data collection method that involves asking questions within a predetermined thematic framework, though the questions are not set in order or phrasing. It is commonly used as an exploratory tool in fields like marketing, social science, and survey methodology. Semi-structured interviews are often considered "the best of both worlds" because they combine the reliability of structured interviews with the flexibility of unstructured ones, allowing for comparable data collection while enabling follow-up questions. The pre-designed thematic framework helps keep both the interviewer and participant focused, minimising distractions and promoting two-way communication (George, 2023).

To ensure validity, the interview guide was first reviewed by my supervisor to confirm alignment with the research objectives. It was then pilot-tested with a small group of students and teachers from Feo Awiisi D/A Junior High School, who shared similar characteristics with the target participants but were not included in the main study. Feedback from this pilot exercise enabled the refinement of ambiguous or leading questions, thereby strengthening the clarity, focus, and content validity of the instrument.

3.9 Validity and Reliability

In this study, validity and reliability were ensured to maintain the quality and trustworthiness of the findings. The appropriateness of the research instruments and the consistency of the results obtained from them were carefully examined. ―qualitative validity means that the researcher checks for the accuracy of the findings by employing certain procedures, while qualitative reliability indicates that the researcher‘s approach is consistent across different researchers and among different projects" (Creswell & Paoth, 2018 p. 259). This aligns with Gibbs (2007), who emphasizes that reliability in qualitative research involves ensuring that data collection and analysis procedures are stable and replicable across different conditions.

Validity is one of the strengths of qualitative research and is based on determining whether the findings are accurate from the standpoint of the researcher, the participant, or the readers of an account (Creswell & Poth, 2018). The researcher adopted the qualitative validity procedures recommended in Creswell and Poth (2018, p. 275), to check the accuracy of the findings:

Use member checking to determine the accuracy of the qualitative findings by taking the final report or specific descriptions or themes back to participants and determining whether these participants feel that they are accurate. This does not mean taking back the raw transcripts to check for accuracy; instead, the researcher takes back parts of the polished or semi-polished product, such as the major findings, the themes, the case analysis, the grounded theory, the cultural description, and so forth. This procedure involved conducting a follow-up interview with participants in the study and providing an opportunity for them to comment on the findings.

Use a rich, thick description to convey the findings. This description may transport readers to the setting and give the discussion an element of shared experiences. When qualitative researchers provide detailed descriptions of the setting, for example, or offer many perspectives about a theme, the results become more realistic and richer. This procedure can add to the validity of the findings.

Clarify the bias the researcher brings to the study. This self-reflection creates an open and honest narrative that will resonate well with readers. Reflexivity has already been mentioned as a core characteristic of qualitative research. Good qualitative research contains comments by the researchers about how their interpretation of the findings is shaped by their background, such as their gender, culture, history, and socioeconomic origin.

Spend prolonged time in the field. In this way, the researcher develops an in-depth understanding of the phenomenon under study and can convey detail about the site and the people that lends credibility to the narrative account. The more experience that a researcher has with participants in their settings, the more accurate or valid will be the findings.

Use peer debriefing to enhance the accuracy of the account. This process involves locating a person (a peer debriefer) who reviews and asks questions about the qualitative study so that the account will resonate with people other than the researcher. This strategy, involving an interpretation beyond the researcher and invested in another person, adds validity to an account.

In order to determine if the approaches are reliable (consistent or stable), the researcher adopted the qualitative reliability procedures suggested by (Gibbs, 2007, as cited in Creswell & Poth, 2018 p. 275): Checked transcripts to make sure that they do not contain obvious mistakes made during transcription. Made sure that there was no drift in the definition of codes, a shift in the meaning of the codes during the process of coding. This was accomplished by continually comparing data with the codes and by writing memos about the codes and their definitions.

Reliability of the interview guide was ensured through consistency in administration. The same semi-structured guide was used across all interviews, maintaining uniformity in questions while allowing flexibility for probing. The researcher also maintained a reflexive journal to document interview conditions and ensure comparability. Furthermore, the pilot-testing process confirmed that the questions elicited consistent types of responses across different participants, enhancing the instrument‘s reliability.

3.10 Trustworthiness of the Study

The trustworthiness of this study was ensured through several key criteria: Credibility, transferability, dependability, and Confirmability.

Credibility is a fundamental aspect of qualitative research, reflecting the degree to which the findings accurately represent the reality experienced by participants.

Researchers can establish credibility by engaging over extended periods, observing persistently, and using triangulation to compare and confirm findings (Dodgson, 2019). In this study, the researcher ensured credibility by spending prolonged time in the field, developing an in-depth understanding of the phenomenon, and engaging with participants to ensure an accurate reflection of their experiences. Member checking was also employed, allowing participants to review and confirm the findings, adding another layer of credibility to the research.

Transferability refers to the extent to which research findings can be applied or extrapolated to other contexts or situations (Riazi, Rezvani, & Ghanbar, 2023). In this study, the researcher enhanced transferability through the use of rich, thick descriptions of the setting, participants, and themes. By providing detailed accounts of how girls in Junior High Schools in the Bongo District experience the influence of ICT on their empowerment, readers can assess the relevance and applicability of these findings to other educational settings.

Dependability in qualitative research pertains to the consistency and stability of research findings over time (Haq et al., 2023). To ensure dependability, the researcher provided a clear and detailed explanation of the research design, data collection methods, and data analysis procedures. Peer debriefing was used to further ensure that the findings resonated beyond the researcher. Additionally, the researcher followed qualitative reliability procedures as suggested by Gibbs (2007), checking transcripts for accuracy and ensuring that coding definitions remained consistent throughout the process. This methodological rigor contributes to the dependability of the findings.

Confirmability relates to the objectivity of the research and the degree to which the findings are shaped by participants rather than the researcher‘s biases (Haq et al.,

2023). Reflexivity was employed, with the researcher reflecting on their background and potential biases, thereby minimizing any undue influence on the data. Member checking also supported Confirmability by allowing participants to confirm the accuracy of the findings, ensuring that the results authentically represented their perspectives.

In summary, the trustworthiness of this study was ensured through careful application of credibility, transferability, dependability, and Confirmability, alongside strategies for enhancing qualitative validity and reliability. These approaches helped establish a solid foundation for the validity and consistency of the study's findings, ensuring that they are an accurate reflection of participants' experiences.

3.11 Data Collection Procedure

The researcher first obtained an introductory letter from the Head of Department, Counselling Psychology, University of Education, Winneba, which was presented to the District Education Directorate and the headteachers of the selected schools to gain access. Upon approval, the researcher personally visited each school to explain the purpose of the study and seek voluntary participation from the respondents. Participants were adequately prepared prior to the interviews: the researcher explained the objectives, procedures, ethical safeguards (confidentiality, anonymity, and right to withdraw), and obtained both informed and parental consent (for students under 18).

The interviews were conducted in quiet and comfortable settings within the school environment, such as counsellors‘ offices and designated classrooms, to ensure privacy and minimise disturbances. Data collection was done through semi-structured interviews guided by the pre-tested interview scheduled. All interviews were conducted face-to-face in English, with clarifications provided in the local language

(Gurene) when necessary. With participants‘ consent, interviews were audio-recorded using a mobile phone to ensure accurate capture of responses. On average, each interview lasted approximately 35 minutes. In total, 32 interviews were conducted over a four-week period, after which the audio recordings were transcribed using Automatic Speech Recognition (ASR) software for analysis.

3.12 Data Analysis Procedure

Inductive thematic analysis was used to analyse the data. Inductive thematic analysis is a qualitative research method that allows themes to emerge directly from the data, rather than being guided by pre-existing theories (Braun & Clarke, 2006). This data-driven approach makes it particularly valuable when exploring new areas of research or when researchers want to remain open to unexpected insights. The key steps in inductive thematic analysis include familiarising oneself with the data, generating initial codes, searching for patterns, refining themes, and ultimately writing a detailed report. The flexibility of this method is one of its main strengths, as it can be applied across various fields of study without being tied to a specific theoretical framework (Braun & Clarke, 2019). Open and axial coding were used. Open coding is the initial step in grounded theory analysis where researchers break down qualitative data into discrete parts, closely examining the text for significant ideas or concepts. It involves labeling or "coding" chunks of data (e.g., phrases, sentences, or paragraphs) with descriptive codes that summarise the content. This process helps researchers identify patterns, themes, and relationships within the data. Open coding is inductive, meaning that the codes are generated directly from the data, without preconceived categories (Charmaz, 2020). Axial coding is the next step after open coding, where the researcher reassembles the data by identifying relationships between the codes. This process involves linking categories to their subcategories, refining and relating codes,

and developing a more coherent structure around the core themes that emerge from the data (Strauss & Corbin, 2018, as cited in Mohajan & Mohajan, 2022). Axial coding allows researchers to deepen their analysis by exploring how different categories and themes interconnect. And audio recording of participants was transcribed. Automatic speech recognition (ASR) was used to transcribe the audio recordings into text. And the type of data transcription used was Intelligent transcription (edited transcription).

3.13 Ethical Consideration

First and foremost, ensuring the protection and well-being of the participants, particularly the girls in Junior High Schools, is paramount. Informed consent is crucial, and participants, as well as their parents or guardians, must be fully informed about the purpose, procedures, and potential risks and benefits of the study. Confidentiality and anonymity are vital, the researcher took measures to safeguard the privacy of the participants. Additionally, the researcher prioritises the principle of justice, ensuring fair treatment and representation of all participants, without any form of discrimination.

Moreover, the ethical framework of this research necessitates a culturally sensitive approach, acknowledging and respecting the local customs, values, and beliefs of the Bongo District community. The researcher established collaborative and respectful relationships with the school counsellors, students, and other stakeholders involved. Transparency in reporting findings is essential, ensuring that the results are accurately represented and communicated to the community in a comprehensible manner. Throughout the research process, researcher must constantly reassess and address any potentials ethical concerns that may arise, fostering a commitment to the welfare and

dignity of the participants and contributing positively to the influence of ICT on girls' empowerment in the Bongo District.

3.14 Chapter Summary

Chapter Three provides a comprehensive exploration of the qualitative approach adopted in this research, elucidating the rationale behind this choice and its subsequent influences on various methodological decisions. The chapter delves into key aspects such as the research paradigm, research design, study area, population, sample and sampling techniques, and sample size. Additionally, it addresses the selection and validation of research instruments, outlining the steps taken to ensure their reliability and the overall trustworthiness of the study. The discussion extends to the data collection procedure, methodologies employed for analysing the obtained data, and ethical considerations guiding the research process. Overall, the chapter serves as a detailed road-map, offering insights into the methodological foundations and ethical dimensions of the qualitative research undertakin

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the results of the analysis of the data collected. The purpose of the study was to explore challenges facing ICT empowerment of girls in Junior High Schools in Bongo District, focusing on the role school counsellors play in supporting and promoting girls' engagement with ICT. The researcher employed a qualitative method, hence, using face-to-face interviews in gathering data. The analysis of the data was guided by an interpretivism paradigm, and the design used was the phenomenological design, where the researcher aimed to view the narrative, interview responses, against the context in which it was set and the subjective viewpoints of the participants, and to capture the essence of how girls in Junior High Schools in the Bongo District experience in relation to their access and usage of ICT for their empowerment. Inductive thematic analysis was used to analyse the data. Open and axial coding were used. The responses were transcribed using Automatic Speech Recognition (ASR) to transcribe the audio recordings into text, and coded and discussed. The type of data transcription used was intelligent transcription (edited transcription).The results and analysis are presented generally under the biodata of participants and the research questions that guided the study. However, themes were developed under each research question to help bring out the emerging issues.

The participants for the study were grouped into three (3) main categories. Category one comprised of school counsellors. This participants were professional counsellors and teachers with 10 to 30 years of working experience in Junior High Schools in the Bongo District. The researcher believes that the participants having worked for this number of years, would have accumulated enough experience and knowledge on

challenges facing ICT empowerment of girls in Junior High Schools in the Bongo District.

The category two comprised of JHS three Female students, who were in their final year and were preparing to write the Basic Education Certificate Examination (BECE), for the 2023/2024 academic year. The researcher believed that, the participants having been in the school for this three solid years, would have accumulated enough experiences in relation to challenges facing ICT empowerment of girls in Junior High Schools in the Bongo District.

The category three (3) comprised of ICT teachers. This participants were professional teachers with 10 to 30 years of working experience in Junior High Schools in the Bongo District. The researcher believes that the participants having worked for this number of years, would have accumulated enough experience and knowledge on challenges facing ICT empowerment of girls in Junior High Schools in the Bongo District. For the purposes of anonymity and confidentiality, the identities of participants, are undisclosed. Instead, information attributed to them was identified with code names derived from the participants during the interviews.

4.1 Biodata of Respondents

Using the demographic data that was gathered through the background check on the participants, three (3) categories of participants were generated according to their sex (gender), position, years of experience, age, and level of education. For the purposes of anonymity and confidentiality, code names have been used to protect the identities of the participants.

Table 1: Demographic information of school Counsellors

Code name	Sex	Position	Years of Experience	Age	Level of education
001	Male	Counsellor	15	40	Degree
002	Male	Counsellor	10	36	Degree
003	Male	Counsellor	11	38	Degree
004	Male	Counsellor	12	39	Degree

Four (4) counsellors were purposively selected, one (1) each from each of the four (4) Junior High Schools in the North-North Circuit, in the Bongo District.

Table 2: Demographic information of female students

Code name	Sex	Position	Age	Level of education
001	Female	Student	17	Form 3
0002	Female	Student	15	Form 3
003	Female	Student	16	Form 3
004	Female	Student	15	Form 3
005	Female	Student	16	Form 3
006	Female	Student	15	Form 3
007	Female	Student	15	Form 3
008	Female	Student	15	Form 3
009	Female	Student	16	Form 3
010	Female	Student	15	Form 3
011	Female	Student	17	Form 3
012	Female	Student	15	Form 3
013	Female	Student	17	Form 3
014	Female	Student	16	Form 3
015	Female	Student	15	Form 3
016	Female	Student	17	Form 3
017	Female	Student	15	Form 3
018	Female	Student	16	Form 3
019	Female	Student	17	Form 3
20	Female	Student	15	Form 3

On the part of the students, twenty (20) form three (3) female students were purposively selected, five (5) from each of the four (4) Junior High Schools in the North-North Circuit, in the Bongo District.

Table 3: Demographic information of ICT teachers

Code name	Sex	Position	Years of Experience	Age	Level of education
001	Male	ICT Teacher	7	30	Degree
002	Male	ICT Teacher	10	36	Degree
003	Male	ICT Teacher	12	38	Degree
004	Male	ICT Teacher	13	39	Degree

Four (4) ICT teachers were purposively selected, one (1) each from each of the four Junior High Schools in the North-North Circuit, in the Bongo District. The subsequent section shows how emerging themes were coded and analysed using inductive thematic analysis.

Table 4: Coding regime

Coding Regime				
Meaning Unit	**Condensed meaning unit. Description close to the text**	**Condensed meaning unit Interpretation of the underlying meaning**	**Sub-theme**	**Theme**
–Our school has only one desktop computer and it is mostly used by the headteacher for administrative work. So, the students hardly get the chance to use it." (Couns 001; Age 40)	Schools have either no computers or very few, with no ICT labs, forcing students to rely on theory.	Students lack practical exposure to ICT due to shortage of tools, which hinders learning and discourages girls.	Lack of computers and laboratories	Limited Access to ICT Resources & Insufficient Infrastructure
–We do not have enough computers, we have only two and even those ones are not functioning properly." (Couns 002; Age 36)	Schools lack functioning ICT resources, making practice nearly impossible.			
–There are no ICT resources such as computers in the Junior High Schools, no computer laboratories, and not even a single laboratory in the Bongo District for students to go there and have access to ICT tools and learn." (Couns 003; Age 38)	No ICT laboratories exist in the district, limiting students' access.			
–In my school, there are no computers,	Teachers rely on personal			

there is no computer laboratory, nothing. So the only thing available is the ICT resource pack and my personal laptop that is what I sometimes use to teach the students when it comes to the practical aspect." (ICT Tr 001; Age 30)	laptops to provide limited practice.			
–Sometimes the ICT teacher will teach us the parts of the computer on the chalkboard, but because we don't see the real thing, we forget easily. It makes learning ICT very difficult for us." (Stud 002; Age 15)	Students forget easily since they don't practice with real ICT tools.			
–In fact, to be honest with you, over here, when it comes to access to ICT tools and usage, the girls don't have any access. It starts from the house, because of the poverty level here, parents cannot afford to buy ICT tools for their wards, and the school too does not have computers. So, the little ICT practical knowledge they get is from my personal laptop that I use to teach them." (ICT Tr 002; Age 36)	Parents cannot afford ICT tools; students depend on schools which also lack resources.	Poverty prevents parents from buying ICT tools or paying for internet, widening the gap for girls.	Household economic barriers	Poverty
–In our house, there is no computer. The only ICT tool is my father's small keypad phone he uses to make calls. One	Parents prioritize basic needs like food over ICT tools.			

time I told him to buy me a computer so that I could also practice after school, and he told me he is thinking of what we will eat and not machines." (Stud 001; Age 17)				
–The challenge I face is lack of income to afford ICT tools. My parents do not have the money, and they always tell me that one day I will marry and go to another person's house. So if they have money, they would rather buy ICT tools for my brother, not me." (Stud 003; Age 16)	Girls are denied ICT tools because of gender bias and poverty.			
–The only ICT tool in our home is a smartphone my father uses. But whenever I want to use it for homework or assignments, he doesn't allow me. He says if it gets spoiled, he won't have money to buy another one." (Stud 004; Age 15)	Students are prevented from using family devices due to fear of damage.			
–Teachers in this school currently teach ICT by using only the resource pack and textbooks, because we do not have computers here. So, when they go to teach, what is available is the few ICT	Teachers use textbooks and resource packs because no ICT tools are available.	ICT learning is reduced to theory, limiting girls' confidence and skills.	Reliance on books instead of practice	Overdependence on Textbooks & Theory-Based Teaching

textbooks and the teachers‘ resource pack. This does not motivate the students, especially the female students, to learn ICT effectively.” (Couns 002; 36)				
–We have only a few textbooks and the resource package they gave us. I used to have my personal laptop, but it is now spoiled beyond repair. Apart from that, we do not have anything. You know ICT is supposed to be taught practically, but in this school, we do everything on a theory basis because there are no ICT tools or a lab. This situation really does not help the students, particularly the girls.” (ICT Tr 003; Age 38)	ICT lessons lack practical work, leaving students unmotivated.			
–In our school, we do not have a computer. Our ICT teacher only uses the few textbooks and the resource pack that are in the school to teach us. So, everything we do in ICT is always theory.” (Stud 005; Age 16)	Students learn ICT purely through reading without computers.			

Source of the Coding Regime table: Bedu-Addo, P.K.A. (2010, June). PhD thesis, University of Nottingham, UK.

4.2 Research Question 1

What challenges do girls face in accessing and using ICT in Junior High Schools in Bongo District?

This research question seeks to explore the specific barriers that hinder girls from effectively accessing and utilising ICT in their schools. It aimed to identify issues such as lack of resources, limited digital skills, inadequate infrastructure, and gender-based restrictions. Understanding these challenges is crucial for informing policies that promote inclusive ICT education. Three (3) themes were generated from the views of the respondents. They include: Limited access to ICT resources and insufficient ICT infrastructure, poverty and overdependence on textbooks and theory-based teaching.

Limited access to ICT resources and insufficient ICT infrastructure

The first theme that emerged under Research Question 1 was that there is limited access to ICT resources and insufficient ICT infrastructure. Respondents explained that female students face severe challenges in accessing ICT tools such as computers, projectors, laboratories, and internet connectivity. Many schools in the Bongo District either lack ICT resources entirely or have very few available, resulting in competition and inadequate practice time for students, especially girls.

Respondents expressed their concerns in various ways and some have been captured and presented:

> *"Our school has only one desktop computer and it is mostly used by the headteacher for administrative work. So, the students hardly get the chance to use it." (Couns 001; Age 40)*

> *"We do not have enough computers, we have only two and even those ones are not functioning properly." (Couns 002; Age 36)*

"There are no ICT resources such as computers in the Junior High Schools, no computer laboratories, and not even a single laboratory in the Bongo District for students to go there and have access to ICT tools and learn." (Couns 003; Age38)

"In my school, there are no computers, there is no computer laboratory, nothing. So the only thing available is the ICT resource pack and my personal laptop that is what I sometimes use to teach the students when it comes to the practical aspect." (ICT Tr 001; Age30)

"First of all, we do not have a laboratory for ICT. We do not also have laptops in the school for the students to learn. Currently, as I speak, the whole district has not even gotten a single laboratory for ICT practical work whereby once in a while, the ICT teacher can take the students there to have access to the ICT tools and learn. Not only that, we do not also have the resource pack on computing. No teacher guide, no textbook on the computing. And you know, our school is in a rural area, and once it is in the rural area, most of the students do not even know some of the parts of the computer. If not for the laptop used by their ICT teacher, which is his personal computer, some of them have never even seen a computer before." (Couns 004; Age 39)

"Sometimes the ICT teacher will teach us the parts of the computer on the chalkboard, but because we don"tsee the real thing, we forget easily. It makes learning ICT very difficult for us." (Stud 002; Age 15)

"The lack of ICT resources really affects the students, especially the girls. They only hear about ICT in theory, but when it comes to practice, there is nothing to show them. It is demotivating." (ICT Tr 003; Age 38)

Poverty

The second theme that emerged under research question 1 was poverty. Respondents consistently indicated that economic barriers prevent many girls from accessing the necessary ICT tools and resources. They explained that the poverty levels in the Bongo District limit parents' ability to purchase ICT devices or pay for internet access to support their wards' learning. As a result, many girls depend solely on what limited ICT resources are available at school, which are often inadequate.

One ICT teacher explained:

> *"In fact, to be honest with you, over here, when it comes to access to ICT tools and usage, the girls don"thave any access. It starts from the house, because of the poverty level here, parents cannot afford to buy ICT tools for their wards, and the school too does not have computers. So, the little ICT practical knowledge they get is from my personal laptop that I use to teach them." (ICT Tr 002; Age 36)*

Students also shared their experiences of the financial difficulties their families face in providing ICT resources:

> *"In our house, there is no computer. The only ICT tool is my father"ssmall keypad phone he uses to make calls. One time I told him to buy me a computer so that I could also practice after school, and he told me he is thinking of what we will eat and not machines." (Stud 001; Age 17)*

> *"For me, I don"thave any ICT tool for learning at home. My parents simply cannot afford to buy one for me." (Stud 002; Age 15)*

> *"The challenge I face is lack of income to afford ICT tools. My parents do not have the money, and they always tell me that one day I will marry and go to another person"s house. So if they have money, they would rather buy ICT tools for my brother, not me." (Stud 003; Age 16)*

> *"The only ICT tool in our home is a smartphone my father uses. But whenever I want to use it for homework or assignments, he doesn"tallow me. He says if it gets spoiled, he won"thave money to buy another one. Apart from that phone, there is no other ICT tool in the house for me to practice with after school." (Stud 004; Age 15)*

Overdependence on textbooks and theory-based teaching.

The third theme that was generated under research question 1 was, Overdependence on textbooks and theory-based teaching. The respondents noted that, teachers often rely solely on ICT textbooks without integrating hands-on activities or digital tools. This approach limits girls' ability to develop practical skills and confidence in ICT.

> *"Teachers in this school currently teach ICT by using only the resource pack and textbooks, because we do not have computers here. So, when they go to teach, what is available is*

> *the few ICT textbooks and the teachers" resource pack. This does not motivate the students, especially the female students, to learn ICT effectively" (Couns. 002; Age 36).*
>
> *"We have only a few textbooks and the resource package they gave us. I used to have my personal laptop, but it is now spoiled beyond repair. Apart from that, we do not have anything. You know ICT is supposed to be taught practically, but in this school, we do everything on a theory basis because there are no ICT tools or a lab. This situation really does not help the students, particularly the girls" (ICT Tr. 003; Age 38).*
>
> *"In our school, we do not have a computer. Our ICT teacher only uses the few textbooks and the resource pack that are in the school to teach us. So, everything we do in ICT is always theory" (Stud. 005; Age 16).*

The findings under Research Question 1 revealed that female students in the Bongo District face significant challenges in accessing ICT due to limited resources, poverty, and an overreliance on textbooks and theory-based teaching. Respondents consistently highlighted the lack of ICT infrastructure, such as computers, laboratories, and internet connectivity, which left many students, especially girls, unable to develop practical ICT skills. These findings align with Bandura's Social Learning Theory, which emphasizes learning through observation, imitation, and practice. Without direct access to ICT tools, female students are denied the experiential learning opportunities that foster skill acquisition and self-efficacy, leaving them dependent on abstract theory. Furthermore, the economic hardships described by respondents resonate with Super's Theory of Career Development, which stresses the role of socioeconomic context in shaping career aspirations and opportunities. Poverty restricts parents from providing ICT devices for girls, thereby narrowing their future career possibilities in ICT-related fields. The responses also reflect Feminist Theories of Technology in Organisations, which argue that technology access and use are shaped by gendered power structures. Girls reported being disadvantaged compared to boys, as cultural norms and parental attitudes deprioritized investment in ICT tools for

female children, reinforcing systemic gender inequality. These findings are consistent with Owusu and Essilfie's (2021) study in Northern Ghana, which found that girls faced heightened barriers to ICT access due to economic constraints and societal gender roles. Similarly, Amponsah and Boateng (2020) observed that rural Junior High Schools in Ghana struggled with inadequate ICT infrastructure and unreliable electricity, limiting effective integration of ICT in teaching and learning. Together, the evidence demonstrates how structural barriers, socioeconomic factors, and gendered inequalities converge to hinder girls' meaningful participation in ICT education in the Bongo District.

Table 5: Coding regime

Coding Regime				
Meaning Unit	**Condensed meaning unit.** **Description close to the text**	**Condensed meaning unit .** **Interpretation of the underlying meaning**	**Sub-theme**	**Theme**
–You see, the boys also face challenges, but not like the girls. When the girls get home, their parents immediately engage them in household chores. The boys, on the other hand, have the freedom to move around and even travel to ICT centres where they can access tools to learn. But the girls are restricted to the house, and this limits their learning opportunities." (Couns 001; Age 40)	Girls are not taken seriously in ICT by parents/teachers and are restricted by household chores, unlike boys.	ICT is seen as a male domain, discouraging girls and limiting their opportunities for empowerment.	Cultural beliefs and norms	Gender Stereotypes
–Because I am a girl, my parents usually tell me I am not serious. They believe if they spend money on me, it will be a waste because, one day, I will just get married and move into someone's house." (Stud 006; Age 15)	Parents believe investing in girls' ICT education is a waste because girls will eventually marry.	Parents undervalue girls' education and ICT participation, believing marriage is more important.	Parental perceptions of girls' future	Gender Stereotypes

–For us girls, anytime we take our parents‘ phone to search for information on the internet for homework, they assume we are using it to call our boyfriends. Because of that, they don‘t allow us to touch their phones at all.” (Stud 007; Age 15)	Parents restrict girls from using ICT tools like phones for fear they misuse them.	Parents mistrust girls‘ ICT usage, associating it with immoral behaviour	Suspicion about ICT use	Gender Stereotypes
–Sometimes because of the culture of the people, it hinders the girls‘ access and usage of ICT tools, they believe that for girls, they are supposed to be in their husbands‘ houses. They see marriage to be the most important institution for the girls than the former education. It is always a difficult thing that the girls faced in schooling. They don't get much support from their parents in accessing the ICT tools like their male counterparts.” (Couns 002; Age 36)	Parents perceive marriage as more important than education, hindering girls‘ ICT access.	Cultural norms prioritize marriage over girls‘ education, reducing ICT opportunities.	Marriage as priority over education	Early Marriage and Domestic Responsibilities

–Most female students, when I ask or probe into them as a counsellor of the school, the feedback I'm getting from them is that when they get back to their various houses, ask these tools for their parents such as phones and laptops. The parents do not allow them to use them. Parents think girls' place is supposed to be in a man‘s house and not in the classroom (former education), not even to talk of ICT. They see girls as kitchen warriors, not school-going people. So they don't allow them to use their ICT tools in the house.” (Couns 003; Age38)	Girls are denied access to ICT tools at home because they are seen as –kitchen warriors.”	Parents restrict girls from ICT tools, reinforcing the idea that their place is in the home.	Domestic roles limiting ICT	Early Marriage and Domestic Responsibilities
–Parents don‘t really understand the importance of ICT, so they hardly support the girls to learn it.” (ICT Tr 003; Age 38)	Parents rarely support girls‘ ICT learning because they undervalue its importance.	Parents do not recognize the importance of ICT in girls‘ education, leading to lack of support.	Lack of value for ICT	Parental Attitudes and Beliefs
–Our parents think ICT is for boys or for rich children, not for us here in the village.” (Stud 008; Age 15)	Parents assume ICT is for boys or rich children, not village girls.	Parents believe ICT is only for boys or the wealthy, excluding rural girls.	ICT viewed as male or elitist	Parental Attitudes and Beliefs

–As I mentioned, it is mostly the parents. Because our setting here is rural, many of them are not educated. And once they are not educated, they don‘t even see the need to educate their wards, especially the girl child. To them, the girl child is not supposed to be in school, she is supposed to be in her husband‘s house, helping him. This kind of mindset has made parents reluctant to give support to their wards, particularly the girls.” (Couns 004; Age 39)	Parents‘ lack of education shapes their belief that girls belong in the home, not in school or ICT.	Uneducated parents see no need for girls‘ education or ICT access, focusing instead on marriage.	Low parental education	Parental Attitudes and Beliefs

Source of the Coding Regime table: Bedu-Addo, P.K.A. (2010, June). PhD thesis, University of Nottingham, UK.

4.3 Research Question 2

How do sociocultural factors affect girls' ability to engage with ICT in Bongo District?

This research question examined the influence of cultural norms, gender roles, and community attitudes on girls‘ participation in ICT. It seeks to understand how beliefs, traditions, and expectations placed on girls in the Bongo District shape their access to and confidence in using technology. The aim was to reveal how societal dynamics contribute to or hinder girls ICT engagement. Three (3) themes were generated from the views of the respondents. These are: Gender stereotypes, early marriage and domestic responsibilities, and parental attitudes and beliefs.

Gender stereotypes

The first theme that emerged under research question 2 was Gender Stereotypes. Respondents explained that cultural beliefs and social norms often portray ICT as a male-dominated field, which discourages girls from actively participating. Girls who show interest in ICT are sometimes not taken seriously by family members or even teachers, thereby limiting their opportunities for growth and empowerment in the technological field.

One school counsellor highlighted the gendered challenges faced by girls compared to boys:

> *“You see, the boys also face challenges, but not like the girls. When the girls get home, their parents immediately engage them in household chores. The boys, on the other hand, have the freedom to move around and even travel to ICT centres where they can access tools to learn. But the girls are restricted to the house, and this limits their learning opportunities.” (Couns 001; Age 40)*

Similarly, one female student explained how parental perceptions undermine girls' interest in ICT:

> *"Because I am a girl, my parents usually tell me I am not serious. They believe if they spend money on me, it will be a waste because, one day, I will just get married and move into someone"shouse." (Stud 006; Age 15)*

Another student shared her frustration about the suspicion that surrounds girls' use of ICT tools at home:

> *"For us girls, anytime we take our parents" phone to search for information on the internet for homework, they assume we are using it to call our boyfriends. Because of that, they don't allow us to touch their phones at all." (Stud 007; Age 15)*

Early marriage and domestic responsibilities,

The second theme that was generated under research question 2 was early marriage and domestic responsibilities. The Respondents highlighted that societal expectations such as early marriage and house chores hinder girls from fully participating in ICT-related programmes or dedicating time to learning digital skills.

> *Sometimes because of the culture of the people, it hinders the girls"access and usage of ICT tools, they believe that for girls, they are supposed to be in their husbands" houses. They see marriage to be the most important institution for the girls than the former education. It is always a difficult thing that the girls faced in schooling. They don't get much support from their parents in accessing the ICT tools like their male counterparts (Couns 002; Age 36).*

> *Most female students, when I ask or probe into them as a counsellor of the school, the feedback I'm getting from them is that when they get back to their various houses, ask these tools for their parents such as phones and laptops. The parents do not allow them to use them. Parents think girls' place is supposed to be in a man's house and not in the classroom (former education), not even to talk of ICT They see girls as kitchen warriors, not school-going people. So they don't allow them to use their ICT tools in the house (Couns 003; Age 38***).**

Parental attitudes and beliefs

The third theme that emerged under Research Question 2 was Parental Attitudes and Beliefs. Respondents highlighted that in rural settings such as the Bongo District, some parents do not consider ICT as important for girls‘ education. This lack of value placed on ICT by parents often results in little or no support for girls to pursue ICT-related studies.

> *“Parents don"t really understand the importance of ICT, so they hardly support the girls to learn it” (ICT Tr 003; Age 38).*
>
> *“Our parents think ICT is for boys or for rich children, not for us here in the village” (Student 008; Age 15).*
>
> *“As I mentioned, it is mostly the parents. Because our setting here is rural, many of them are not educated. And once they are not educated, they don"teven see the need to educate their wards, especially the girl child. To them, the girl child is not supposed to be in school, she is supposed to be in her husband"s house, helping him. This kind of mindset has made parents reluctant to give support to their wards, particularly the girls” (Couns 004; Age 39).*

The views expressed by respondents in this study strongly align with Albert Bandura‘s Social Learning Theory, Super‘s Theory of Career Development, and Feminist Theories of Technology in Organisations. Bandura‘s theory posits that individuals learn behaviors, attitudes, and values through observation and imitation of others, particularly within social and familial contexts. In this study, cultural norms and parental attitudes significantly shape girls‘ perceptions of their roles, leading them to internalise beliefs that ICT is a male-dominated field. For instance, girls reported being discouraged by their parents from pursuing ICT, being assigned household chores immediately after school, and being denied access to ICT tools due to suspicions about their intentions. These learned behaviors reflect how gendered socialization reinforces stereotypical roles, limiting girls‘ exposure to and engagement with ICT.

Super‘s Theory of Career Development also resonates with these findings, as it emphasizes that career choices are shaped by life roles, self-concept, and social expectations. The respondents‘ experiences reveal that societal expectations, such as early marriage and domestic responsibilities, interrupt the development of girls‘ self-concept as capable ICT learners. When girls are viewed primarily as future wives and homemakers, their opportunities to explore and develop ICT-related skills are stifled, thereby impeding their long-term career development in technology fields.

Feminist Theories of Technology in Organisations further contextualize these experiences by highlighting how technological spaces are often gendered, privileging men and marginalizing women. The narratives of girls being denied access to ICT tools, being perceived as ―kitchen warriors,‖ and not being taken seriously when expressing interest in ICT demonstrate how structural and cultural biases exclude women from technological empowerment. This exclusion mirrors the broader findings of Owusu & Essilfie (2021), who reported that girls in Northern Ghana face significant challenges accessing ICT due to entrenched gender roles and economic barriers. Similarly, Amponsah & Boateng (2020) identified infrastructural limitations, such as lack of electricity and ICT tools, which disproportionately affect rural Junior High Schools and exacerbate the digital divide for girls.

These lived realities also reflect global patterns of female marginalization in education and economic participation. As noted by Lechman and Paradowski (2021), women in developing countries are frequently excluded from formal labor markets, relegated to informal sectors, and denied access to education and technological resources, conditions that perpetuate poverty and vulnerability. The narratives from Bongo District confirm that girls‘ limited ICT engagement is not merely a result of

resource scarcity but is deeply rooted in systemic gender biases and socio-cultural beliefs that undervalue girls‘ potential. Thus, the findings underscore the urgent need for gender-sensitive policies and interventions that challenge these norms and promote inclusive access to ICT education and empowerment for girls.

Table 6:Coding Regime

	Coding Regime			
Meaning Unit	**Condensed meaning unit. Description close to the text**	**Condensed meaning unit . Interpretation of the underlying meaning**	**Sub-theme**	**Theme**
–The counsellor sometimes invites the parents to educate them about the importance of the girls, the girl child in the ICT. … So we always talk to them" (ICT Tr 001; Age 30). –Sometimes I call parents to discuss with them the importance of girls' education, especially ICT usage. … I use that opportunity to educate parents on the need to allow their wards, not boys alone, but also allow their girls to have access to their ICT tools" (Couns 001; Age 40).	Counsellors invite parents to school and social meetings to educate them about the importance of girls' participation in ICT.	School counsellors collaborate with parents to encourage girls' participation in ICT and address parental concerns.	Parent engagement	Collaborative Efforts
–Currently I have formed a school ICT club, which I have many girls in it. … Sometimes I call female ICT experts around to also come and have a talk with them on the importance of girls in ICT education during their club meetings" (Couns 002; Age 36).	Formation of ICT clubs allows counsellors to create safe spaces for girls to learn ICT, receive mentorship, and interact with role models.	School counsellors form ICT clubs to promote girls' learning, encourage inclusivity, and motivate female participation.	ICT clubs	Collaborative Efforts

–The school counsellor is doing very well in organising meetings and sensitising parents on the importance of ICT education on their wards, particularly the girl-child, and the benefits of ICT in their career paths" (ICT Tr 002; Age 36). –The school counselor has enrolled us in ICT club… the counsellor always tells us how the ICT will help us in our future career" (Stud 009; Age 16).	Counsellors organise meetings, educate parents, and encourage girls to view ICT as a pathway for their future.	School counsellors guide female students toward ICT-related careers by showing them opportunities and motivating them.	Sensitisation on ICT careers	Career Guidance
–Sometimes when we are going to learn, our parents will not allow us to go early, because we are girls… so the school counsellor sometimes invite our parents to educate them about the importance and benefits of ICT in our career" (Stud 010; Age 15).	Counsellors mediate with parents to reduce house chores burden on girls and highlight ICT career benefits.	Counsellors intervene to reduce parental restrictions and gender bias that affect girls' ICT participation and career prospects.	Advocacy against gender barriers	Career Guidance
–As a school counsellor… together with the ICT teacher, we organise some workshops. … We educate them about the benefits of ICT in the career paths of the girl-child" (Couns 002; Age 36).	Collaborative workshops provide career guidance and encourage girls to pursue ICT.	School counsellors, together with ICT teachers, hold workshops to raise awareness on ICT as a career path.	Workshops with parents & teachers	Career Guidance

–Though I am not posted here to perform my duty fully as a counsellor, once in a while, I try my best to organise ICT workshop within the school with the ICT teacher for the girls to help train them" (Couns 003; Age 38).	Practical training sessions and workshops help girls gain ICT skills.	School counsellors organise ICT-focused workshops to improve girls' skills and confidence.	ICT workshops	Workshops and Training
–Sometimes we organise some workshops… experts in ICT, particularly, female experts in ICT are mostly invited to give talks to them about the importance and benefits of ICT concerning their future jobs" (ICT Tr 004; Age 39).	Workshops bring in experts to inspire girls and provide role models in ICT.	Counsellors invite female ICT experts to serve as role models and motivate girls in ICT.	Female ICT experts involvement	Workshops and Training
–Currently we have a girl child club in the school purposely for ICT where sometimes the patron of the club meet the girls and discuss with them the importance of ICT because… female students [need] to be abreast with the current issues concerning ICT" (Couns 004; Age 39).	Clubs serve as ongoing forums for girls to learn ICT and prepare for career choices.	ICT clubs provide informal workshop-like platforms for girls to discuss and practice ICT.	ICT clubs as training grounds	Workshops and Training

Source of the Coding Regime table: Bedu-Addo, P.K.A. (2010, June). PhD thesis, University of Nottingham, UK.

4.4 Research Question 3

What role do school counsellors play in supporting ICT empowerment for girls in the Bongo District?

This research question investigated the contribution of school counsellors in supporting girls' ICT learning and involvement. It explored how counsellors guide, motivate, and provide career-related support to girls in technology-related areas. The goal was to assess how their role can be strengthened to foster greater ICT participation among female students. Three (3) themes were generated from the views of the respondents. These are: Collaborative Efforts, career guidance and workshops and training programmes.

Collaborative Effors

The first theme that was generated under research question 3 was Collaborative Efforts. The respondents said that, School counsellors collaborate with teachers, parents, and the community to enhance ICT access and usage among female students in Junior High Schools in the Bongo District.

> *The counsellor sometimes invites the parents to educate them about the importance of the girls, the girl child in the ICT. We always come together to form a club. So once we form the club, we also invite the parents to encourage them, talk to them that there's a club like this in the school about girls, particularly about how they are going to learn the ICT. So in case sometimes when they are late in the house, they won't understand. So we always talk to them (ICT Tr 001; Age 30).*

> *Sometimes I call parents to discuss with them the importance of girls' education, especially ICT usage. Other times, to other social meetings, when I find myself there, I use that opportunity to educate parents on the need to allow their wards, not boys alone, but also allow their girls to have access to their ICT tools when they are away from school. Additionally, I also talk to them, at least to allow them to move other places where there are ICT centres away from their houses, so that, they could also have access to those ICT tools to learn (Couns 001; Age 40)*

Thank you for the question. Currently I have formed a school ICT club, which I have many girls in it. Having done that, I am able to meet them from time to time to also let them know that ICT is not for boys alone. For that matter, girls can also learn ICT and it will help them to have a better career in their future. Sometimes I call female ICT experts around to also come and have a talk them on the importance of girls in ICT education during their club meetings (Couns 002; Age 36).

Career guidance

The second theme that was generated under research question 3 was career guidance. The respondents said that, School counsellors play a crucial role in providing career guidance related to ICT opportunities. They inform female students about the potential career paths in ICT and the steps required to pursue them. The counsellors motivate girls to consider technology-related fields as viable and rewarding options.

The school counsellor is doing very well in organising meetings and sensitising parents on the importance of ICT education on their wards, particularly the girl-child, and the benefits of ICT in their career paths (ICT Tr 002; Age 36)

The school counselor has enrolled us in ICT club, which we meet twice a week to learn the skills in ICT, and the counsellor always tells us how the ICT will help us in our future career (Stud 009; Age 16).

Sometimes when we are going to learn, our parents will not allow us to go early, because we are girls, they always asked us to do many works such as, cook, wash cooking utentisials before going to school to learn. They will allow boys to go early, so the school counsellor sometimes invite our parents to educate them about the importance and benefits of ICT in our career (Stud 010; Age 15).

As a school counsellor, what I do is that, sometimes, together with the ICT teacher, we organise some workshops. Sometimes, we even invite the parents to come and take part and we educate them about the benefits of ICT in the career paths of the girl-child. We encourage the girls to fully take part so that it can motivate them to make a better choice in their career (Couns 002; Age 36).

Workshops and training programmes

The third theme that was generated under research question 3 was workshops and training. The respondents said that, School counsellors sometimes organise workshops and training sessions specifically tailored for girls to help improve their ICT skills. These sessions provide practical knowledge and hands-on experiences, enabling girls to gain confidence and proficiency in using technology.

> *Though I am have not been posted here to perform my duty fully as a counsellor, once in a while, I try my best to organise ICT workshop within the school with the ICT teacher for the girls to help train them the skills in their career paths (Couns 003; Age 38).*

> *Yes, what we do is that sometimes we organise some workshops to encourage the female students to participate fully in the ICT teaching. During these workshops experts in ICT, particularly, female experts in ICT are mostly invited to give talks to them about the importance and benefits of ICT concerning their future jobs, to motivate them. Many ICT practical activities are also normally carry out during the workshops to help increase their skills in ICT, so that it will help them to be abreast with this technological world and be able to make a choice in their career (ICT Tr 004; Age 39).*

> *Currently we have a girl child club in the school purposely for ICT where sometimes the patron of the club meet the girls and discuss with them the importance of ICT because, currently we are in a technological era and once we are in the technological era, there is a need for female students to be abreast with the current issues concerning ICT so that it will help them in choosing their career (Couns 004; Age 39).*

The views of the respondents under research question three strongly align with Albert Bandura's Social Learning Theory**,** Super's Theory of Career Development**,** and Feminist Theories of Technology in Organisations**.** Respondents highlighted how school counsellors collaborate with teachers, parents, and the community, as well as create ICT clubs and workshops that expose girls to role models and practical experiences in technology. This reflects Bandura's Social Learning Theory, which emphasizes learning through observation, modelling, and reinforcement. By inviting

female ICT experts and encouraging peer interactions in ICT clubs, counsellors provide girls with role models whose behaviors and achievements they can emulate, thereby reinforcing self-efficacy in ICT participation. Furthermore, the role of counsellors in providing career guidance directly resonates with Super‘s Theory of Career Development, which underscores the importance of guidance in helping individuals understand and navigate career paths. By informing female students of future ICT career opportunities and encouraging them to make choices aligned with their skills and interests, counsellors are actively shaping the girls‘ career development trajectories. The respondents‘ emphasis on workshops and sensitization meetings with parents also aligns with Feminist Theories of Technology in Organisations, which critique the structural and cultural barriers that marginalize women in technology-related fields. By challenging gender stereotypes, sensitizing parents, and creating inclusive spaces such as ICT clubs, counsellors are working to dismantle the socio-cultural norms that portray ICT as male-dominated. Taken together, these collaborative efforts, career guidance, and training initiatives illustrate how the counsellors‘ interventions simultaneously support social learning, career development, and feminist objectives of empowerment in technology.

Table 7:Coding regime

	Coding Regime			
Meaning Unit	**Condensed meaning unit. Description close to the text**	**Condensed meaning unit Interpretation of the underlying meaning**	**Sub-theme**	**Theme**
~~–~~To improve ICT access and usage among female students in the Bongo District, the authorities should provide ICT teaching and learning resources, including updated ICT textbooks, laptops to the Junior High Schools… and establish ICT laboratories… Electricity should also be extended…" (Couns 001; Age 40).	Providing computers, laboratories, electricity, and ICT resources will enhance access and usage among female students.	Equipping schools with ICT tools and infrastructure levels the playing field and supports girls' skill development.	Equipping schools with ICT tools	Provision of ICT Resources and ICT Laboratories
~~–~~If the Bongo district assembly can afford to even build one computer lab in the district capital… it will help" (Couns 002; Age 36).	A single district ICT laboratory could allow teachers to conduct practical lessons for female students.	Centralized ICT labs can offer practical learning opportunities where schools lack resources.	Building ICT labs at district level	

–Though we have limited resources… we still need to encourage the parents to give their maximum support… so that, they will be motivated to learn ICT more…" (Couns 003; Age 38).	Parents need to provide ICT tools and encouragement for female students.	Parents' support in providing ICT tools motivates girls to pursue ICT learning and careers.	Parental and community support	
–One of the steps… is calling for regular SMC and PTA meetings, to sensitise parents, community members, and stakeholders about the importance of ICT and the education of the girl child" (ICT Tr 001; Age 30).	Continuous engagement with parents, chiefs, and stakeholders builds ICT awareness for girls' education.	Awareness campaigns break stereotypes and encourage ICT participation through education and sensitisation.	Community engagement	Awareness Campaigns
–I think we need to engage the chiefs, queen mothers, assembly members, and even old students… to see if they can provide an ICT resource centre…" (ICT Tr 002; Age 36).	Broader involvement of local leaders can lead to ICT resource centres for girls' learning.	Chiefs, queen mothers, and community leaders play a vital role in ICT support and resourcing.	Stakeholder involvement	
–If our parents are educated on the importance and benefits of ICT in girls' education, they will understand better and give us the support we need" (Stud 010; Age 15).	Public education fosters parental support and changes perceptions about ICT for girls.	Educating parents on ICT's importance will lead to greater	Parental sensitisation	

		support for girls' ICT education.		
–If there are scholarship opportunities dedicated to girls who want to study ICT, it will motivate them to take it more seriously…" (Couns 003; Age 36).	Girls are more likely to pursue ICT when supported by financial aid.	Scholarships dedicated to girls reduce financial barriers and motivate ICT engagement.	Scholarships for girls	Gender-Sensitive ICT Policies
–If mentorship programmes are introduced… it will inspire them a lot… It makes ICT look achievable and not just something for boys" (Couns 004; Age 39).	Role models in ICT encourage girls to envision themselves in technology fields.	Linking girls to female ICT role models inspires confidence and shows ICT as achievable.	Mentorship programmes	
–If the counselling programme is fully introduced at the junior high school level, we would have enough time to carry out our duties as counsellors" (Couns 001; Age 40).	Overburdened counsellors cannot effectively support ICT unless a counselling structure is in place.	A clear counselling policy allows counsellors to dedicate time to guide students and families.	Full counselling programme at JHS level	Implementation of Counselling Policy

–At the JHS level, if we had a proper counselling policy, we could address parents' negative perceptions about girls studying ICT" (Couns 002; Age 36).	Proper policy empowers counsellors to change mindsets about girls' ICT participation.	Counselling policies can challenge stereotypes and encourage parental acceptance of girls in ICT.	Addressing parental perceptions	
–Most of us at the JHS level are overburdened with teaching duties, so our counselling role becomes secondary. If policy was in place to protect our counselling responsibilities, girls would receive more guidance and encouragement…" (Couns 004; Age 39).	Counsellors' duties are secondary due to teaching loads; a policy would protect their role.	Counsellors need recognition and authority to intervene effectively in ICT-related guidance.	Authority and protection of counsellors' role	

Source of the Coding Regime table: Bedu-Addo, P.K.A. (2010, June). PhD thesis, University of Nottingham, UK.

4.5 Research Question 4

What measures can be put in place to help improve female students' access and usage of ICT in Bongo District?

This research question identified potential measures and interventions that could enhance the access and usage of ICT among female students in Bongo District. During the interview, the respondents expressed their views in many ways on the measures that can improve female students' access and usage of ICT in Bongo District. Four (4) themes were generated from the views of the respondents. These are: Provision of ICT Resources and ICT laboratories, awareness campaign, Gender-Sensitive ICT Policies and Implementation of Counselling policy.

Provision of ICT Resources and ICT laboratories

The first theme that was generated under research question 4 was Provision of ICT Resources and ICT laboratories. The respondents noted that, ensuring that schools are equipped with adequate ICT tools and resources is a fundamental step. Providing computers, ICT laboratories, internet access, and other necessary technology creates an environment where female students can engage with ICT meaningfully. This provision will help level the playing field and give girls the tools they need to develop their skills in the digital field.

> *To improve ICT access and usage among female students in the Bongo District, the authorities should provide ICT teaching and learning resources, including updated ICT textbooks, laptops to the Junior High Schools in the district and also establish ICT laboratories in each school or circuit within the district. Electricity should also be extended to the communities that do not have electricity in the district (Couns 001; Age 40).*

> *One of the measures, I think, if it could be done to improve female students' access in ICT is that, if the Bongo district assembly can afford to even build one computer lab in the district capital, where sometimes ICT teachers can take the*

> *students there and teach them the practicals, it will help (Couns 002; Age 36).*
>
> *Like I said, female students need to be encouraged. Though we have limited resources for ICT, I think we still need to encourage the parents to give their maximum support to them by providing ICT tools, so that, they will be motivated to learn ICT more and make an informed decision on their future career (Couns 003; Age 38).*

Awareness campaign

The second theme that emerged under research question 4 was awareness campaigns. The respondents emphased that community engagement is crucial for supporting and encouraging girls‘ participation in ICT. They noted that awareness campaigns provide resources, mentorship, and encouragement while also building a network of role models and advocates. Such initiatives can take the form of workshops, internships, and after-school programs focused on ICT skills, which foster inclusivity and awareness by breaking down stereotypes and barriers. Leveraging local resources and expertise was seen as vital for making ICT education more relevant and impactful for girls. Conducting campaigns to raise awareness about the importance of ICT for female empowerment was viewed as a key strategy that could shift community perceptions and encourage more girls to pursue ICT education and careers. By highlighting the benefits and opportunities in technology, awareness campaigns have the potential to inspire girls to explore ICT fields.

One ICT teacher stressed the importance of continuous community engagement through school structures, stating:

> *“One of the steps we can take to improve girls" access and usage of ICT is calling for regular SMC and PTA meetings, to sensitise parents, community members, and stakeholders about the importance of ICT and the education of the girl child. They need to understand why girls must be abreast with this technological world.” (ICT Tr 001; Age 30)*

Another ICT teacher emphasised the role of broader community stakeholders, noting:

> *"I think we need to engage the chiefs, queen mothers, assembly members, and even old students in the community to see if they can provide an ICT resource centre for the district. If any school is in need of ICT tools or materials, the teachers could take students there to learn. This measure would really help improve female students" access and usage of ICT in Bongo District." (ICT Tr 002; Age 36)*

Students also echoed the importance of awareness creation, particularly in influencing parents' support. One student remarked:

> *"I think if there is public education on the importance of ICT for girls, and if computers and ICT laboratories are provided in Junior High Schools in the Bongo District, it will greatly help us. It will improve ICT access and usage among female students like myself." (Stud 009; Age 16)*

Another student highlighted the need for parental sensitization:

> *"The type of support I think would help me and my colleagues is public education. If our parents are educated on the importance and benefits of ICT in girls" education, they will understand better and give us the support we need." (Stud 010; Age 15)*

Counsellors also emphasized the role of government and parents in awareness efforts.

One counselor observed:

> *"If government can also come in to help, just as they sometimes give tablets to students in senior high schools that would be good. Even if they cannot give each child a tablet, they could supply clusters of schools. Then ICT teachers could use them to teach students practical ICT skills." (Couns 001; Age 40)*

Another counselor stressed the need to challenge gendered perceptions through education:

> *"Parents should also be educated to know that what the male child can do, the female child can also do. Girls can go through the educational ladder to the fullest and even become important people within the community. It should not be limited to the male child alone." (Couns 002; Age 36)*

Gender-Sensitive ICT Policies

The third theme that was generated under research question 4 was Gender-Sensitive ICT Policies. The implementation of gender-inclusive ICT policies at the school and district levels was proposed. The respondents said that, if gender-inclusive ICT policies and scholarship programmes such as scholarships dedicated to girls pursuing ICT-related studies, and mentorship programmes that link female students with women role models in technology are implemented at the school and district levels, it will help promote girls in the technological related field.

> *"You see, many of our girls are interested in ICT, but the challenge is the cost involved in furthering their education. If there are scholarship opportunities dedicated to girls who want to study ICT, it will motivate them to take it more seriously. They will know that their efforts will not go to waste because there is support to help them continue in that field." (Couns 003; Age 38).*

> *"I believe if mentorship programmes are introduced where our girls can be linked with women who are already doing well in the field of technology, it will inspire them a lot. When the girls see women like them succeeding in ICT, it will encourage them to also believe that they too can do it. It makes ICT look achievable and not just something for boys." (Couns 004; Age 39).*

Implementation of Counselling policy

The fourth theme that emerged under research question 4 was Implementation of Counselling Policy. Respondents emphasised that, if counselling policy is fully implemented at the junior high school (JHS) level, it would help reform the attitudes and cultural norms of people in rural settings towards their wards, particularly regarding the girl child's education and participation in ICT-related fields. They explained that while counsellors are employed at the senior high school (SHS) level to serve primarily as counselling coordinators, at the JHS level, counsellors are often

assigned full teaching loads, which makes it difficult for them to effectively discharge their counselling duties.

> *"If the counselling programme is fully introduced at the junior high school level, we would have enough time to carry out our duties as counsellors. This can help reduce problems like this. You see, sometimes I find it difficult because I teach every day even though I am the school counsellor. So, most of the time, I have to try my best and combine work by organising meetings with teachers, students, and parents, givihjmng talks to parents on the importance of education for their wards, particularly the girl child, and most especially in the technology-related field" (Couns 001; Age 40).*

> *"At the JHS level, if we had a proper counselling policy, we could address parents" negative perceptions about girls studying ICT" (Couns 002; Age 36).*

> *"When there"s a clear counselling structure in place at the junior high school level, we can educate both girls and their families about the benefits of ICT for their future" (ICT Tr 004; Age 39).*

> *"Without proper counselling policies, it becomes difficult to change the mindset of some parents who still think ICT is not for girls. A well-implemented policy would give counsellors the authority and space to intervene" (Couns 003; Age 38).*

> *"Most of us at the JHS level are overburdened with teaching duties, so our counselling role becomes secondary. If policy was in place to protect our counselling responsibilities, girls would receive more guidance and encouragement to take ICT seriously" (Couns 004; Age 39).*

The views of the respondents under Research Question 4 strongly align with established theoretical perspectives and empirical evidence on gender, education, and ICT empowerment. The call for provision of ICT resources and laboratories reflects Albert Bandura's Social Learning Theory, which emphasizes that learning occurs through observation, imitation, and practical engagement with tools and role models. Without access to ICT laboratories, girls are denied the opportunity to learn through hands-on practice, which limits their capacity to build confidence and competence in

technology. Similarly, the emphasis on awareness campaigns and community sensitization resonates with Super's Theory of Career Development, which highlights the importance of environmental influences, such as family, community, and social expectations, in shaping young people's career aspirations. By involving parents, chiefs, queen mothers, and community stakeholders, awareness campaigns work to dismantle negative perceptions and create a supportive environment that validates girls' aspirations in ICT. Respondents' focus on gender-sensitive ICT policies, including scholarships and mentorship opportunities, aligns with Feminist Theories of Technology in Organisations, which argue that structural barriers and male-dominated traditions perpetuate gender inequalities in technological fields. Addressing these through inclusive policies and mentorship is consistent with Mbangwana's (2018) findings in Cameroon, which revealed that lack of policy support and male-centered cultural attitudes hinder girls' participation in ICT education. Furthermore, the recommendation for implementation of counselling policies at the JHS level underscores the critical role of guidance and psychosocial support in empowering girls to navigate cultural barriers and envision themselves in ICT-related careers, thereby reinforcing both Bandura's and Super's frameworks. These insights also reflect broader global priorities: as the UNESCO Global Education Monitoring Report (2023) notes, societies that fail to treat women equally in education and technology cannot reach their full potential. Collectively, the respondents' perspectives highlight that empowering girls in ICT within the Bongo District requires not only resources and infrastructure but also deliberate policy frameworks, community engagement, and counselling structures that align with international calls for gender equality and empowerment.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents an overview of the entire study. It also highlights the conclusions drawn from the findings of the study and makes recommendations aimed at averting the issues pointed out by the study.

5.1 Summary of the Study

The purpose of the study was to explore Challenges facing ICT Empowerment of Girls in Junior High Schools in Bongo District, focusing on the Role School Counsellors play in supporting and promoting girls' engagement with ICT. Suggestions were made as to how these issues could be managed by parents, government and all the stakeholders involved to improve girls' access and usage of ICT in Junior High Schools for their empowerment in the Bongo District.

The study was guided by four research questions:

1. What challenges do girls face in accessing and using ICT in Junior High Schools in Bongo District?
2. How do sociocultural factors affect girls' ability to engage with ICT in Junior High Schools in Bongo District.?
3. What role do school counsellors play in supporting ICT empowerment for girls?
4. What measures can be put in place to help improve female students' access and usage of ICT in Bongo District?

The study reviewed the concept of empowerment and provided an empirical review. Theories underpinning the study were reviewed and analysed. The researcher

employed a qualitative method, hence, using one-on-one interviews in gathering the data. The analysis of the data was guided by an interpretive paradigm, and the design used was the phenomenological design, where the researcher viewed the narrative, interview responses, against the context in which it was set and the subjective viewpoints of the participants, and capture the essence of how girls in Junior High Schools in the Bongo District experience in relation to their access and usage of ICT for their empowerment.

The research population from which the sample was derived consists of the following groups of participants:

a. School Counsellors
b. Form three female students
c. ICT teachers

A semi-structured interview guide was used to collect data for the study. The interviews were audio-recoded, having earlier secured the participants‘ consent to that end. The audio recording, in part, was meant to facilitate the researcher‘s view and analysis of the research data. Inductive thematic analysis was used to analyse the data. open and axial coding were used. The responses were transcribed using Automatic Speech Recognition (ASR) to transcribe the audio recordings into text, and coded and discussed. The type of data transcription used was Intelligent transcription (edited transcription).The results and analysis were presented generally under the biodata of participants and the research questions that guided the study. However, themes were developed under each research question which helped brought out the emerging issues.

5.2 Summary of Key Findings

The first research question explored the specific barriers that hinder girls from effectively accessing and utilising ICT in their schools. It aimed to identify issues such as lack of resources, limited digital skills, inadequate infrastructure, and gender-based restrictions. Understanding these challenges is crucial for informing policies that promote inclusive ICT education. The findings revealed that girls face major challenges such as limited access to ICT resources and insufficient infrastructure, poverty that prevents families from providing ICT tools, and an overdependence on textbooks and theory-based teaching. Together, these barriers deny girls the practical experience needed to build ICT skills, leaving them disadvantaged in both learning and future career opportunities. This aligns with Bandura‘s Social Learning Theory, as girls are denied opportunities to learn ICT through observation and practice; with Super‘s Career Development Theory, as poverty limits parental support for ICT tools and narrows girls‘ career aspirations; and with Feminist Theories of Technology, which highlight how cultural norms and gendered power structures deprioritize ICT investment in girls. These alignments mirror previous studies in Ghana that found girls‘ ICT education constrained by economic, infrastructural, and gender-based barriers.

The second research question explored the influence of cultural norms, gender roles, and community attitudes on girls‘ participation in ICT. It aimed to understand how beliefs, traditions, and expectations placed on girls in the Bongo District shape their access to and confidence in using technology. The aim was to reveal how societal dynamics contribute to or hinder girls‘ ICT engagement. The findings revealed that sociocultural factors such as gender stereotypes, early marriage, heavy domestic responsibilities, and parental attitudes significantly limit girls‘ participation in ICT.

Many parents and community members view ICT as male-dominated, discourage girls from pursuing it, and prioritise marriage or household duties over education, thereby undermining girls' opportunities and motivation to engage with technology. This reflect Bandura's Social Learning Theory, as parental discouragement, domestic responsibilities, and denial of ICT access socialise girls to view technology as male-dominated. This also resonates with Super's Career Development Theory, since societal expectations like early marriage and homemaking undermine girls' self-concept and career aspirations in ICT. Additionally, Feminist Theories of Technology explain how cultural and institutional biases exclude girls from technological opportunities, reinforcing their marginalization. These findings are consistent with Ghanaian and global research showing that girls' ICT exclusion is shaped not only by resource shortages but also by entrenched gender norms and systemic inequalities.

The third research question investigated the contribution of school counsellors in supporting girls' ICT learning and involvement. It explored how counsellors guide, motivate, and provide career-related support to girls in technology-related areas. The goal was to assess how their role can be strengthened to foster greater ICT participation among female students. The findings revealed that school counsellors support ICT empowerment through collaborative efforts with teachers, parents, and communities, the provision of career guidance on ICT opportunities, and the organisation of workshops and training. These activities motivate girls, challenge stereotypes, and provide hands-on exposure that helps them build confidence and interest in technology-related careers. The role of school counsellors aligns closely with all three theories: through ICT clubs, role models, and workshops, they promote learning via observation and imitation in line with Bandura's Social Learning Theory; through career guidance, they support girls' career exploration and aspirations,

consistent with Super's Career Development Theory; and through sensitization efforts that challenge stereotypes and engage parents, they advance the goals of Feminist Theories of Technology by working to dismantle cultural barriers. Together, these interventions highlight how counsellors foster girls' ICT empowerment through social learning, career support, and gender equality advocacy.

The fourth research question identified potential measures and interventions that could enhance the access and usage of ICT among female students in Bongo District. The findings revealed that the suggested measures include the provision of ICT resources and laboratories, regular awareness campaigns to sensitize parents and communities, implementation of gender-sensitive ICT policies such as scholarships and mentorship, and the enforcement of counselling policies at the Junior High School level. These interventions were seen as necessary for breaking down cultural barriers, improving access to ICT, and ensuring that girls are adequately supported to participate in the digital era. This align with Bandura's Social Learning Theory, as calls for ICT laboratories and practical tools stress the importance of hands-on learning and role modelling; with Super's Career Development Theory, as awareness campaigns and community engagement address the social influences that shape career aspirations; and with Feminist Theories of Technology, as gender-sensitive policies, scholarships, and mentorship tackle structural inequalities in ICT access. The emphasis on counselling policies also strengthens these frameworks by highlighting the role of guidance and psychosocial support. Overall, these perspectives show that ICT empowerment for girls requires resources, inclusive policies, supportive communities, and counselling interventions that reinforce both theoretical and global priorities for gender equality.

5.3 Conclusions

The study explored Challenges facing ICT Empowerment of Girls in Junior High Schools in Bongo District, focusing on the Role School Counsellors play in supporting and promoting girls‘ engagement with ICT. The findings highlighted several critical issues, leading to the following conclusions:

Limited ICT Resources and Infrastructure. Girls‘ participation in ICT is critically constrained by insufficient resources, such as lack of computers, ICT laboratories, internet connectivity, and electricity. From a counselling psychology standpoint, these limitations create barriers to experiential learning and reduce opportunities for school counsellors to integrate career guidance and experiential learning approaches that foster ICT self-efficacy in girls.

Sociocultural Barriers and Gender Norms. Deep-rooted cultural attitudes, gender stereotypes, early marriages, and heavy domestic responsibilities significantly hinder girls‘ access to ICT. These social pressures generate psychosocial challenges for girls, lowering their self-esteem, motivation, and career aspirations in technology-related fields. Counselling psychology highlights the need for targeted interventions to address these gendered expectations, while empowering girls to build resilience and positive self-concepts.

Supportive Role of School Counsellors. School counsellors provide meaningful support for girls‘ ICT empowerment through career counselling, mentorship, advocacy, and psychosocial guidance**.** Their interventions promote self-confidence, positive attitudes toward ICT, and career exploration. However, their effectiveness is limited by broader systemic and infrastructural challenges, making it difficult to provide sustained counselling support for ICT career pathways.

Need for Strategic Counselling and Policy Interventions. The study concludes that without deliberate counselling-based interventions**,** including advocacy, community sensitisation, and gender-responsive career guidance, alongside infrastructural support, girls in the Bongo District will remain disadvantaged in ICT education and excluded from opportunities in the digital economy.

5.4 Recommendations

Based on the findings and conclusions, the following recommendations are made to improve girls' access to and usage of ICT in junior high schools in the Bongo District:

Recommendation 1: Provision of ICT resources and infrastructure. The findings revealed that most junior high schools in the district lack ICT resources and laboratories, reliable internet, and electricity, which hinders girls‘ participation in ICT education. It is therefore recommended that the Ministry of Education, in collaboration with the District Assembly and NGOs, should provide well-resourced ICT laboratories with stable internet and power supply in all junior high schools. The primary beneficiaries of this recommendation are the female students, who will have equal opportunities to explore ICT in a conducive environment. From a policy perspective, this implies the need for budgetary allocations and partnerships to improve ICT infrastructure in rural schools. Relating this to counselling psychology, the availability of ICT infrastructure will allow counsellors to integrate hands-on career guidance and counselling sessions, which foster ICT interest, enhance self-efficacy, and support students‘ career development.

Recommendation 2: Community sensitisation and awareness campaigns. The findings showed that sociocultural barriers and entrenched gender norms discourage girls from engaging in ICT learning. It is therefore recommended that school

counsellors, in collaboration with chiefs, queen mothers, and community leaders, should lead counselling-based sensitisation programmes. These should take the form of group counselling, workshops, and psychoeducational activities aimed at challenging cultural stereotypes and reshaping community attitudes. The beneficiaries will be female students who gain increased encouragement from their families and communities to pursue ICT education. The policy implication here is the need for community-focused educational policies that incorporate psychosocial support and gender awareness. From a counselling psychology perspective, these initiatives will foster positive attitudes, empower girls, and promote their psychosocial development as they build confidence in their ICT abilities.

Recommendation 3: Strengthening counselling and mentorship programmes. The findings indicated that many girls lack role models and structured guidance in ICT fields, which limits their confidence and career aspirations. It is recommended that school counsellors be supported to establish structured mentorship and peer-counselling programmes involving female ICT professionals as role models. This initiative will directly benefit female students by boosting their self-esteem, strengthening their career identity, and developing resilience against stereotypes. The policy implication is the integration of mentorship frameworks into school counselling programmes to address gender disparities in ICT education. From the lens of counselling psychology, mentorship provides psychosocial support, nurtures career development, and reinforces positive self-concept, which are vital in empowering girls to overcome barriers in ICT learning.

Recommendation 4: implementation of gender-sensitive counselling and ICT policies. Findings revealed that girls require continuous psychosocial and academic support to sustain their interest in ICT. It is therefore recommended that the Ghana Education Service implement gender-responsive ICT policies that embed counselling psychology principles, including career guidance, psychosocial support, and tailored counselling interventions. Scholarships, counselling-based career workshops, and continuous mentorship should also be prioritised. The beneficiaries of this recommendation will be female students who receive consistent support in pursuing ICT education and careers. Policy implications include mainstreaming gender-sensitive approaches into ICT and education policies to address the unique needs of girls. For counselling psychology, this recommendation is crucial, as it aligns with the discipline's focus on promoting career development, emotional resilience, and empowerment through structured guidance and counselling interventions.

5.5 Implications for Counselling Policy

The findings of this study carry important implications for counselling policy in Ghana's Junior High Schools, particularly in rural districts such as Bongo. First, the evidence underscores the urgent need to integrate ICT-related career guidance into counselling programmes. Counselling policies should mandate school counsellors to provide structured guidance and mentorship in ICT, including the use of ICT clubs, workshops, and role models, to build girls' confidence, digital literacy, and career aspirations in technology-related fields.

Second, the findings reveal that sociocultural barriers, such as early marriage, domestic responsibilities, and gender stereotypes, have significant psychosocial effects on girls, limiting their motivation and self-concept. Counselling policy should therefore explicitly empower school counsellors to address these cultural challenges

through advocacy, group counselling, and community sensitisation initiatives. This requires policy frameworks that recognise counsellors not only as academic advisors but also as agents of social change who can influence parental attitudes and community perceptions.

Third, counselling policy should promote gender-sensitive interventions that prioritise girls‘ empowerment in ICT. This includes embedding scholarships, mentorship schemes, and continuous psychosocial support into national education and counselling frameworks. Such measures will ensure that girls are not only given access to ICT resources but are also guided to use them meaningfully for academic and career development.

Finally, the study implies that counselling policy should be aligned with broader educational reforms, ensuring adequate infrastructure and systemic support. Without reliable ICT resources, counsellors cannot effectively implement experiential learning and career guidance strategies. Hence, counselling policy should be integrated into national ICT-in-education policies to guarantee that psychosocial support, advocacy, and career development initiatives go hand in hand with infrastructural investment.

In sum, the implication of this study is that, counselling policy should move beyond traditional academic guidance to a holistic, gender-responsive, and ICT-focused framework that empowers school counsellors to address both structural and sociocultural barriers to girls‘ ICT engagement.

5.6 Suggestions for Future Research

1. **Broaden the Geographical Scope:** Future research could broaden the geographical scope to include other circuits or districts within the Upper East Region, or even extend to other regions across Ghana. Expanding the study

area would allow for comparative analysis and help determine whether similar challenges and the role of school counsellors in ICT empowerment exist elsewhere.

2. **Adoption of Mixed-Methods:** Future research could consider adopting a mixed-methods design. A mixed-methods approach would complement qualitative insights with numerical data, allowing researchers to measure the extent of ICT access, utilisation, and its impact on girls‘ academic and personal development.

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APPENDICES

APPENDIX A

Interview Guide for School Counsellors

The researcher is a final year student of the Department of Counseling Psychology, University of Education, Winneba who is undertaking research on the topic: ―Challenges facing ICT Empowerment of Girls in Bongo District: The Role of the School Counsellors in Junior High Schools". Please, do not write your name as your identity will be remained confidential. Be free to give your opinion in the responses. Answer all the questions by indicating your choice with a tick (√) where appropriate or fill in the blank space.

Thank you.

SECTION A: Demographic information

Question 1 to 5 in this section request for personal or background information

1. Sex (Male or Female) …….....
2. Position/Role in the school:

Teacher [ ] headteacher [ ] Counsellor [ ] student [ ]

3. Years of experience in education/Role:

Below 1-10 years [ ] 11-20 years [ ] 21-30 years [ ] 31 and above [ ]

4. Which is your age bracket?

Below 20-30 years [ ] 30-40 years [ ] 40 and above [ ]

5. Which educational level are you?

Diploma [ ] Degree [ ] Master Degree [ ]

1. From your experience, what are the main challenges female students face in accessing and using ICT tools for learning in this district?.....
2. How do these challenges differ from those faced by boys?.....
3. What external barriers (school or community-related) affect girls' access to ICT in your school?.....
4. In your opinion, how do sociocultural beliefs or community attitudes influence girls' ability to engage with ICT in your school?.....
5. How do parents or guardians' attitudes affect girls' access and usage of ICT outside school?.....
6. Can you describe your role as a school counsellor in supporting girls' access and usage of ICT tools?.....
7. What specific programmes or activities do you use to encourage girls to use ICT for learning?
8. How do you collaborate with teachers, parents, and the community to promote ICT access and usage among female students?.....
9. In your opinion, what measures should be put in place to improve female students' access and usage of ICT in your school?.....
10. What collaborations or partnerships could help improve ICT empowerment of girls in the Bongo District?.....

Additional input

1.Is there anything else you would like to share about ICT integration, challenges, or girls' empowerment that has not been discussed?.....

12. What recommendations would you suggest to improve the current situation?.....

APPENDIX B

Interview Guide for Female Students

The researcher is a final year student of the Department of Counseling Psychology, University of Education, Winneba who is undertaking research on the topic: "Challenges facing ICT Empowerment of Girls in Bongo District: The Role of the School Counsellors in Junior High Schools". Please, do not write your name as your identity will be remained confidential. Be free to give your opinion in the responses. Answer all the questions by indicating your choice with a tick (√) where appropriate or fill in the blank space.

Thank you.

SECTION A: Demographic information

Question 1 to 5 in this section request for personal or background information

1. Sex (Male or Female) ……
2. Which is your age bracket?

   Below 13-15years [ ] 15-17 years [ ] 17-19 years [ ] 19 and above [ ]

3. Which educational level are you?

   JHS 1[ ] JHS 2[ ] JHS 3[ ]

SECTION B

1. Can you describe the ICT tools available to you in school?.....
2. What ICT tools are available for you at home?.....
3. What challenges do you face in accessing or using ICT tools for learning, both at school and at home?.....
4. How do family, cultural, or community attitudes influence your access and use of ICT as a girl?.....
5. In your opinion, how is your experience with ICT different from that of boys?
6. What support do you receive from the school counsellor regarding ICT access and usage?.....

7. Can you tell me about any programmes or activities led by the school counsellor to encourage girls to use ICT?.....
8. What support do you think would help you and other girls to improve your access and use of ICT?.....
9. What types of programmes or initiatives do you think could encourage more girls to use ICT in your district?.....

Additional Input

10. Can you share any positive experiences you have had using ICT tools for learning?
11. Is there anything else you would like to add about your experience with ICT?.....
12. Do you have any suggestions to improve the situation for girls in your school or community?.....

APPENDIX C

Interview Guide for School ICT Teacher(s)

The researcher is a final year student of the Department of Counseling Psychology, University of Education, Winneba who is undertaking research on the topic: "Challenges facing ICT Empowerment of Girls in Bongo District: The Role of the School Counsellors in Junior High Schools". Please, do not write your name as your identity will be remained confidential. Be free to give your opinion in the responses. Answer all the questions by indicating your choice with a tick (√) where appropriate or fill in the blank space.

Thank you.

SECTION A: Demographic information

Question 1 to 5 in this section request for personal or background information

1. Sex (Male or Female) ……
2. Position/Role in the school:

Teacher [ ] headteacher [ ] Counsellor [ ] student [ ]

3. Years of experience in education/Role:

Below 1-10 years [ ] 11-20 years [ ] 21-30 years [ ] 31 and above [ ]

4. Which is your age bracket?

Below 20-30 years [ ] 30-40 years [ ] 40-50[ ]

5. Which educational level are you?

Diploma [ ] Degree [ ] Master Degree [ ]

SECTION B

1. What challenges have you observed female students face in accessing and using ICT tools in your school?.....
2. How do these challenges compare with those faced by male students?.....
3. In your teaching experience, what barriers within the school or community limit girls‘ use of ICT?.....

4. In your opinion, how do cultural beliefs or community attitudes affect girls‘ engagement with ICT?.....

5. How do parents‘ expectations or restrictions influence girls‘ ICT participation?

6. What role does the school counsellor play in supporting female students‘ access to ICT in your school?.....

7. Can you describe any joint activities you do with the school counsellor to encourage girls‘ participation in ICT?.....

8. What steps can be taken in your school to enhance girls‘ ICT access and usage?

9. What programmes or partnerships do you think could improve ICT…… empowerment for girls in the Bongo District?.....

Additional Input

10. Is there anything else you would like to share about ICT integration or girls‘ participation in ICT that has not been discusszed?.....

11. Do you have any suggestions to improve the current situation?.....