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Career self-concept of students and school-based career guidance and counseling. A case study of secondary schools in Ankole sub-region Southwestern Uganda

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ABSTRACT

Finding out students' career self-concepts is difficult due to the poor career transition between school and work, even though most secondary schools in Uganda provide career guidance and counselling. To gather information, we used the Career Decision Making survey level 2 in four prestigious secondary schools in Mbarara City. A total of 161 sixth graders gave their consent, took part in the study, and finished it. The study discovered a significant correlation between students' career self-concept and career counselling and guidance ($r = .182$, $p < 0.05$). The students' self-concept, however, revealed a bias in favour of conventional domains regarding career choices, school subject combinations, and career interests. There were no gender differences, but we did find a negative self-concept about one's abilities and work values. We thus support thorough career guidance and counselling in secondary schools to assist students in achieving SDGs 4 and 8 and improve their career self-concept.

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Students; Uganda; Career counselling; Career self-concept; Secondary schools

SUSTAINABLE DEVELOPMENT GOALS
SDG 4: Quality education; SDG 8: Decent work and economic growth

Introduction

The aim of this paper is to document career guidance and counselling in secondary schools, and its relationship with students' career self-concept. In this paper, the main career self-concept areas that we studied include students' career choice areas, school subject combinations, work values, abilities and career interests. In the school system, students' career self-concept is developed through classroom learning, interaction with the environment and significant people in the world of work.

Career guidance and counselling are part of the wider guidance and counselling services provided in schools that have existed since 2008 in Uganda (Otwine et al., 2018). Eremie & Ikpah (2017) described career self-concept as the general perception individuals have about personal abilities, behaviour, personality and awareness of one's attributes, judgements and values required to perform work tasks. Career self-concept development is gradual and hierarchical. Super (1953, 1976) identified four stages through which an individual's career self-concept develops, namely growth 0–14 years, exploration 15–24 years, establishment 25–44 and maintenance 45–64. The literature shows that each career development stage is unique and has specific tasks individuals must perform before moving to the next stage although it is subjective to environmental and technological changes (Betz & Hackett, 2013; Rogers & Creed, 2011; Schreuder & Coetzee, 2012). In our study, the main stage of interest is exploration (14–25 years). This a stage in which students are

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undergoing secondary school education, and they engage in different activities at home, classroom and environment to foster their career self-concept development. The goal of career self-concept development is to assist individuals in identifying career paths that provide opportunities in education and work life. Holland suggested six personality subtypes in which people find personality-environmental fit, namely realistic, investigative, artistic, social, enterprising and conventional [RIASEC] (Holland, 1959). Therefore, in this paper, we shall try to explore how schools are facilitating students' career self-concept development using existing career guidance and counselling frameworks in schools.

We focused on four main constructs of career self-concept, namely career choice areas, school subjects, work values, abilities and career interests. These constructs are essential to the attainment of educational goals because they bring the reality of work to classroom learning needed to assist students make informed career decisions. Adequate utilisation of career guidance and counselling services provided by schools and a well-established career self-concept among students promotes a smooth transition from the secondary education cycle through tertiary education to the employment industry. However, career transition among students in secondary schools to tertiary education and employment remains low both in Uganda and the Sub-Saharan region which may make it hard to achieve some of the SDGs by 2030, especially in education and human capital development.

The Uganda Bureau of Statistics (2019) shows low completion rates among students at senior four (34.8%). There is also marked poor career transition from senior four to senior five recorded at a 25% transition rate. This is attributed to factors such as teenage pregnancy, early marriage, delinquency, lack of fees and gender gaps in school enrollment. Furthermore, in the general population, 8% have lower secondary education, while only 2% have a university education, and the employment rate among graduates in formal employment is 2.4% (Bertelsmann Stiftung, 2022; Republic of Uganda, 2020b). In Sub-Saharan Africa, educational transition from school to work is estimated at 9%, compared to 46% in Asia (International Labour Organisation, 2020). This situation may explain for rampant youth unemployment in sub-Saharan Africa. At the same time, it makes us rethink the attention schools pay to leveraging the benefits of quality education without effective career guidance and counselling services among students and harnessing it to improve their career self-concept.

According to Otwine et al. (2022), secondary schools in Uganda try hard to expose students to career guidance and counselling services before they leave the secondary school educational cycle, they face challenges related to students' poor attitude towards career guidance and counselling, inadequate counselling skills among teachers and lack of support from school administrators, parents and policymakers. Other challenges include a bulging youth population, skills mismatch, poverty and suboptimal school-to-work transition exposure (Filmer & Fox, 2014; Republic of Uganda, 2020a; Republic of Uganda, 2017a). This phenomenon raises pertinent questions as to whether career guidance and counselling services in secondary schools are adequate to facilitate students' career self-concept needed to achieve their career life goals that are in line with SDGs 4 and 8.

Problem statement

Despite the existence of career guidance and counselling services in schools, there is remarkably poor career transition among the youth which is attributed to the failure of students to connect learning and available career paths (International Labour Organisation, 2020). A career self-concept is a developmental task evaluated between birth and death, we may not accurately quantify individual student's career self-concept development given the poor career life transition experienced among the youth in the twenty-first century. We appreciate that students in Low- and Middle-Income Countries (LIMCs) who form the majority of the youth between ages 14 and 25 years do experience low career transition from various levels of education to employment. This may be attributed to personal, environmental, technological, geographical, social, physiological

and psychological reasons. It is, therefore, important to assess how this trend may be contributing to poor career self-concept and career life decisions.

According to reports by Stiftung (2022), Republic of Uganda (2020a), and Otwine et al. (2022) gaps in student's career transition in Uganda are associated with developmental and social issues, low education-to-work transition supports and lack of functioning labour market information system which are crucial in guidance and counselling programs in schools. Although schools sometimes do their best to prepare students for their educational and work life, students still find it hard to find accurate introspection into the career life transition they desire versus the reality presented by the work environment. If not addressed, students who go through the education cycle in LMICs may continue to miss opportunities that are coherent with their personality and environment and, therefore, make inappropriate career decisions.

Purpose of the study

In this study, our aim is to assess the strength of the relationship between career guidance and counselling and students' career self-concept. The results may guide policy review and career guidance and counselling practices aimed at enhancing students' career self-concept development.

Objectives of the study

1. Establish availability of career guidance and counselling services in secondary schools: (i) awareness, (ii) utilisation.
2. Assess students' level of career self-concept for (i) career choice areas, (ii) school subject combinations, (iii) work values, (iv) abilities and (v) career interest areas.
3. To examine the relationship between career guidance and counselling and career self-concept.
4. To determine the relationship between gender and career self-concept among students.

Research questions

1. Is career guidance and counselling available in secondary schools in Uganda? (i) awareness, (ii) utilisation.
2. What is the level of students career self-concept for (i) career choice areas, (ii) school subject combinations, (iii) work values, (iv) abilities and (v) career interest areas.

Hypotheses

1. Career guidance and counselling have a significant positive relationship with career self-concept.
2. There is a strong relationship between gender and students' career self-concept.

Justification

1. We hope that the findings presented in this paper may add to the body of knowledge, highlighting the gaps in career guidance and counselling needed to enhance students' career self-concept for career choice areas, school subject combinations, work values, abilities and career interests.
2. The information in this paper may influence policy and practice to make guidance and counselling more effective to meet educational sustainable goals for quality education and lifelong learning to attain SDG 4 and decent work and economic growth to achieve SDG 8.

Literature Review

Career guidance and counselling is a comprehensive developmental programme provided in schools to help students make informed educational and career choices (Zunker, 2006). It combines both educational and occupational information to support students develop and promote their career knowledge, skills and attitudes needed to make decisions about their studies, job opportunities and life roles (Mapfumo & Nkoma, 2013; Watts, 2013). Career guidance and counselling in schools play an important role in improving students' knowledge of career information, work experiences, career life choices and promotion of lifelong learning (Belete et al., 2022; Mackay et al., 2016; Staunton, 2019). The literature shows that career guidance and counselling services when offered early in life prepare students for career life transition between education and employment (Hooley & Rice, 2019; Otwine et al., 2022). In Otwine et al. (2023), students have benefited from existing career guidance and counselling through accumulated occupational information knowledge promoting self-awareness, educational and occupational exploration skills, and career planning despite the existing challenges.

In this paper, we have tried to highlight gaps in career guidance and counselling and students' career self-concept that may pose barriers to students' smooth career transition. It is documented that career self-concept is embedded in career developmental stages that unfold over a person's lifespan. Donald Super identified five stages of career self-concept development, namely growth 0–14 years, exploration 15–24 years, establishment 25–44 and maintenance 45–64 and old age 64 and above (Leung, 2008; Mubiana, 2010; Super, 1976; Super, 1953; Zunker, 2006). It is believed that individuals accumulate experience in study and work through interaction with the environment and significant people who may be career counsellors, teachers, parents, professionals and media. Studying student's career self-concept during the secondary school educational cycle is crucial because it helps us assess the influence of educational activities including career guidance and counselling on preparing students for the world of work.

Our interest in this paper covers the exploration stage of career development which covers both adolescence and young adulthood (15–24 years). The exploration stage coincides with the secondary school educational cycle when students are between the ages of 13 and 20 years. The secondary school education cycle consists of both lower and upper secondary education according to Uganda's education cycle. The exploration stage of career self-concept development is crucial in the life of students because it is a time they interact with the environment where they develop awareness about work-life (Leung, 2008; Super, 1953, 1976). The main constructs assessed in this paper include career choice, school subjects, work values, abilities and career interests further reviewed below.

Career choice includes career pathways an individual may identify with future work interests. O'Shea (2012) lists eighteen career choice clusters, namely manual, skilled trades, technical, math-science, medical-dental, literary, art, music, entertainment, customer service, personal service, social service, education, sales, management, legal, clerical and data analysis. Jemini-gashi and Bërxulli (2017) observed that students' career choices are a product of work experiences accumulated through career investigation, educational training and apprenticeships and voluntary work. Other factors include life events, genetic endowments and special abilities, environmental conditions and events, learning experiences and task approach skills (Zunker, 2006).

School Subjects are specialised areas within career paths that students' study to get knowledge and skills desirable to pursue such careers. O'Shea (2012) lists the following subjects from which students may select desirable subject combinations within specific career paths, namely math, science, finance and technology, agriculture, art, clerical studies, English, family/consumer science, health, languages, management, music, shop and social science. Holland (1959) observed that individuals tend to select school subject combinations close to environment and personality that may give them career satisfaction. Sheldon et al. (2020) state that students' career satisfaction is achieved when there is a connection between career choice, school subjects and programme of study. We

may agree with Bagdadli and Gianecchini (2019) who asserted that failure to match classroom learning to career transition may be the reason for widespread youth unemployment in LICs. Therefore, assessing students' patterns of school subjects versus their career choices is pertinent for us to understand the role of career guidance and counselling and students' career choices.

Work Values are another aspect of interest to our paper because they help us know if students value the benefits that career choices bring to them. O'Shea (2012) in the Career Decision Making (CDM) manual lists work values that people look for in work to include creativity, leadership, variety, good salary, outdoor work, work with hands, high achievement, physical activity, work with mind, independence, prestige, work with people, job security and risk. Baruch (2004) observed that students' work values and career self-concepts were products of developmental milestones, coaching, mentorship and lifelong learning. Other factors include personal social networks, life expectations, career opportunities, career identity, job stability, personality traits, work adjustment, gender, family roles, work reward system and job satisfaction (Kleinjans et al., 2007; Kosine & Lewis, 2008; Nasir & Lin, 2013). It also documented that high career self-concept for work values increases students' career planning and exploration skills, formulation of life goals and career decisions, active citizenship, intrinsic motivation, teamwork, proactive adaptability and resilience skills towards changing work and life circumstances (Dodd et al., 2021; Maree, 2017; Rogers & Creed, 2011). Therefore, assessing students' self-concept for work values may help us to predict students' career decisions relevant to human capital development gaps in LIMCs.

Abilities are another area of self-concept assessed to prove if students' career choices, school subjects and work values match their abilities. The main abilities listed by O'Shea in the CDM include investigation, educational training and apprenticeships, games and sports, music, dance and drama. It is documented that exposure of students to work-related experiences provides students with the opportunity to learn more about themselves, their interests and their abilities (Ackerman, 2018; Education Bureau, 2014; Leung, 2008). We recognise that career self-concept for abilities may be enhanced through many activities, such as field visits, exposure to work environments and promoting personal factors (Charokopaki & Katerina, 2019; Eriksson et al., 2018; Thornton, 2016). We believe that high self-concept for abilities about school subjects, work values and career choices are good indicators of the quality attached to education for students pursuing secondary school education.

Career Interest is another construct that we examined because it helps us appreciate if students have a good perception of their interests versus the identified career paths. Career interest is linked to knowledge of career areas that align with personality and occupations (Holland, 1959). In low-income countries, students' career choice patterns do not necessarily reflect their career interests which are attributed to limited access to information about productive and decent jobs (Burchell et al., 2015). Known factors influencing career interest among students include gender, social background and personality (Anthony Mann, 2018; Kazi Fakir Mohammed, 2018; McKenzie & Bennett, 2022). Further literature shows that students who make choices that are incongruent with their career interests suffer a lot of anxiety and somatic complaints resulting from poor career decisions (Spokane et al., 2000). Therefore, focusing on students' career interests as an aspect of career self-concept is crucial to this study with the hope that results may help to inform policy formulation towards quality education.

The aspects of career interest assessed in this paper are extracted from the Person-Environment Fit Theory (Holland, 1959). This is guided by arguments that show career interest if well predicted promotes high achievement in the course of study, influences students' positive career choices, completion of school on time and satisfaction in future jobs (Deen, 2016; Spokane et al., 2000). Holland and Spokane identified six personality traits related to individual career interests and work environments, namely realistic (R), investigative (I), artistic (A), social (S), enterprising (E) and conventional (C). The more distant the career subtype, the less likely that a person will find job satisfaction in that field. Each personality subtype differs by a set of job choices, school subjects, work values,

skills and job interests (Holland, 2017; Mubiana, 2010; Nauta, 2010; Sheldon et al., 2020). Students, who achieve personality and environment fit, acquire career maturity and career identity faster which are key to their career transition (Hartina & Tharbe, 2016; Holland, 1959; Rahim et al., 2021). According to Spokane et al. (2000), career counselling programmes in schools that open opportunities for students to conceptualise their intra and interpersonal interaction in a stimulative learning environment have the potential to assist them in discovering their career interests faster than those who may not have such opportunities.

This implies that the goal of career counselling services in secondary schools ought be focused on supporting students to attain personal identity and career goal-setting skills that match their career interests (Code et al., 2006; Hartina & Tharbe, 2016; Holland, 2017; Mubiana, 2010). If supported in a time, students are likely to make appropriate career choices and choose school subjects, work values and abilities that match the potential work environment which may bring them work-life satisfaction (Rahim et al., 2021). We hope that documenting career guidance and counselling practices in schools and students' career self-concept patterns may stimulate debate and policy review that adds value to career guidance and counselling is schools to promote quality education and avert widespread youth unemployment emanating from poor career choices among the youth.

Hypothesis

Ho: There is no significant relationship between career guidance and counselling awareness and students' career self-concept.
Ha: There is a significant relationship between career guidance and counselling awareness and students' career self-concept.

Methods

In this section, we present the procedure and processes the research team adopted to gather the data presented in this study.

Study design and setting

We conducted a cross-sectional survey study design using a quantitative approach among students in selected secondary schools in the Ankole Sub- Region, Southwestern Uganda. The schools selected were in Mbarara City, which is 168 miles (270 kilometres) southwest of Kampala. Mbarara central business district is located at 00 36 48S, 30 39 30E (Latitude: −0.6132; Longitude: 30.6582). The secondary schools selected met the inclusion and exclusion criteria, namely Girls' O' & A-level boarding school located at Nyamitanga Hill (School W), Nyamitanga Division; Boys school (School X) located at Ntare Hill in Kamukuzi Division; Day and boarding, mixed (boys and girls) school offering Universal Secondary Education in Kijungu (School Y), Kakoba Division and another boys school (school Z) on Ruharo Hill in Kamukuzi, Division Mbarara city. Mbarara city is in the Ankole sub-region which covers districts of Buhweju, Bushenyi, Kiruhura, Ibanda, Isingiro, Mbarara, Mitooma, Ntungamo, Rubirizi and Sheema districts (Uganda Bureau of Statistics [UBOS], 2017). This area was selected because it is among the regions with high student enrolment in the secondary school education system in the country and students struggle with career decisions alike.

Study population

The population we considered in our study were students at an advanced level of secondary school education cycle ("A" level). However, we considered only students in the senior six class because they had already registered to sit national examinations for subject combinations they had selected to lead them to their desired career fields. We again considered students at the A' level of education because have experienced career guidance through all levels of the secondary school education

cycle. Most students in this group are between 17 and 20 years of age which is within the exploration stage of career self-concept development.

Sampling strategy

This study is part of a wide study that is multistage. It includes baseline study, experimental and survey. However, in this paper, we concentrated on parts of the data from the baseline survey and final data from the career self-concept survey at stage three only. We used simple random sampling at stage one to select secondary schools from the Ankole sub-region. We selected schools that had a total enrolment of students of 1000, of which each school ought to have at least 100 students in both arts and science classes. These schools were either boys, girls, mixed and offered students either science or arts combinations at A' level. We included two schools one being girls and another offering Universal Secondary Education for inclusiveness. All schools were government-aided schools with established departments of guidance and counselling.

We used purposive sampling for students in the schools selected. We focused on the A' level section and zeroed only on the senior six class who were registered by the Uganda National Examinations Board (UNEB) ready to sit national exams in their respective subject combination.

Sample size

The sample size consists of samples for schools and students.

Sample size for schools

We reached the the sample size calculation for secondary schools and students using the Krejcie and Morgan formula.

where

N = population size

n = required sample size

e = acceptable sampling error (0.05)

X^2 = chi-square of degree of freedom 1, and confidence level 0.95% = 3.841

P = proportion of population (if unknown 0.5).

The total sample of secondary schools in the Ankole sub-region was 326 at the time of the study. Sample size for secondary schools (N = 326).

$$n = 3.841 \text{ x } 0.5 \text{ x } 0.5/\ 0.05^2(326 - 1) + (3.841\text{x}0.5\text{x}0.5)$$

$$n = 0.96025/\ (0.8125) + (0.96025)$$

$$n = 297.6775/1.77275$$

$$n = 167.91848822450$$

$$n = 168 \text{ secondary schools}$$

The participants in the study were secondary school students in Ankole region Western Uganda. For this research, I focused on a target population comprising 774 public secondary school students (93 from school W, 177 from school X, 260 from school Y, and 244 from school Z). Based on Krejcie and Morgan (1970) table, a sample size of 260 (39 from school W, 63 from school X, 80 from school Y and 78 from school Z) met the inclusion criteria. However, only a total of 161 respondents from all the schools fully participated in the study with complete filled questionnaires. The Krejcie and Morgan table has been widely acknowledged as a highly suitable approach for the determination of sample size.

We derived the final sample of secondary schools guided by the exclusion and inclusion criteria. Government-aided secondary schools were 119. Only four schools (4) met our sampling criteria and, therefore, were enrolled on this study.

Inclusion and exclusion criteria

Secondary schools with an "A" level section offering both arts and science subject combinations to students in senior six class and with established and operational department of guidance and counselling were included and all students in the senior six class below or above 18 years, registered to sit national examinations by the Uganda National Examination Board (UNEB) and willing to consent. On the contrary, secondary schools that had no "A" level section nor had an established guidance and counselling department and students who did not consent to participate in the study were excluded from our study.

Sample size for students

The student sample consisted of senior six students registered with the Uganda National Examination Board (UNEB). A-level students in the Ankole subregion had an estimated total enrolment of 123 547 at the time of the study (Republic of Uganda, 2017b). Student sample N = 123,547

$$\begin{aligned} n &= 3.841 \text{ x } 123547 \text{ x } 0.5\text{x } 0.5 \\ &\overline{[0.05^2(123547-1)] + (3.841 \text{ x } 0.5 \text{ x } 0.5)} \\ &118,636.00675/\ (308.865) + (0.96025) \\ &118,636.00675/\ 309.82525 \\ &= 382.9126 \\ n &= 383 \text{ students} \end{aligned}$$

The student sample was within the estimated sample of one hundred (100) students per secondary school (100* 4 = 400). The number of students, who qualified to participate, was 400.

Data collection method

In this study, we collected data from primary sources using a cross-sectional survey method for both career guidance and counselling and students' career self-concept. Cross-sectional survey was used because of its advantage of collecting data at once (Sekaran & Bougie, 2009). It was also time-saving and cheap to administer by the researcher compared to other methods.

Data collection instruments

Questionnaire: We employed a questionnaire, at the baseline stage to capture information about students' awareness and utilisation of career guidance and counselling services. This is an instrument that contains predetermined test items organised by the researcher according to the objectives of the study. The questionnaire was developed by the researcher based on a literature review. The questionnaire method was adopted because it could be used to collect data from a large population with ease. The sections of information contained in the questionnaire include respondents' demographic characteristics. Career guidance and counselling were assessed using a binary question with either a "Yes" or "No" response to awareness and utilisation of career guidance and counselling. The test reliability level of our questionnaire was established at $\alpha = 0.92$.

Career Decision Making System Revised (CDM) Level 2 Survey Hand Scored Edition. We used the CDM, a standardised test to capture data from students about their attributes on career self-concept constructs, namely career choice, school subjects, work values, abilities and career interest. Test administration takes only 45 min, and it is applicable for both men and women. We pretested the CDM, and its reliability was estimated at $\alpha = 0.90$.

Data collection procedure and ethical consideration

We first obtained clearance from the School of Psychology and proceeded to Makerere University Social Sciences research ethics committee and then proceeded to the National Council of Science

and Technology (UNCST SS 473). We proceeded to secondary schools selected and received permission from the respective head teachers who linked us to key persons in schools who were teachers in charge of career guidance and counselling. Students were studied as a cluster (senior six class) irrespective of whether they were either 18 years or less or had ever utilised career guidance and counselling or not. Only students who consented were recruited into the study. The CDM survey test was purchased from the publisher and licensed to be used in the study. Data collection was conducted with the help of research assistants recruited and trained by the principal investigator. Codes were used to identify respondents and schools to maintain confidentiality.

Data management

Quantitative data management ensured that all instruments used in the study were collected and stored centrally. Members of the research team checked all instruments for completeness. Incomplete instruments were removed from the batch for analysis. Again, instruments for participants, who did not participate in all phases of the study, were considered to be incomplete and, therefore, we removed them.

The CDM survey results were managed according to the guidelines in the test administration instructions booklet. The information obtained from the inventory; individual students hand-scored them using test interpretation guidelines of the CDM before we returned to the research team. We distributed scores based on the student's ability to identify maximum values based on the construct. i.e. career choice area (max = 2), school subjects (max = 4), work values (max = 4), skills (max = 4). Maximum (2 for career choice and 4 for other) means a high career self-concept. 2–3 means a moderate career self-concept, and <1 means a poor career self-concept.

We scored career interest against an inventory, a section within the CDM survey with 120 items. The interest levels for each test item were coded thus 2 = like, 1 = cannot make up mind, 0 = dislike. The inventory score sheet contains A, B, C, D and E columns against which we added the scores. Columns in the score sheet are career interest area identifiers; thus, A = Crafts/Realistic (R), B = Scientific/Investigative (I), C = Arts (A), D = Social (S), E = Business/Enterprising (E), F = Office Operations/Conventional (C) RIASEC. One's career interest is determined by the closeness between first and second career interest area sores.

Research assistants checked all tools for completeness. We then entered coded data into Microsoft Excel, cleaned it and exported it to SPSS for analysis using Statistical Package for Social Scientists (SPSS version 23.0). The aspects of data analysis include descriptive statistics and correlation coefficients.

Data analysis

We conducted data analysis using both descriptive and inferential statistics. We used descriptive statistics, including frequencies and percentages, used to analyse the background information of the respondents, career guidance and counselling and career self-concept. We analysed hypothesis 1 using the Pearson Product Moment Correlation Coefficient (PPMCC). We used the linear regression analysis to address hypothesis 2 in which we used the independent sample t-test to determine the differences in variable mean scores between career self-concept and gender.

Results

Respondents' demographic characteristics

Table 1 shows that the majority of the participants were boys 55.3% and girls 44.7% and the majority had an overall average age of 18.5 years**.**

Table 1. Demographic characteristics.

Variables	Levels	Frequency	Percentage
1. Sex	Boys	89	55.2
	Girls	72	44.7
	Total	161	100
2. Age	<17	9	5.6
	18	84	52.1
	19	68	42.2
	Total	161	100

Note. A description of the demographic characteristics of the study population by the author.

Career guidance and counselling in secondary schools

Career guidance and counselling were measured at two levels. Table 2 reveals that the majority of participants exhibited high awareness of career guidance and counselling in their schools by n = 159 (98.8%). Only n = 2 (1.6%) did not affirm; therefore, we maintained a round figure of n = 161 to be our index figure throughout our results. In Table 2, the majority of participants indicated that they have ever utilised career guidance and counselling services n = 140 (87%). Therefore, this finding confirms that secondary schools in Uganda employ career guidance and counselling as a tool for improving students' career self-concept.

Career self-Concept

We assessed career self-concept by looking at individual constructs against their minimum measure. According to the CDM test, the minimum self-concept for career choice area was two, and school subjects, work values and abilities were four. The summary of responses on each construct against the minimum requirements revealed the following: career choice areas n = 161 (100%). School subjects n = 101 (62.8%), work values n = 126 (78.3%) and abilities n = 98 (60.9%). Details for each career self-concept construct are further presented descriptively below (Table 3).

Career choice areas

Figure 1 reveal that the majority of students identified with math-science n = 74 (46%), medical-dental n = 41(25.4%), technical n = 34(21.1%) and data analysis n = 31(19.3%). The least selected career choice areas were management n = 28(17.4%), Legal n = 17(10.6%), Sales n = 15(9.3%), Art

Table 2. Awareness and utilisation of career guidance and counselling.

Variable		Level
Are you aware about career guidance and counselling services available in your school?	Yes	159 (98.8%)
	No	2 (1.2%)
Have you ever utilised career guidance and counselling services offered in your school?	Yes	140 (87%)
	No	21 (13%)

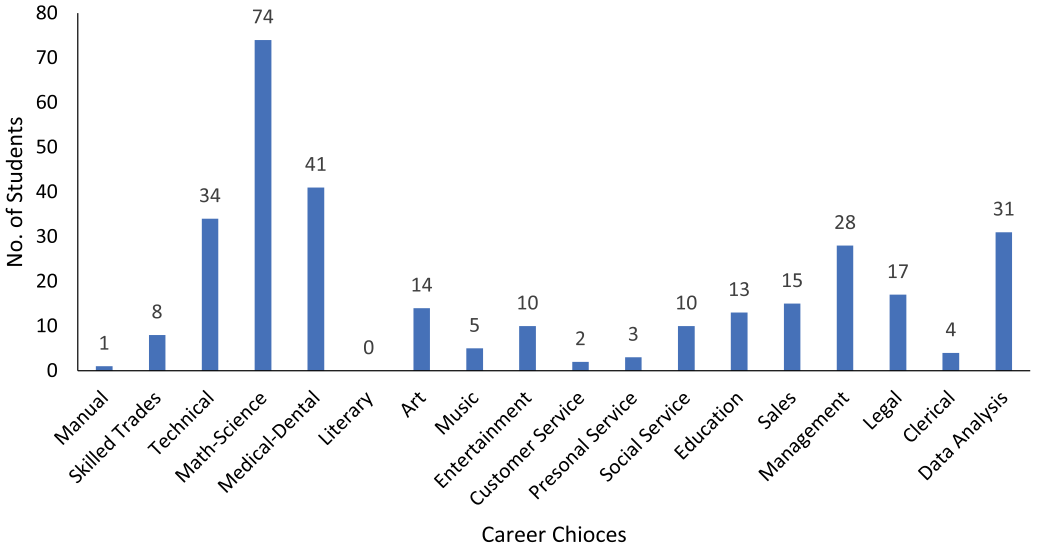
Note. A description of the awareness and utilisation of CGC services of students by the author.

Table 3. Student's levels of career self-concept.

	Levels					
Variable	Low (n)	%	Moderate (n)	%	High (n)	%
Career choice clusters	0	0	0	0	161	100
School subjects	11	6.8	49	30.4	101	62.8
Work values	12	7.4	23	14.3	126	78.3
Abilities	21	13.1	42	30.4	98	60.9

Key: Low (0-1), Moderate (2-3 items), High (4 and above items). *Source: Primary data*

Figure 1. Career Choices. Source: Primary data by Author.



n = 14(8.7%), Education n = 13(8.1%), social service n = 10(6.2%) and Entertainment n = 10(6.2%). Students could identify their strong career choice areas, the individual score remains below 50% depicting poor self-concept for career choice. It also remains distinct that participants' career choice areas remain traditional to sciences and a few humanities. Other career choice areas were disregarded by students.

School subjects combination

According to Figure 2, the main school subjects selected by the majority of students were math n = 119(73.9%), science n = 86(53.4%), finance n = 67(41.6%) and technology n = 59(36.6%). The next in sequency were management n = 39(24.2%), English n = 33(20.5%), social science n = 30(18.6%), Agriculture n = 24(14.9%), clerical studies n = 23(14.3%), health n = 20(12.4%), Art n = 16(9.9%), languages n = 11(6.8), shop n = 11(6.8%), family/consumer service n = 7(4.3%) and music n = 4(2.5). But Math and science subjects were close to career choice areas identified by students, the majority of subjects were distant because they scored below 50%. This finding shows that students in (science, technology, engineering, and math [STEM]) combinations concentrated more on math and science with little attention to other subject areas while humanity-related subject combinations remained poorly scored.

Work values

Figure 3 shows that the majority of students identified with good salary n = 104(64.6%), creativity n = 64(39.8%), ability to work with mind = 62(38.5%), high achievement n = 54(33.5%), prestige n = 48 (29.8%), independence n = 43(26.7%), job security n = 42(26.1%), leadership n = 31(19.3%), variety n = 29(18%), work with hands n = 27(16.8%), physical activity n = 10(6.2%), outdoor work n = 9(5.6%) and risk n = 4(2.5%). This finding shows that the most motivation of students to pursue a career choice area is a good salary. Crucial work values are not appreciated so much.

Abilities

Bar Graph 4 reveals that the majority of students identified with abilities that are social n = 77(47.8%), mathematical = 76(47.2%), scientific n = 64(39.8%), leadership n = 56(34.8%), computational

Figure 2. School Subjects. Source: Primary data by the Author.

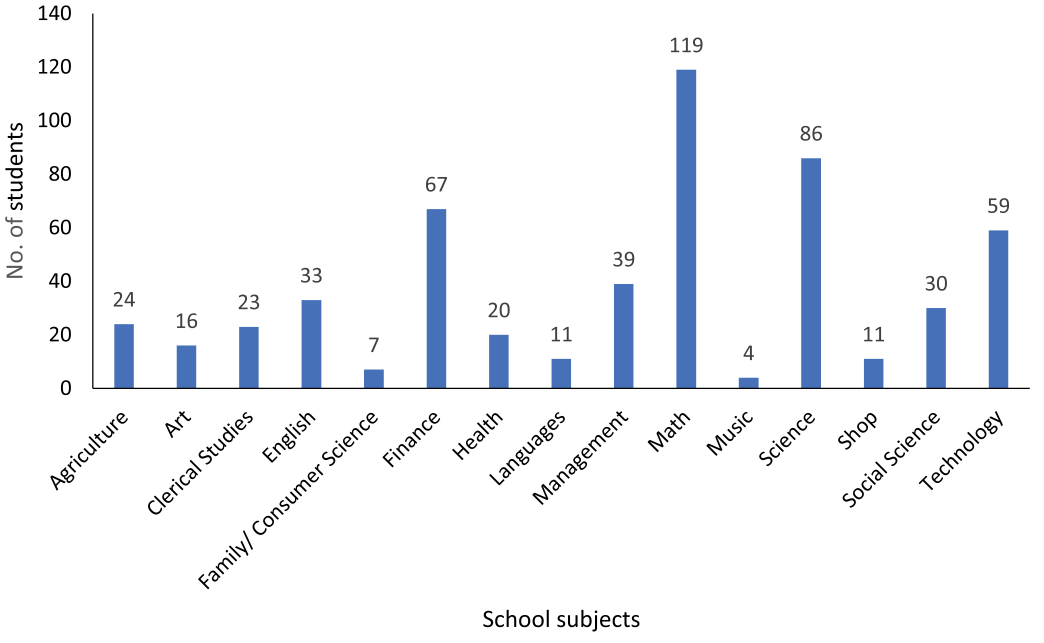
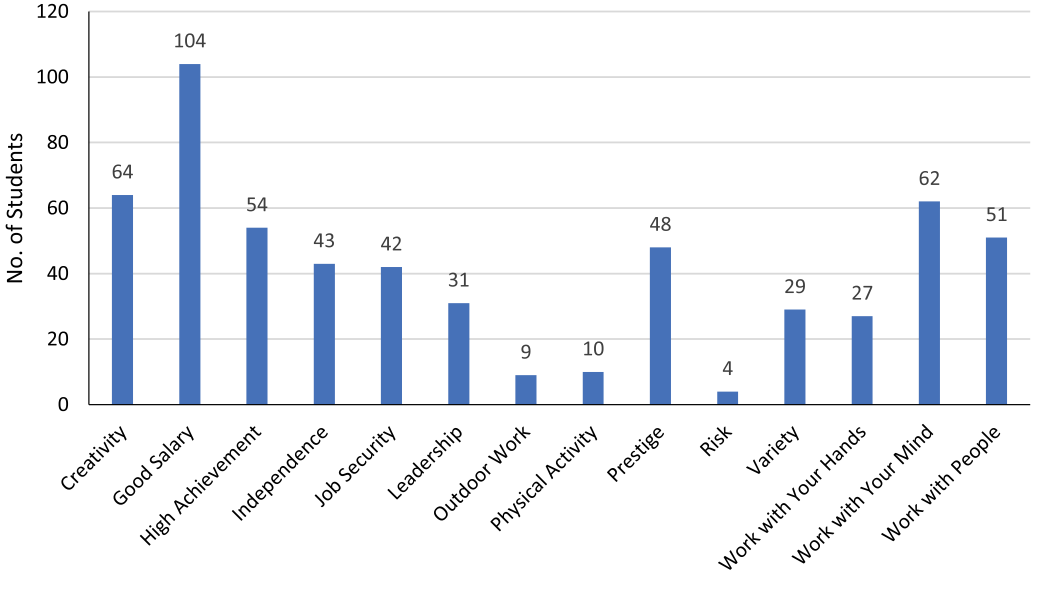


Figure 3. Work Values. Source: Primary data by the Author.



n = 42(26.1%), Language n = 42(26.1%), mechanical n = 40(24.8%), persuasive n = 39(24.2%), manual n = 31(19.3%), teaching n = 25(15.5%), clerical n = 22(13.7%), artistic n = 21(13%), musical n = 13 (8.1%) and spatial n = 10(6.2%). Again, from the above findings, students had poor self-concept for abilities related to their career choice areas with the majority scoring below 50%.

Table 4. Career interest areas.

Career interest	Relevant Choice One (n)	%	Not Relevant Choice Two (n)	%
R- Realistic (Crafts)	13	8.1	2	1.2
I-Investigative (Science)	13	8.1	45	28
A- Arts	7	4.3	4	2.5
S- Social	4	2.5	8	5
E- Enterprise (Business)	23	14.3	8	5
C- Conventional (Office practice)	27	16.8	8	5
TOTAL	**86**	**53.5**	**75**	**46.5**

Source: Primary data

Career interest

We obtained results of students' career interests from participants' responses on career interest first and second career interest choices based on the career interest inventory section in the CDM survey. Consistence of career interest was established based on scores of first choice and second choice to the career interest areas which we named relevant and non-relevant, respectively. Table 4 reveals that Enterprise career interest was highly scored with n = 23(14.3%) and only n = 4(2.5%) was non-relevant. This was followed by Conventional career interest n = 27(16.8%) relevant and n = 8(5%) non-relevant. Other areas of consistence were identified for Realistic n = 13(8.1%) relevant and n = 2(1.2%) non-relevant and Arts n = 7(4.3%) relevant and n = 4(2.5%) non-relevant. However, a major gap was detected in investigative n = 13(8.1%) relevant while n = 45(28%) selection was irrelevant to their first career interest choice area, followed by Social n = 4(2.5%) relevant and n = 8(5%). Whereas the majority of students in Figures 1, 2 and 4 identified with science, and math with respective career choice areas, school subjects and abilities, there is a remarkable mismatch with their career interests. Generally, participants reflected low career self-concept on almost all constructs especially for career choice areas, work values and abilities although the majority had a sense of subjects required to undertake respective career paths and career interests.

Figure 4. Abilities. Source: Primary data by the Author.

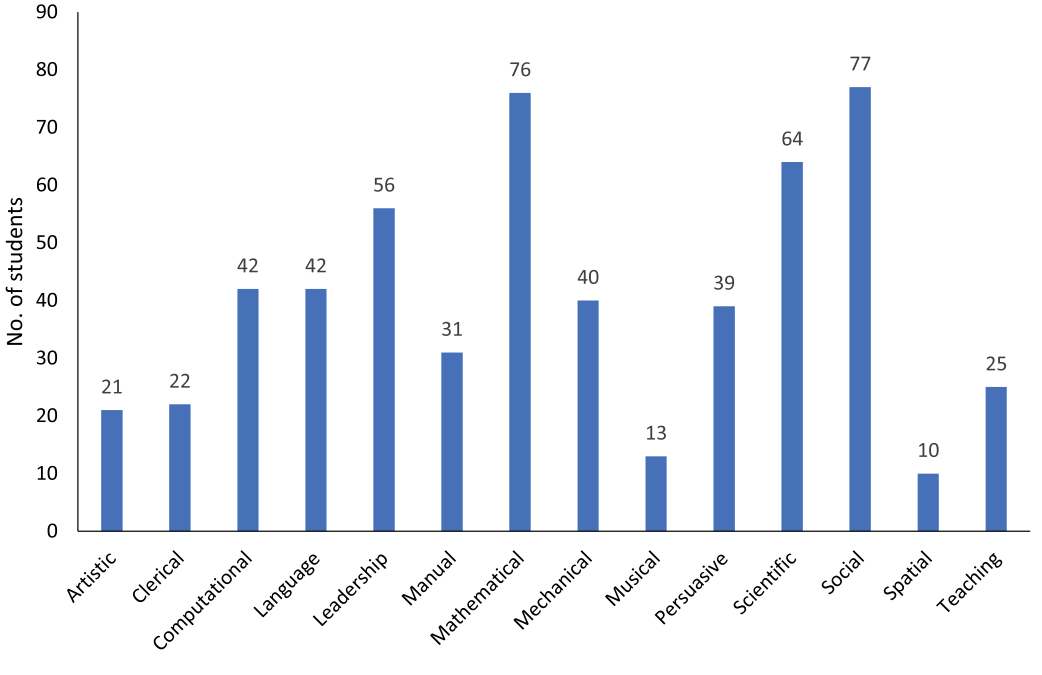
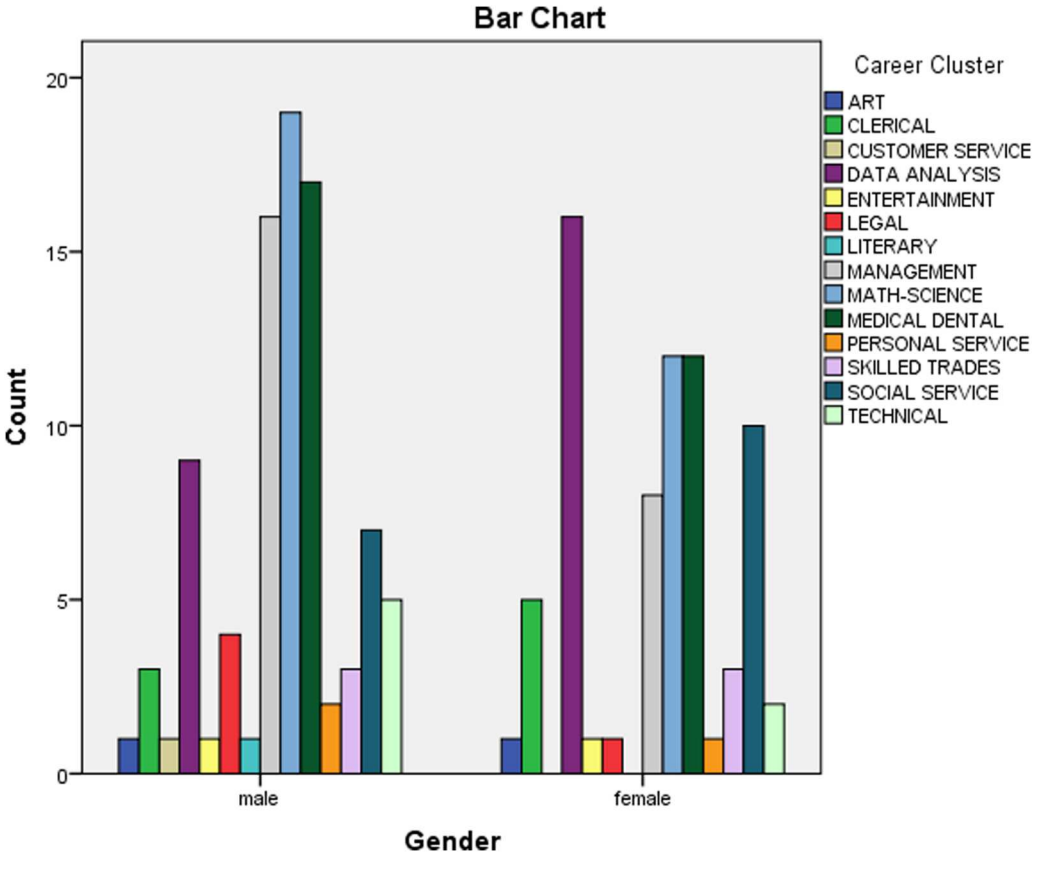


Figure 5. Career Interest by Gender. Source: Primary data by the Author.



Career interests and gender

Results for gender differences on individual career interest clusters in Figure 5 show variations: Math science (male 19%, female 13%), medical dental (male 18%, female 13%), management (male 16%, female 8%), social service (male 7%, female 9%), data analysis (male 9%, female 17%), technical (male 4%, female 2%), clerical (male 3%, female 5%), legal (male 4%, female 1%), skilled trade (male 3%, female 3%), personal service (male 3%, female 1%), Art (male 1%, female 1%), customer service (male 1%, female 0%), literary (male 1%, female 0%) and entertainment (male 1%, female 1%).

The results do not show significant gender differences in most career interest areas.

Hypothesis 1

Career guidance and counselling and career self-concept

We analysed hypothesis 1 using the Pearson Product Moment Correlation Coefficient (PPMCC). Table 5 reveals a strong relationship between career guidance and counselling and student's career self-concept ($r = .182^*$, $p \leq .05$). Therefore, hypothesis 1 is supported.

Hypothesis 2: gender and career self-concept

Hypothesis 2 stated that gender plays a significant role in career self-concept. Table 6 showd that there is no statistically significant difference in scores for males ($M = 8.4$, $SD = 2.17$) and females

Table 5. Correlations: career guidance and counselling and career self-concept.

No.	Variable	1	2
1.	Career guidance and counselling	1	
2.	Career self-concept	.182*	.021

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 6. Independent samples *T*-test for differences in variable mean scores for career self-concept and gender.

Variable Career self-concept and Gender	Level	*N*	*M*	*SD*	*SE*	Levene's test for equality of Variances t-test for equality of means			
						f	*p*	*t*	*p*
	Male	89	8.4	2.2	.23	.251	.617	-.426	.671
	Female	72	8.6	1.9	.22				

Note. A description of the independent samples test for differences in variable mean scores between career self-concept and gender by the author.

($M = 8.6$, $SD = 1.93$). The independent sample t-test was statistically non-significant ($t = -.426$, $p \geq .05$). Therefore, female and male students have no significant difference in their career self-concept hence not supporting the hypothesis.

Discussion

Career guidance and counselling

We established that career guidance and counselling are available and offered to students in the schools of our study. This is evidenced by the student's awareness and utilisation of the career guidance and counselling services provided. This finding is supported by Otwine et al. (2022) who observed that secondary schools in Uganda have organised career guidance and counselling programmes and career information is provided to students through group and individual counselling. This finding is also in line with the Government of Uganda (2007) and Directorate of Education Standards (2012) where it is documented that career guidance and counselling services in schools are promoted to enhance student's career and social development aimed at preparing them for the world of work. Therefore, increased career guidance and counselling in secondary schools can improve students' career self-concept.

This finding resonates with the theory of career self-concept development where it is observed that career guidance services play a central role in learning because they assist students in relating their learning experience to career opportunities, attainment of personal career interests and motivation to pursue career paths of interest (Code et al., 2006; Leung, 2008; Zunker, 2006). This assertion is also supported by the findings of Weng and Mcelroy (2010) who argued that career self-concept significantly influences individuals' career decisions. Therefore, we affirm that increased and organised career guidance and counselling services in secondary schools can enhance students' awareness and utilisation of career guidance and counselling while still in school for better outcomes of education. This finding is further corroborated by findings by (Otwine et al., 2023) who established high occupational information knowledge levels among A' level students in secondary schools in Uganda as a result of existing career guidance and counselling services. Thus, promoting career guidance and counselling services in secondary schools, equipped with modern career information facilities, capacity building of teachers and counsellors and policy support may promote students' opportunities to navigate their career transition in life despite existing changes in employment and technology.

Students' career self-concept

We established that students have access to career guidance and counselling services during their time in secondary schools, interrogation of its influence on their career self-concept is important. The findings show that our respondents scored poorly on all constructs of career self-concept except the career choice area. Very few respondents managed to post four required areas for school subjects, work values and abilities. However, this information is best understood by discussing results on independent career self-concept constructs. We, therefore, discuss results for individual constructs below to analyse their merit and how they may be influencing students' career self- concept.

Career choice

The results regarding career choices show that all respondents identified a minimum of two career choice areas. The majority of our respondents identified with career areas for math-science, medical-dental, technical, data analysis and management. In Uganda, this trend is not surprising due to government policy aimed at promoting STEM programmes in schools to build the capacity of the citizens for inventions and innovations that may foster national development (Republic of Uganda, 2020a; Republic of Uganda, 2017a). Few students identified with non-science career choice areas that include crafts, literature, art, music, entertainment, customer service, personal service, education, sales, law and clerical work. However, this finding is intriguing, especially for students who are not gifted in sciences about how they may achieve their career goals with the pressure to take on sciences.

Additionally, this finding shows that more students are likely to pick career choices in known traditional careers at the expense of non-traditional careers and yet these areas provide new emerging training and employment opportunities. This may further imply that schools are actively engaging students in career guidance and counselling, they ought to address the human capital development needs of the country and individual career aspirations. Short of this, it leaves students to chance where they may keep jumping on the bandwagon of pursuing careers in popular career areas often leaving them stranded on the unemployment lane. We call upon educators to take note that students may discover their career identity early in life, they can also succeed through both traditional and non-traditional career areas. Therefore, balanced sensitisation and exposure of students to career paths both in traditional and non-traditional career areas remain crucial for their career self-concept development.

High concept for career choices is possible when students are engaged in cognitive and behavioural activities that expose them to a variety of career opportunities that further help them narrow their career choices by late adolescence (Maree, Cook, & Fletcher, 2018; Maree & Che, 2020; Mubiana, 2010; Wong & Wing, 2017). This assertion is also supported by Jemini-gashi and Bërxulli (2017) and Wong and Wing (2017) who argued that students who are exposed to different work environments may increase their self-concept through activities such as career investigations, educational training and apprenticeships and school-to-work programmes. Bowes et al. (2005), Maree (2017) and Rogers and Creed (2011) also supported timely exposure of students to different occupations because beneficiaries develop a stronger career self-concept that makes them achieve satisfactory career choices by late adolescence than those who do not get such opportunities. Thus, career education coupled with exposure to occupations both traditional and non-traditional requires equal attention in LIMCs if we are to support students achieve positive career self- concept.

Besides, it is important to recognise that career guidance alone is not enough to promote students' career self-concept, but other factors are essential. These include the individual level of career maturity, family background, environment, school, personal aspirations and exposure to occupational opportunities (Mubiana, 2010; Petters & Asuquo, 2009; Rahim et al., 2021; Saniter & Siedler, 2014; Walker, 2010). In addition, Savickas et al. (2009), and Peila-Shuster (2017) argue that individuals continue to engage in activities that shape their career choices throughout their lifespan with increased exposure to work environments. Therefore, the administration of career guidance

counselling services in secondary schools ought to be holistic and extended to non-school time to enhance students' career self-concept for career choice areas. This intervention may increase students' space for higher awareness of information about different careers, accrued benefits and challenges needed to make informed career choices.

School subjects

Most of the participants posted high scores for school subjects. This may be a good predictor of the power of career guidance and counselling experienced by students while undergoing the secondary school education cycle and preparing them for career choices at the tertiary level of the education cycle and subsequently employment. Our finding proves that career guidance students have received at earlier stages of learning had power on the mastery of knowledge of subject combinations needed to pursue their career paths. Most participants scored highly on subjects of math, science, finance, technology, management, English, social science, agriculture, clerical studies, health, art, languages, shop, family/consumer service and music. The above subjects are adjusted to common subject combinations offered in our local curriculum (Uganda).

The majority of participants had earlier identified their career paths, the finding on school subjects was an affirmation that career path is coherent and school subject combination. We continue to establish that the majority of participants' school subject combinations are in STEM. However, it is important to recognise the influence of other factors that play an important role in student's selection of school subjects besides career guidance and counselling, namely gender, age, attitude and career aspirations (Amani, 2013; Kabunga, 2016; Mubiana, 2010; Petters & Asuquo, 2009; Saniter & Siedler, 2014; Walker, 2010).

Holland (2017) and Holland (1959) observed that people, who find job satisfaction when they choose school subjects and courses that suit their personality, have chances of succeeding in school, completing their studies on time and accessing future employment with ease. At the same time, studies show that students' failure to link school subjects, career choices and translation of classroom information to a variety of careers in a society hurts students' career life decisions (Jonck, 2015; Roberts, 2013). Therefore, schools are encouraged to be intentional about career guidance and counselling being offered in schools that may foster students' career self-concept.

The majority of respondents identified with STEM subject combinations, some selected subject combinations in humanities although they are few. This finding is important to us because it is an eye-opener that not all students in our schools, classrooms and employment are gifted scientists. The literature shows that if individual students fail to select appropriate school subjects, they may experience career stagnation that may interfere with their career transition both in and out of school (Kwesiga et al., 2019; Republic of Uganda, 2020a; Uganda Bureau of Statistics, 2017). This finding agrees with students' sentiments during the baseline study in which it was established that the government policy on compulsory science subjects in the lower secondary was not sustainable with science combinations at A' level (Otwine et al., 2022). More students are taking STEM courses in tertiary education, very few graduates continue with these careers for their survival. The lucky ones who get employed continue to advance professionally, others branch into other careers, while others abandon their initial training and start on new career paths long after graduation.

Additionally, apathy has been detected towards Technical, Vocational Education and Training (TVET) among students and stakeholders in the education and employment sectors and students who harbour negative attitudes towards career self-interest discovery initiatives in science-based courses (Kizza et al., 2019). Therefore, vigorous campaigns to support the promotion of science in schools, especially schools in rural areas ought to be prioritised. Furthermore, incentives to support students with information about career paths in TVET should be addressed urgently. Besides, with the new government initiative for a competency-based curriculum in lower secondary education, it is hoped that student's ability to relate learning to work experience is likely to improve student's self-concept and career interest in science and technology (Mabonga, 2021; Olema et al.,

2021). Therefore, teachers and counsellors ought to do more to esteem students training in non-STEM areas as much as those in STEM careers to make confident career choices and enhance their opportunities for lifelong learning.

We further suggest that existing career guidance and counselling services in schools should be strengthened using several interventions. These may include exposure of students to the training and employment industry early in life and building collaborations between schools and higher education institutions (ADB, 2008; Bagdadli & Gianecchini, 2019; Belete et al., 2022; Kuijpers, 2019; Tien & Wang, 2016; Wong & Yuen, 2019). Again, the development of career guidance and counselling curriculum to address skills and career information gaps in human capital development that fit into the national development plan (Otwine et al., 2022). Integration of the knowledge of careers into school curricula may offer students more opportunities to make connections between classroom activities and future work (Argyropoulou, 2018; Charokopaki & Katerina, 2019; Reddan, 2015; Thornton, 2016). It may promote institutional capacity building, leadership and programme evaluation, development of appropriate standardised and user-friendly career guidance materials and integration of computer-based counselling programmes in educational institutions (Opeyemi et al., 2015). The introduction of comprehensive career guidance and counselling models in schools may further assist students to connect their career choices to work environments, thus improving their confidence in their school subject combinations (Kalungi, 2023; Kwesiga et al., 2019). Improving information and access to awareness of school subjects that are consistent with students' career paths may increase students' goal-setting behaviour and career decision-making (Creed et al., 2011; Ibrahim et al., 2014; Maree & Maree, 2021; Nasir & Lin, 2013; Reddan, 2015; Sheri et al., 2013). We, therefore, encourage the enhancement of career guidance and counselling services in schools informed by a theoretical framework that promotes students' choice of school subjects relevant to their career paths, and national development agenda.

Work values

We further established that many students have a moderate self-concept for work values although good pay was more dominant followed by creativity, smart work, high performance, working with people, prestige, independence and job security. Very few students identified with work values related to leadership, variety, outdoor work, manual work, physical activity and risk. Even though we had earlier established that the majority of students had good self-concepts for career choice and school subject combinations, a revelation that more students could not identify critical work values to their career paths is intriguing. May this lead us to question the quality of practice of career guidance and counselling in schools? On the other hand, it may be an indicator of the limitation in career guidance and counselling services in LIMCs where teachers and counsellors put more emphasis on career paths and subject combinations without exposing students to information regarding various work values relevant to respective career paths. This may partly be used to explain why graduates fail to access and retain jobs especially if they do not achieve anticipated work values. Therefore, increasing sensitisation about work values to students, teachers and policy-makers is crucial through engagements with professionals and potential employers intending to build their capacity in work ethics.

On the other hand, it ought to be observed that high work values are associated with increased career planning, educational and occupational information exploration, formulation of life goals and career life transition. Besides, it promotes the development of personal attributes that foster career transition such as career decision-making, active citizenship, intrinsic motivation, teamwork, proactive adaptability and resilience to changing work and life circumstances (Hughes et al., 2017; Maree & Maree, 2021; Rogers & Creed, 2011). Therefore, a high appreciation of work values among students can inform student's career aspirations that are in line with their work-life value system. It is also documented that people who fail to appreciate job-specific work values are likely to develop anxieties that could be avoided with better career guidance and counselling (Daws & Daws, 2007). Therefore, support from teachers, career counsellors and key stakeholders

in education about work values that are relevant to the career paths of students is crucial to promoting career guidance and counselling in schools, and consequently improving students' career self-concept development.

Scholars have suggested ways of increasing awareness of work values by creating environments that support students attain their developmental milestones, such as coaching, mentorship, modelling and lifelong learning (Baruch, 2004). It is important to emphasise internal factors to individual students that enhance career self-concept, such as establishing stable social networks, life expectancies, access to career opportunities and promotion of career identity that may increase one's chances of attaining job stability and a job reward system (Kleinjans et al., 2007; Kosine & Lewis, 2008; Nasir & Lin, 2013). Additionally, promoting students' self and social esteem is crucial because it increases their capacity for autonomy, authority, innovation, intellectuality, social connections and creativity pertinent to an individual's career self-concept development (Education Bureau, 2014; Kounenou, 2015). We, therefore, suggest that increasing opportunities for students to interact with the work environment at home, school and industry may have the power to shape their attitude to learning and work and support them to make realistic career goals based on their career self-concept for work values.

Abilities

Regarding abilities, we established that students identified more with aptitudes that include math, social, scientific, managerial, computer, language and mechanical skills. They expressed less aptitude for other abilities and yet very essential for professional practices. Poor self-concept for work abilities may mean that such students may not compete favourably with those that have a self-concept for relevant abilities. This finding further may imply that such individuals may not complete tasks assigned to them in time which may affect their academic and work-life performance, self-esteem, creativity and innovativeness in their career life. This finding is in agreement with existing literature which shows that affected students although they may have high knowledge levels of occupational information may still struggle with elements of poor self-knowledge, educational and occupational information exploration and career planning (Ackerman, 2018; Education Bureau, 2014; Otwine et al., 2023). Therefore, exposing students to various work-related activities during school programmes may increase their self-concept for work abilities essential to their future work life.

There are suggested interventions available to improve students' self-concept for work abilities. For example, the group counselling model is a popular tool for promoting students' awareness of personal abilities because it brings together students with similar career needs from which they get the opportunity to reflect on personal life stories that may shape their career aspirations (Barclay & Stoltz, 2016). This model is supported by social career construction theory in which it is suggested that individuals naturally reconstruct their career roles over their lifetime due to developmental milestones and experience. Thus, greater engagement with work values may provide individuals with experience in which they may share narratives of work life and value systems from which the career counsellor may support students to identify work abilities that fit into their career aspirations (Maree& Maree, 2017). Therefore, integration of career theories into existing career guidance and counselling services, counsellor and teacher capacity building, organisational human resource management improvement and human capital development planning may increase space for future engagements on promotion of career self-concept for work abilities both for students and the general population.

Furthermore, scholars have suggested practical interventions to increase student's self-concept for abilities that include the promotion of in-school vocational programs such as technical preparation training (tech-prep), apprenticeship, internship placements and school-to-work programmes (Brown & Lent, 2013; Puran et al., 2014; Zunker, 2006). This may be augmented with the integration of field visits into the school curriculum by students to occupational fields to expand their interaction and awareness of the world of work demands. Besides, these interventions may help to open

students' minds to occupational information and experiences that may promote their knowledge and interest in the requirements for entry into the world of work and the working environment of different organisations (Eriksson et al., 2018; Reddan, 2015; Watts, 2013). We, therefore, call on schools to open career counselling spaces in schools and adopt a variety of programmes that expose students to both curricular and non-curricular experiences required to foster their career self-concept and career life transition. We further advocate for more support for school initiatives to promote career guidance and counselling through school-based, collaborative and culturally appropriate interventions with the help of educators, politicians, religious and opinion leaders, policy-makers and development partners.

Career interest

Our findings regarding career interest revealed that many students could identify their career interests although it slightly varied by gender. Boys identified more with career interests in mathematics, science, medical dentistry, management, data analysis and social services. On the other hand, the majority of boys expressed less career interest in technical, legal, commercial, manual labour, personal services, literature, entertainment, customer service and the arts. Girls showed strong career interests in data analysis, medical dentistry, mathematics, social services and management. They expressed less interest in office work, crafts, technology, personal services, law, entertainment and the arts; none selected literal and customer service. The student's performance in science (I) courses captured may be attributed to other factors beyond the students' self-concept, but to the capacity of schools such as limited science teachers, science laboratories, teaching materials and lack of structured human capital plan in the country (International Monetary Fund, 2020; Republic of Uganda, 2020a).

Poor career self-concept for career interest in most areas should not be ignored when appreciating students' career self-concept. Whereas Maree (2017) stipulated that by the end of adolescence, individuals have crystallised their career identity, our findings dispute this assertion because students would not show signs of struggle to identify career interests that are relevant to their career choices by the time they are preparing to enter tertiary education. The tertiary education cycle is critical because this is when students settle on their specialised professional courses preparing to usher them into the employment world. This is the ideal, our findings bring out the difficulty students experience in connecting their career choices to their career interests. This finding agrees with past studies which show that in Uganda, a lack of career assessment tools and the ability to interpret such information bears negative consequences on students' career interest identity (Kabunga, 2020). Therefore, investment in career assessment tools and building the capacity of career advisors is crucial to support schools' work with students to identify their career interests.

Career interest and gender

The findings revealed that there is no statistically significant difference in scores for males and females regarding career self-concept. This confirms the assertion by Rowley et al. (2019) and Wong and Yuen (2019) that gender is considered significant in shaping students' attitudes to work and learning. However, available reports in Uganda show gender disparities among male and female students in education which is largely biased against girls. The records show that girls' educational transition is low due to factors other than career guidance and counselling and career self-concept, namely teenage pregnancies, early marriages, missing fees and gender disparities in secondary school enrolment (International Monetary Fund, 2020; Republic of Uganda, 2020a; Uganda Bureau of Statistics, 2017). Our findings, therefore, may not direct the desired change in students' career self-concept unless career guidance and counselling services offered in secondary schools address pertinent issues that affect students such as parenting, policy, school administration, teachers and peer influence.

Career guidance and counselling and student's career self-concept

The results revealed a positive and significant relationship between career guidance and counselling and students' career self-concept. It may be concluded that the greater the access to career guidance and counselling utilised by students, the more their career self-concept development. Lin and Pao (2011), and Nasir and Lin (2013) observed that a high career self-concept is an indicator of a good fit between individuals' career decisions and career awareness. This synthesis further agrees with the findings by Brown and Lent (2013) who observed that appropriate career guidance and counselling programmes in schools have the capacity to improve students' career self-concept. Weng and Mcelroy (2010) also observed that improved career self-concept of individuals can increase their career choices. Therefore, investing in theoretical frameworks to improve career guidance and counselling in schools requires prioritisation to further improve students' career self-concept and support their career life transition.

Conclusion and recommendation

There is active career guidance and counselling in secondary schools which has fostered a significant relationship between career guidance and counselling and students' career self-concept. However concerted efforts from schools, parents and policy are needed urgently to advocate for quality career guidance and counselling services in schools to enhance students' career self-concept.

We recommend that advocacy for increased sensitisation of students in secondary schools about the importance of choosing careers in both traditional and non-traditional areas is crucial so that it may open their space to unpopular career opportunities. However, this will depend on the capacity building of teachers and professional counsellors in skills that foster students' career self-concept. Further study is encouraged about the development of appropriate career guidance and counselling models to address the gap between traditional and non-traditional career paths and align them to students' career self-concept development needs and sustainable development goals.

Limitations

1. This study on students' career self-concept is rather new; therefore, the tools used may not have covered local content comprehensively which may bias results. However, our findings provide a picture of how students in Uganda struggle to make sense of their education to fit into their career-life transition.
2. The study design posed a big challenge in maintaining participants at all stages of the study. However, the results are sufficient to show the relationship between career guidance and counselling and career self-concept among students in secondary schools in Uganda. The number of respondents is small due to the methodology where we considered results of only students who participated at all three stages; thus, the dropout rate was high. However, the study still gives us a good picture of the importance of career guidance on the quality of education in Uganda and human capital development gaps that we need to address urgently.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

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