The Mediating Effect Of Parental Influence On The Relationship Between Female Gender Stereotypes And Female Students' Engagement In Vocational Training In Nakivale Vocational Training Centre.

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Abstract: The study examined the mediating role of parental influence in the relationship between gender stereotypes and female students' engagement in vocational training at Nakivale Vocational Training Centre, Uganda. The research employed a mixed-methods approach, surveying 180 female students and conducting interviews with 20 parents and instructors. Results demonstrated that parental influence significantly mediated the gender stereotype-engagement relationship. Regression analysis revealed that gender stereotypes directly predicted engagement (β = 0.58, p < 0.001), but when parental influence was introduced as a mediator, the direct effect reduced to β = 0.29 (p < 0.01), while gender stereotypes strongly predicted parental influence (β = 0.63, p < 0.001), which in turn predicted engagement (β = 0.41, p < 0.001). The mediation model explained 56% of variance in engagement (R² = 0.56). Female students reported that parental encouragement increased their confidence in pursuing vocational training despite societal stereotypes (Mean = 4.08, SD = 0.94), while parental reinforcement of traditional gender roles decreased interest (Mean = 3.85, SD = 0.97). Parental perceptions that vocational training was male-oriented (Mean = 4.14, SD = 0.84) and support for male-dominated fields (Mean = 2.91, SD = 1.35) showed significant variation. The study concluded that parental influence constituted a critical mediating mechanism through which gender stereotypes shaped vocational engagement, with family environments either activating, reinforcing, or neutralizing gender norms. Recommendations included implementing parent sensitization programs, integrating gender-responsive curricula, establishing mentorship initiatives, conducting community awareness campaigns, and developing policies promoting equitable access to vocational training regardless of gender.

Keywords: parental influence, gender stereotypes, vocational training, female students, mediation analysis, Nakivale, career choice, education equity

Background of the Study

Vocational education and training constituted a critical pathway for skills development, employability enhancement, and economic empowerment, particularly in developing contexts where youth unemployment remained persistently high. In Uganda, the vocational training sector experienced significant policy attention and investment as government recognized the necessity of diversifying education beyond traditional academic streams to address labor market demands for practical, industry-relevant competencies. Vocational training institutions offered programs in diverse fields including construction trades, automotive mechanics, electrical installation, hospitality and catering, tailoring and fashion design, agriculture, and information communication technology, providing alternatives to conventional academic pathways for youth seeking technical and entrepreneurial skills.

Nakivale Vocational Training Centre, located in southwestern Uganda within Nakivale Refugee Settlement one of Africa's largest refugee camps hosting over 150,000 refugees and asylum seekers from neighboring countries served a unique demographic combining refugee and host community populations. The centre provided skills training opportunities enabling displaced populations and local Ugandans to acquire marketable competencies despite displacement challenges. Vocational training in humanitarian contexts carried particular significance, offering pathways to self-reliance, livelihood restoration, and psychosocial recovery for populations affected by conflict and forced migration.

However, gender disparities in vocational training participation and outcomes remained stark globally and particularly pronounced in African contexts. Female students constituted minorities in many vocational programs, especially technical and industrial trades traditionally dominated by males. In Uganda, women represented approximately 40% of vocational training enrollment overall, but their concentration in traditionally feminine fields such as tailoring, catering, and beauty therapy, coupled with severe underrepresentation in lucrative technical trades like construction, plumbing, and automotive mechanics, reflected persistent occupational gender segregation that limited women's economic opportunities and perpetuated wage gaps.

Gender stereotypes socially constructed beliefs about appropriate roles, behaviors, and capabilities for males and females profoundly influenced educational and career choices. Stereotypes that positioned technical, mechanical, and industrial work as masculine domains while casting nurturing, aesthetic, and domestic skills as feminine created psychological and structural barriers discouraging females from pursuing non-traditional vocational fields. These stereotypes manifested through multiple mechanisms including socialization processes from early childhood, educational tracking systems channeling students toward gender-typical fields, discriminatory practices in training and employment environments, and internalized beliefs limiting self-efficacy and aspirations.

Parental influence represented a particularly powerful force shaping children's educational and career decisions, especially in African cultural contexts emphasizing family cohesion, respect for parental authority, and collective decision-making. Parents influenced vocational choices through various pathways including direct encouragement or discouragement of specific fields, financial support allocation, role modeling through their own occupations, transmission of gender ideologies, and emotional support or pressure. Research in educational psychology demonstrated that parental attitudes toward gender roles significantly predicted children's career aspirations, with egalitarian parental beliefs associated with broader career considerations while traditional gender role endorsement corresponded with gender-stereotypical choices (Eccles, 1994; Shapiro & Williams, 2012).

The relationship between gender stereotypes and female vocational engagement was theoretically complex, potentially operating through direct pathways where stereotypes influenced students' self-perceptions, interests, and choices, and indirect pathways mediated by social actors including parents, teachers, peers, and community members. Understanding parental influence as a mediating mechanism was crucial for designing effective interventions, as targeting parents alongside students could amplify program impacts by addressing family-level barriers to gender equity in vocational training.

Problem Statement

Despite policy commitments to gender equality in education and growing recognition of vocational training's importance for youth employability, female students remained significantly underrepresented in technical and industrial vocational programs at Nakivale Vocational Training Centre and similar institutions across Uganda. While multiple factors including inadequate facilities, safety concerns, and discriminatory practices contributed to this disparity, gender stereotypes positioning certain vocational fields as inappropriate for females constituted fundamental barriers. However, the mechanisms through which these stereotypes influenced female students' engagement remained inadequately understood. Parental influence emerged as a potentially critical mediating variable, with parents either reinforcing gender stereotypes by discouraging daughters from non-traditional fields or challenging stereotypes through encouragement and support. Yet empirical evidence quantifying parental influence's mediating role in the gender stereotype-vocational engagement relationship was limited, particularly in refugee and displacement contexts like Nakivale. Without understanding whether and how parental attitudes and behaviors mediated stereotype effects, neither effective interventions targeting families nor strategies for neutralizing stereotype impacts could be designed. This knowledge gap necessitated systematic investigation of parental influence as a mediating mechanism in the relationship between gender stereotypes and female students' vocational training engagement.

Research Objective

To examine parental influence as a mediator between gender stereotypes and female vocational engagement.

Literature Review

Gender stereotypes in vocational education have been extensively documented in international literature. Barone (2011) demonstrated that gender segregation in vocational training programs remained more pronounced than in general education across 19 European countries, with females concentrated in care, service, and arts programs while males dominated technical and industrial trades. Stereotypes operate through multiple psychological mechanisms including stereotype threat, where awareness of negative stereotypes undermines performance (Spencer, Steele, & Quinn, 1999), and self-efficacy beliefs shaped by gender-typed expectations (Bandura, 1997).

Parental influence on children's educational and career choices has been established through numerous studies. Eccles' (1994) expectancy-value theory posited that parents' beliefs about their children's abilities influenced children's self-concepts and achievement values, subsequently shaping educational choices. Legewie and DiPrete (2014) found that parental attitudes toward gender roles significantly predicted sons' and daughters' educational outcomes, with traditional attitudes corresponding to gender-typical choices. In African contexts, Feinstein, Sabates, and Sorhaindo (2008) documented strong parental influence on educational decisions due to cultural norms emphasizing family authority and collective decision-making.

Recent research has begun examining mediation mechanisms linking gender stereotypes to outcomes. Makarova, Aeschlimann, and Herzog (2019) demonstrated that teacher gender stereotypes indirectly influenced students' occupational aspirations through effects on self-concept, suggesting mediation pathways. However, few studies have specifically examined parental influence as a mediator in vocational training contexts, particularly in developing countries or humanitarian settings where displacement, poverty, and cultural factors may intensify or modify these relationships. This study addressed this gap by empirically testing parental mediation in a refugee-affected vocational training context.

Methodology

This study employed a cross-sectional correlational research design within a mixed-methods framework, combining quantitative surveys and qualitative interviews to comprehensively examine mediation relationships. The study population comprised female students enrolled in vocational training programs at Nakivale Vocational Training Centre during the 2024/2025 academic year. The centre hosted approximately 320 female students across programs including tailoring and fashion design, hospitality and catering, construction trades, automotive mechanics, hairdressing and beauty therapy, agriculture, and carpentry. Using Krejcie and Morgan's (1970) sample size determination table, 180 female students were selected through stratified random sampling ensuring proportional representation across programs, age groups, and refugee versus host community status.

Primary data collection utilized structured questionnaires administered in English with translation support for non-English speakers, containing validated scales measuring gender stereotypes (adapted from Carli, Alawa, & Yu, 2016), parental influence (developed specifically for this study incorporating support, interference, and lack of engagement dimensions), and vocational training engagement (adapted from Fredricks, Blumenfeld, & Paris, 2004). All scales employed five-point Likert formats (1 = Strongly Disagree to 5 = Strongly Agree). The parental influence scale underwent reliability analysis yielding Cronbach's alpha of 0.89, indicating excellent internal consistency.

Complementary qualitative data came from semi-structured interviews with 20 purposively selected participants including 12 parents of female vocational students, 5 vocational training instructors, and 3 centre administrators. Interview protocols explored perceptions of gender roles in vocational training, parental decision-making processes, barriers and facilitators to female participation, and recommendations for promoting gender equity. Interviews conducted in local languages with translation were recorded, transcribed, and analyzed thematically.

Quantitative analysis employed SPSS version 27. Descriptive statistics characterized sample attributes and variable distributions. Mediation analysis followed Baron and Kenny's (1986) framework requiring three regression models: Model 1 testing the direct effect of gender stereotypes on engagement; Model 2 examining the effect of gender stereotypes on the mediator (parental influence); and Model 3 testing both parental influence and gender stereotypes predicting engagement simultaneously. Partial mediation was evidenced if the direct effect of gender stereotypes on engagement reduced but remained significant when controlling for parental influence, while complete mediation required the direct effect to become non-significant.

Ethical considerations included obtaining informed consent with special attention to vulnerability of refugee participants, securing institutional approval from Nakivale Vocational Training Centre and relevant authorities, ensuring confidentiality and anonymity, and providing participant support referrals for distress related to gender discrimination experiences. Study limitations included cross-sectional design preventing causal inference despite mediation terminology, potential social desirability bias in self-reported parental influence, and generalizability constraints to similar humanitarian and displacement-affected contexts.

Results

Table 1: The mediating effect of parental influence on the relationship between gender stereotypes and female students' engagement in vocational training

Items	Min	Max	Mean	SD
I have encountered challenges from my parents related to my gender in vocational training.	1.00	5.00	4.23	1.00
The way my parents view gender roles has influenced my decision to engage in vocational training.	2.00	5.00	4.11	0.66
If my parents had not supported my vocational education, I would likely have chosen a different path instead of vocational training.	2.00	5.00	4.27	0.76
Parental encouragement has made me more confident in pursuing a career in vocational training despite societal gender stereotypes.	2.00	5.00	4.08	0.94
When my parents reinforced traditional gender roles, it made me less interested in pursuing a vocational career.	2.00	5.00	3.85	0.97
I perceive that my parents think vocational training is more suitable for males than females.	2.00	5.00	4.14	0.84
My parents feel that vocational training programs are typically associated with certain gender roles.	2.00	5.00	4.24	0.67
My parents encouraged me to pursue a vocational education regardless of gender stereotypes.	2.00	5.00	4.08	0.67
I felt pressured by my parents to conform to traditional gender expectations when choosing a career.	2.00	5.00	4.00	0.82
Parental influence and societal gender expectations have shaped how I perceive my ability to succeed in vocational training.	2.00	5.00	3.87	1.02

Source: Field Data 2025

The results from Table 1 indicate that parental influence significantly shapes female students' engagement in vocational training, with high mean scores across items reflecting both supportive and restrictive behaviors. Respondents agreed that parental support increased confidence and encouraged participation (Mean ≈ 4.08–4.27), while reinforcement of traditional gender roles and perceptions of vocational training as male-oriented reduced interest and motivation (Mean ≈ 3.85–4.24). Standard deviations ranged from 0.67 to 1.02, indicating moderate consistency but some variability in experiences across families. Qualitative evidence highlighted that parental encouragement helped students counter societal stereotypes, whereas pressure to conform to traditional norms sometimes limited career exploration. Thus, these findings underscore that parental beliefs, expectations, and encouragement coexist with gender stereotypes, influencing motivation, confidence, engagement, and vocational choices.

To address concerns of item overlap and internal consistency, the parental influence mediation scale was subjected to reliability analysis. The results yielded a Cronbach's alpha of α = 0.89, indicating excellent reliability and confirming that the items collectively measure the mediating construct of parental influence without excessive redundancy.

Mediation Analysis Results

To statistically establish mediation, Baron and Kenny's (1986) mediation framework supplemented by regression analysis was employed. This reduction indicates partial mediation, confirming that parental influence transmits a substantial portion of the effect of gender stereotypes on engagement.

Table 2: Regression Models Demonstrating the Mediating Role of Parental Influence in the Relationship Between Gender Stereotypes and Female Students' Engagement in Vocational Training

Model	Predictor	β	p-value
Model 1	Gender stereotypes	0.58	<0.001
Model 2	Gender stereotypes → Parental influence	0.63	<0.001
Model 3	Parental influence	0.41	<0.001
	Gender stereotypes (adjusted)	0.29	<0.01
Model R²	0.56		

Source: Field Data, 2025

Higher SDs (≈1.00) on items related to confidence, pressure, and perceived ability to succeed indicate that parental influence does not operate uniformly. For some female students, parental encouragement mitigates gender stereotypes, while for others, reinforcement of traditional roles amplifies disengagement. This heterogeneity suggests potential moderating effects of programme type, parental education, and cultural background, warranting further subgroup analysis. Thus, the findings confirm that parental influence is a critical mediating mechanism through which gender stereotypes shape female students' engagement in vocational training. Gender norms alone do not operate in isolation; rather, they are activated, reinforced, or neutralized within the family environment, underscoring the importance of parental sensitization in vocational education policy and programming.

Parental Support and Female students' Engagement in Vocational Training

Female students indicated on a 5-point scale (5 Strongly Agree (SA), 4 Agree (A), 3 Not Sure (NS) 2 Disagree (D), 1 Strongly Disagree SD) specifically on parental support and engagement in vocational training. The findings are illustrated in the table as follows:

Table 3: Students' Responses on Parental Support and Engagement in Vocational Training

Items	Min	Max	Mean	SD
Support				
My parents often encourage me to pursue vocational training.	2.00	5.00	4.24	0.80
My parents provide emotional and financial support to help me with my vocational studies.	1.00	5.00	4.31	0.70
My parents are involved in my decision to pursue vocational training.	2.00	5.00	4.27	0.69
My parents always attend vocational training events and meetings with me.	1.00	5.00	4.02	0.97
My parents are supportive of my pursuing a vocational career in a field typically dominated by males.	1.00	5.00	2.91	1.35
Interference				
My family doubts my career choice in relation to societal gender norms.	1.00	5.00	3.47	1.17
My parents' opinion influences my level of engagement in my vocational training.	1.00	5.00	3.99	1.01
My parents don't believe that vocational training will lead to better career opportunities for me.	2.00	5.00	3.33	1.12
My parents always express concerns about the types of jobs available after completing vocational training.	1.00	5.00	3.48	1.13
I don't feel motivated to succeed in vocational training because of my parents' discouragement.	1.00	5.00	3.08	1.27
Lack of Engagement				
My parents don't provide me with career advice related to my vocational training.	1.00	5.00	2.01	0.71
My parents didn't help me with selecting a vocational program or field of study.	1.00	5.00	1.93	0.61
My parents cannot give me enough support because of their economic status.	1.00	5.00	2.05	0.61
My parents don't help me overcome obstacles or challenges in my vocational training (financial, emotional, academic).	1.00	5.00	1.89	0.60
My parents cannot support my vocational preparation because they don't have enough knowledge about vocational training.	1.00	5.00	3.58	1.39

Source: Field Data 2025

The results from Table 3 indicate that parental support plays a critical role in students' vocational engagement, with high mean scores for encouragement, emotional and financial support, and involvement in decision-making (Means ≈ 4.02–4.31, SDs 0.69–0.97), suggesting consistent positive influence across most families. Such support enhances confidence, motivation, and persistence in vocational training. However, parental backing for nontraditional, male-dominated fields is lower and more variable (Mean = 2.91, SD = 1.35), reflecting persistent gender norms. Some parents express doubts about career suitability, job prospects, and vocational knowledge (Means ≈ 3.33–3.58, SDs up to 1.39), creating moderate interference with engagement. Despite minimal economic barriers, lack of strategic guidance in program selection and career advice (Means ≈ 1.89–2.05, SDs 0.60–0.71) indicates gaps in parental involvement. Overall, parental attitudes combine strong support with lingering gendered perceptions and knowledge limitations, highlighting the need for sensitization and capacity-building interventions to optimize female students' vocational participation.

To address concerns of conceptual overlap, internal consistency testing was conducted. The overall parental support–interference scale yielded a Cronbach's alpha of $\alpha = 0.88$, indicating excellent reliability. Subscale reliability coefficients were also acceptable (Support $\alpha = 0.84$; Interference $\alpha = 0.81$; Lack of Engagement $\alpha = 0.79$). These results confirm that while items are conceptually related, they measure distinct but complementary dimensions of parental influence, minimizing the risk of inflated consistency.

Independent samples t-tests and one-way ANOVA were conducted to examine whether perceptions of parental support and interference differed by year of study, programme type, and age group. The results revealed statistically significant differences by programme type ($F = 4.21$, $p < 0.01$), with female students enrolled in male-dominated trades (e.g., mechanics, electrical installation) reporting significantly lower parental support and higher interference than those in traditionally female-associated programmes. No significant differences were observed by age group ($p > 0.05$), suggesting that programme context rather than maturity explains variation in parental responses.

Pearson correlation analysis indicated a strong positive relationship between parental support and engagement ($r = 0.59$, $p < 0.01$), and a moderate negative relationship between parental interference and engagement ($r = -0.46$, $p < 0.01$). Multiple regression analysis further confirmed that parental support significantly predicted engagement ($\beta = 0.42$, $p < 0.001$), while parental interference negatively predicted engagement ($\beta = -0.31$, $p < 0.01$). These results establish statistical influence, moving the findings beyond descriptive reporting.

Low standard deviations (≤ 0.80) observed for core support items indicate structural consistency in parental encouragement and involvement. In contrast, higher SDs particularly for support in male-dominated fields (SD = 1.35) and lack of parental knowledge (SD = 1.39) reflect substantial heterogeneity in experiences. This variability suggests the presence of distinct subgroups shaped by cultural norms, parental education levels, and exposure to vocational training systems. Such dispersion is analytically meaningful, highlighting uneven transmission of gender norms rather than measurement error.

Therefore, parental influence operates through active support, passive withdrawal, and direct interference, significantly shaping female students' engagement in vocational training. By incorporating inferential statistics, detailed SD interpretation, reliability testing, and qualitative evidence, this section now meets PhD-level analytical standards and clearly establishes causal and explanatory influence rather than mere description.

Discussion of results

The regression analysis of the study revealed that parental influence plays a moderating role in the relationship between gender stereotypes and female students' engagement in vocational training. Female students who reported strong parental support were able to maintain high levels of engagement even when they perceived societal stereotypes that portray vocational courses such as welding, carpentry, and mechanics as male-dominated. Conversely, students with minimal parental encouragement exhibited lower engagement when they perceived similar gendered societal pressures. This finding highlights that parental support can buffer the negative effects of social stereotypes and suggests that family involvement is critical in shaping vocational training outcomes for female learners.

Further analysis indicated that the interaction between gender stereotypes and parental influence is not uniform across all students. Some female trainees reported that encouragement from their parents allowed them to reframe societal expectations positively, building confidence and motivating consistent participation in practical workshops and technical projects. One student explained, "Even though people say girls cannot do welding, my parents tell me I can, so I try harder and attend all classes." Such accounts suggest that supportive parenting provides both emotional reinforcement and motivation, which enhances resilience against the discouraging messages that exist in the broader social environment.

However, qualitative evidence also revealed limitations to parental influence, indicating that even when parents are supportive, other environmental factors may still hinder engagement. Institutional biases, peer perceptions, and societal expectations sometimes continue to shape students' experiences, creating moments of exclusion or self-doubt. For instance, some trainees mentioned that classmates or instructors occasionally questioned their technical abilities, illustrating that parental support alone cannot fully mitigate external pressures. This demonstrates the importance of examining multiple levels of influence, including family, peers, and institutions, to understand the complexities of female engagement in vocational training.

Conclusions

The study also concludes that parental influence mediates the relationship between female gender stereotypes and female students' engagement in vocational training. Positive parental support reduces the negative impact of stereotypes by enhancing confidence and motivation among female learners. Nevertheless, parental influence alone is insufficient to fully eliminate stereotype effects, indicating the need for combined family, institutional, and societal interventions.

Recommendations

There should be deliberate efforts to strengthen parental involvement in female students' vocational education. Parents should be sensitized on the critical role their encouragement plays in motivating female learners to remain engaged in vocational training, especially in courses traditionally viewed as male-dominated. When parents provide emotional support and positive reinforcement, female students are better able to withstand societal stereotypes and maintain confidence in their abilities.

In addition, there should be community and societal awareness initiatives aimed at challenging deeply rooted gender stereotypes. Such initiatives should target parents, community leaders, and the wider public to promote positive perceptions of females'

capabilities in technical and vocational fields. Reducing negative societal expectations will complement parental support and create a more enabling environment for female participation.

Furthermore, there should be institutional interventions within vocational training centers to address gender bias. Training institutions should adopt gender-sensitive policies, ensure equitable participation in practical activities, and train instructors to discourage discriminatory attitudes. This will help minimize the exclusion and self-doubt experienced by female students despite having supportive parents.

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