

RESEARCH ARTICLE

Pedagogical, Economic, and Cultural Determinants of Low Sculpture Enrolment in Upper East Region Senior High Schools

Oppong Christopher¹ ✉, Dr. Duut Nangpaak George², Nchor Kwabena Christopher³ and Amponsah Lawrence⁴

¹ Department of Industrial Art, School of Applied Science and Art, Bolgatanga Technical University, Bolgatanga, Ghana.

² Department of Communication Design and Applied Art, School of Applied Science and Art, Bolgatanga Technical University, Bolgatanga, Ghana

³ Department of Industrial Art, School of Applied Science and Art, Bolgatanga Technical University, Bolgatanga, Ghana

⁴ Department of Art and Design Innovation, Tamale Technical University, Tamale, Ghana

Corresponding Author: Oppong Christopher, **E-mail:** coppong@bolgatu.edu.gh

ABSTRACT

This paper examined the pedagogical, economic, and cultural factors that contribute to low sculpture enrolment among the Senior High School students in the Upper East Region of Ghana. A convergent mixed-methods design was employed, combining quantitative survey data of 312 participants (including students, teachers, and parents) in six schools with qualitative data of 24 semi-structured interviews and focus group discussions. The study was guided by Bandura's Social Cognitive Theory to explore the relationship between self-efficacy, outcome expectations, and environmental factors and their effects on the students' choices in sculpture education. The results showed that negative attitudes of parents, insufficient infrastructure, limited career awareness, and socioeconomic barriers deterred sculpture enrollment. The regression analysis showed that perceived career prospects ($\beta = 0.298$, $p < .05$), parental influence ($\beta = -0.342$, $p < .05$), and resource availability ($\beta = 0.267$, $p < .05$) were important predictors of enrollment intentions. These patterns were supported by qualitative research results, which identified cultural misunderstandings regarding the artistic professions and the systematic disregard of the creative arts programmes. The study contributes to the discourse on vocational education policy in Ghana and offers practical recommendations for educators and policymakers.

KEYWORDS

Sculpture Education, Enrollment Determinants, Visual Arts, Senior High School, Social Cognitive Theory, Ghana.

ARTICLE INFORMATION

ACCEPTED: 17 September 2026

PUBLISHED: 17 October 2026

DOI: 10.32996/ijahs.2026.6.5.3

1. Introduction

The creative arts industry has continued to be a well-known segment of national development, providing job prospects and promoting cultural conservation in all developing economies (Diabour et al., 2021; Momaa, 2024). The visual arts programme in Senior High Schools of Ghana is a foundational pathway that students can use to pursue a career in design, craftsmanship, and artistic careers. In this programme, sculpture training offers unique opportunities for three-dimensional artistic expression, the synthesis of traditional craftsmanship and modern design principles. Nonetheless, regardless of its importance in culture and economic prospects, sculpture has always had some of the lowest enrollment numbers relative to other visual arts electives like graphic design, picture making, and textiles (Aidoo, 2018; Diabour et al., 2021).

The Ghanaian Upper East Region is a particularly worrying situation as far as enrollment in sculpture is concerned. According to the regional educational statistics, the number of students enrolled in sculpture programs in Senior High Schools in the area has been decreasing over the years, with some educational institutions halting the subject because of low student enrolment (Ghana Education Service, 2023). This phenomenon goes against the rich sculptural background of the region, which encompasses traditional pottery, wood carving, and metalwork, which have traditionally characterised the cultural identity of communities in the Upper East Region (Mensah-Bonsu et al., 2025). The gap between the cultural tradition and the formal educational choices

underscores significant questions about the factors that impact the decisions that students make regarding visual arts specialisation.

The issue of sculpture education is indicative of the larger issue of Technical and Vocational Education and Training (TVET) in Ghana. Research has recorded long-standing negative perceptions that relate vocational and artistic programmes with underperformance in academics, undermining their attractiveness in the eyes of students and parents, who are more likely to embrace traditional academic programmes (Amedorme and Fiagbe, 2013; Boateng et al., 2024). Such perceptions are further aggravated by the lack of infrastructural amenities, such as the lack of studio facilities, materials, and skilled teachers, that deteriorate the level of visual arts education in most Senior High Schools (UNICEF Ghana, 2024). Moreover, economic factors play a great role in programme choice, and families tend to discourage the enrollment of courses that are seen as having low employment opportunities.

The Government of Ghana has made several efforts to enhance the education of TVET and creative arts as part of the overall economic development policies. The Ghana TVET Service is an institution formed under the Pre-Tertiary Education Act 2020 that focuses on organising vocational training in institutions and ensuring that curricula match the needs of the industry (Ghana TVET Service, 2025). Regardless of such initiatives, regional inequalities exist and especially in northern parts, as learning facilities are still limited and cultural perceptions of arts careers are not similar to those in southern Ghana (The Herald Ghana, 2025). The Upper East Region has had its specific struggles, such as: lack of exposure to modern art markets, weak industry linkages, and competing priorities of the agricultural and commercial education.

To comprehend the determinants of low enrollment in sculpture, it is necessary to look at several other interrelated forces at individual, institutional and societal levels. The research paper fills this gap in the body of empirical research in sculpture education in the Upper East Region of Ghana by examining the pedagogical, economic and cultural determinants of low enrollment. Although literature on the issue of visual arts education has been conducted at the national level before (Aidoo, 2018; Opoku-Asare et al., 2015), the research on the issue at the regional level in connection with sculpture is limited. The context of the Upper East Region is of special interest due to its cultural background, socioeconomic factors, and limited educational infrastructure, which can result in different enrollment trends from other regions. Through the mixed-methods strategy, the research generates comprehensive evidence to support a set of interventions in enhancing sculpture training in the area.

1.1 Objectives

The research was informed by the following specific objectives:

1. Determine the pedagogical factors that influence the sculpture enrollment in Senior High Schools in the Upper East Region.
2. Examine the economic factors that influence the choice of students to join sculpture programmes.
3. Explore the cultural attitudes and perceptions towards sculpture education among students, parents and teachers.
4. Determine the relative role of pedagogical, economic, and cultural factors in sculpture enrollment intentions.

2. Literature review

2.1 Theoretical framework

This study is based on Bandura's Social Cognitive Theory (SCT), which gives a useful framework of how personal factors, behavioural factors, and environmental factors interact to define human learning and decision-making (Bandura, 1986). SCT assumes that people are not fully independent agents or passive receivers of environmental stimuli, but human functioning is the result of triadic reciprocal causation that encompasses individual (cognitive, affective, and biological), behavioural and environmental (Bandura, 1997). This theoretical view is especially applicable to the analysis of educational decisions, as it can fit a variety of factors that determine the academic decisions of students.

Self-efficacy, outcome expectations, and environmental factors are the central constructs of SCT that are applicable in this study. Self-efficacy is the personal conviction that individuals have in their potential to take courses of action that are needed to bring about certain outcomes (Bandura, 1977). Self-efficacy in the case of sculpture education encompasses confidence of students in their artistic skills, manual skills, and the ability to perform in creating three-dimensional art. The scholarly evidence has continuously shown that self-efficacy is an important predictor of academic engagement and persistence in any area of education (Fatimah et al., 2024). Students who have stronger artistic self-efficacy tend to enrol in creative programmes and persist in the process despite difficulties involved in skill development.

Outcome expectations are beliefs regarding the consequences of specific behaviours and play an important role in motivation and choice (Lent et al., 1994). When it comes to sculpture enrollment, the outcome expectations that are considered relevant involve the expected career opportunities, the expected economic returns, the social acknowledgement, and personal fulfilment that is warranted by sculptural practice. The recent uses of SCT in career choice research have also found that the outcome expectations are the direct predictors of vocational interests and educational choices (Woreta, 2024; Navarro et al., 2019). Students

show more intentions to enrol in sculpture education when they believe that having sculpture education will result in desirable outcomes; negative outcome expectations deter participation.

Environmental factors in SCT include social, institutional and cultural contexts which enable or restrict behaviour. They are family factors, peer pressure, institutional support, and the social view of particular professions or educational directions in general (Tshering et al., 2024). The social learning features of SCT focus on observational learning, through which people learn and develop skills by observing models in their surroundings. Teachers, successful alumni, and practising professionals are some of the models in educational settings whose examples shape the career goals of students (Hey et al., 2024). Access to or lack of positive role models in sculpture in the Upper East Region can also have an important influence on the perceptions of viable career opportunities.

The triadic reciprocal framework of SCT is specifically suitable for the given study, as it recognises that educational decisions are not dictated by a single factor but arise out of the dynamic interactions. When a student decides to study sculpture, it is not only because he/she is interested in it but rather the interaction between his/her self-beliefs, environmental facilitators and inhibitions, and behavioural experiences. This theoretical focus informed the research design in order to examine the pedagogical (quality of teaching, curriculum), economic (cost, career opportunities) and cultural (parental perceptions, social perceptions) factors as determinants that interact to influence enrollment decisions.

2.2 Empirical review

2.3 Visual arts education in Ghana

The education of visual arts in Ghana has gone through different stages since it was introduced in the colonial era, but it has always faced challenges, which have continued to deter its progress. Aidoo (2018) explored challenges in the visual arts programme in Ghanaian Senior High Schools and found that lack of adequate facilities, unqualified teachers, limited teaching resources, and poor public perceptions were the key barriers. The research indicated that the visual arts programmes get unfair allocation of resources compared to science and business programmes, a characteristic of deep-rooted prejudices in the education system. These results highlight institutional indifference, which harms creative arts education in the nation.

A study in Ghana, the Upper West Region, showed alarming trends of enrolment in the visual arts programmes. Diabour et al. (2021) discovered that visual arts were taught in only three Senior High Schools throughout the region, and the number of graduates has reached a total of only 798 students between 2016 and 2020. The research cited poor enrolment as a result of wrong perception toward visual arts careers, poor student orientation at the basic education level and lack of awareness of employment opportunities in the creative sector. In these schools, sculpture has always had lower enrollment than graphic design and picture making, implying subject-specific discouraging factors beyond general visual arts challenges.

Opoku-Asare et al. (2015) examined the factors affecting academic performance in visual arts learners in Ghanaian Senior High Schools. The results indicated that core subject teachers commonly viewed visual arts students as academically disadvantaged, which resulted in unfavourable learning conditions, which reduced student motivation. Quite a number of visual arts students thus failed to adhere to the core subjects, and instead concentrated purely on the electives where they believed they were appreciated, thus restricting their chances of tertiary education. The research suggested attitudinal interventions for teachers and students to enhance the status and outcomes of visual arts education.

2.4 Parental and cultural influences on educational choices

Parental pressure plays a key role in determining educational and career choices of students, especially in collectivist societies where family pressures highly influence individual decisions. Boateng et al. (2024) investigated the factors affecting decisions to follow a TVET pathway in the Central Region of Ghana and found that the major driving force among students was parental, particularly fatherly influence, in selecting which program to pursue. The research indicated that parents tended to avoid vocational and artistic programmes in children because they attributed prestige differences to the programmes, and these programmes were linked to poor academic achievement. These attitudes of parents pose a significant obstacle to students who may be interested in visual arts majors such as sculpture.

There are also cultural perceptions of the right career paths by gender and socioeconomic status, which complicate the patterns of enrollment even further. In research on visual arts learning, sculpture itself has been described as physically strenuous and thus unsuitable to study by female students, leading to gender inequality in enrollment (Aidoo, 2018). Also, a study conducted in Zimbabwe revealed that the majority of parents have negative views on the TVET programmes and tend to see them as destinations where students who failed in school go (Mahuyu & Makochehanwa, 2020). These perceptions have existed despite evidence of viable career outcomes in creative arts education.

In recent research on parental influence in vocational training, the mediating effect of parental expectations in constructing occupational aspirations of students has been highlighted. Empirical research involving the Social Cognitive Theory frameworks proved that career self-efficacy and outcome expectations of students are highly affected by perceived parental support or resistance (Bohle et al., 2025). Students internalise the negative appraisals of some occupations when their parents communicate

such negative appraisals, and subsequently express less interest in and enrollment in associated educational programmes. Addressing parental attitudes is therefore a crucial intervention point towards better enrollment in the low-enrolled subjects, such as sculpture.

2.5 Economic factors in educational decision-making

Economic factors play a leading role in the educational decisions made by students, especially in resource-based settings. One of the regions where the youth unemployment rates are the most significant in Ghana is the Upper East Region, which, according to recent estimations, stands at 39% (UNICEF Ghana, 2024). In this scenario, families invest more in educational opportunities that promise them to get good jobs, to the detriment of programmes that may not have the most visible employment streams. Education on sculpture demands huge material investment in terms of clay, wood, tools, and workshop, which places extra financial demands on students and institutions that already have limited resources.

The relationship between perceived economic returns and the choice of programme has been reported in research on TVET in Africa. In a comprehensive study, Adams and Baddiana (2023) discovered that there is low enrolment in TVET among African countries owing to the high cost of materials and equipment needed to conduct practical activities in TVET programmes. In Ghana, in particular, research revealed that students and parents consider a higher education degree to be followed by professional jobs in medicine, law, and business, while creative arts are seen as uneconomical ways to earn a living (Dasmani, 2011). Such perceptions, whether true or false, have a substantive effect on enrollment decisions.

The lack of infrastructure adds to economic barriers to sculpture education. An evaluation of the TVET institutions in Ghana showed that an increase in enrollment has overstretched the current facilities, compromising competency-based training efficacy (UNICEF Ghana, 2024). There are a lot of schools which do not have equipped workshops, and students have to share limited materials or work with inadequate tools. The latest visit by the education minister to the schools in the Upper East Region has reported high-level structural shortages which have remained decades-old, as schools are struggling with a lack of furniture that has led to some schools reducing their enrolment (The Herald Ghana, 2025). These disproportionate conditions impact practical subjects such as sculpture that rely on specialised amenities.

3. Method

3.1 Research design

The research design adopted in the study was a convergent mixed-method research design that sought to thoroughly examine the determinants that determine low sculpture enrollment. In this design, the quantitative and qualitative data are collected and analysed together, then both are integrated in the process of interpretation (Creswell and Plano Clark, 2018). The convergent approach was suitable since it allowed triangulation of results between methods, increasing the validity and the richness of the insight into this multidimensional phenomenon. Quantitative data presented convenient quantifiable measures of factor prevalence and relationships, whereas qualitative data reflected contextual nuances and stakeholder views that clarify underlying mechanisms (Zhou et al., 2024).

The mixed-methods design was consistent with the Social Cognitive Theory of behaviour on multiple interacting aspects. The quantitative aspect involved the measurement of the relationships between predictor variables (pedagogical, economic, and cultural factors) and the outcome variable (enrollment intentions), whereas the qualitative aspect involved an investigation into how these factors operate in participants' lived experiences. This complementary method reacts to the demands of more holistic research methods in educational studies (Mertens, 2019; Younas et al., 2024).

3.2 Population and sampling

The target population was the students, teachers and parents of Visual Arts programmes in the Senior High Schools within the Upper East Region. Six existing schools that teach Visual Arts were chosen intentionally to secure representation of the types of districts and types of institutions. Participants in these schools were recruited to take part in the study using stratified random sampling in the quantitative component and purposive sampling in the qualitative component.

In the case of the quantitative survey, 312 participants were recruited, which included 186 students (Visual Arts students and students undertaking other programmes) of the Senior High School, 48 (Visual Arts) teachers and subject heads, and 78 parents/guardians of current and potential students (Visual Arts). The sample size was determined using Krejcie and Morgan's (1970) determination table, which will allow sufficient statistical power for the intended analyses.

In the case of qualitative data collection, purposive sampling was used to identify information-rich participants. The semi-structured interviews were conducted with Visual Arts teachers (n = 8), school administrators (n = 6), education directorate officials (n = 4), community leaders and local artisans (n = 6). Four focus group discussions were also arranged with students (two groups consisting of current Visual Arts students, and two including students who refused to enrol even after being interested initially), with 6-8 students in each group. This sampling approach guaranteed a wide range of views on variables affecting sculpture enrolment.

3.3 Data collection procedure

The data was collected in the period between January and March 2025 after receiving ethical permission from the Regional Education Directorate. The quantitative instrument was a structured questionnaire that included four sections: demographic data (10 items), pedagogical (12 items) and economic (10 items) factors, and cultural (10 items) factors. The items were based on validated instruments that had been applied in earlier studies regarding educational preferences and TVET perceptions (Boateng et al., 2024; Tarhini et al., 2015). Response choices were based on a five-point Likert scale with Strongly Disagree (1) and Strongly Agree (5) as the extremes. Five items assessed sculpture enrollment intentions as the dependent variable.

The questionnaires were conducted face-to-face when the researcher visited schools, and trained assistants were present to provide clarification to the questions posed in the survey. The questionnaires for parents were distributed to students, and within two weeks, the questionnaires were returned. The semi-structured interview guide was used to examine the experiences of the participants in their learning of sculpture, their views on barriers and enablers and recommendations for improvement. Focus group discussions followed similar thematic guides adapted for group interaction. All the interviews and discussions were audio-taped with the consent of participants and transcribed verbatim.

3.4 Validity and reliability

Three faculty members specialised in art education and educational research methods reviewed the content, making it content valid. Ambiguous items were revised, and items that were not relevant were removed based on their feedback. Clarity and reliability of the instruments were tested in a pilot test that included 30 participants who were not part of the final sample. The Cronbach alpha coefficients of the pilot data showed satisfactory internal consistency: pedagogical factors ($\alpha = 0.82$), economic factors ($\alpha = 0.79$), cultural factors ($\alpha = 0.84$) and enrollment intentions ($\alpha = 0.88$).

To ensure qualitative trustworthiness, several measures were employed. Member checking entailed giving transcripts to interviewees for verification. Peer debriefing involved two colleagues in the review of coding decisions and interpretations. The cross-method and cross-participant triangulation increased credibility. Transferability judgments were facilitated by the thick description of context and procedures. Dependability and confirmability were achieved through an audit trail that recorded analytical decisions (Lincoln and Guba, 1985).

3.5 Data analysis

The IBM SPSS version 26 was used to analyse quantitative data. Descriptive statistics described the characteristics of the participants and response distributions. Bivariate correlation analysis was used to analyse the relationship between the independent variables and enrollment intentions. Multiple linear regression was used to establish the proportional contribution of pedagogical, economic, and cultural factors in leading to enrollment intentions, with the demographic variables held constant. The assumptions of normality, linearity and homoscedasticity were tested before the regression analysis.

Thematic analysis was the method used to analyse the qualitative data in accordance with the six steps of Braun and Clarke's (2006) procedure. Transcripts were read repeatedly to become familiar with them, and they were coded systematically both through deductive codes derived from the theoretical framework and inductive codes emerging from the data. The codes were grouped into themes that represented patterns relevant to the research objectives. Quantitative and qualitative findings were integrated in the interpretation process, and qualitative themes were used to explain and elaborate on the quantitative results (Fetters et al., 2013).

4. Results

4.1 Demographic profile of participants

Table 1 shows the demographic variables of participants in the survey. The sample size of the student participants was 58.6% males and 41.4% females, which are gender proportions of Visual Arts programmes in Ghana. Most of the students (42.5%) were in Year 2, followed by Year 3 (35.5%) and Year 1 (22.0%). In terms of programme distribution, 52.7% were currently pursuing Visual Arts and 47.3% pursuing other programmes (General Arts, Business, Science), which offered relative views on the enrollment choices. Of the Visual Arts students, 14.3% had chosen sculpture as an option, with the majority choosing graphic design (38.8%) and picture making (27.6%).

Teacher participants were mainly males (72.9%), and their teaching experience was between 2 and 28 years ($M = 11.4$, $SD = 6.8$). The majority of the teachers (70.8%) had bachelor of arts education degrees, 20.8% possessed higher national diplomas, and 8.3% had postgraduate degrees. There was a comparatively balanced distribution of gender among the parent respondents (54.4% female, 45.6% male), with education levels varying considerably: (32.1% had secondary education, 28.2% tertiary education, 24.4% basic education only and 15.4% no formal education).

Table 1. Demographic Information

Variable	Category	Frequency	Percentage (%)
Students Participants (n=186)			
Gender	Male	109	58.6
	Female	77	41.4
Year of Study	Year 1	41	22.0
	Year 2	79	42.5
	Year 3	66	35.5
Programme Enrolled	Visual Arts	98	52.7
	Other Programmes (General Arts, Business, Science)	88	47.3
Visual Arts Electives	Sculpture	27	14.3
	Graphic Design	72	38.8
	Picture Making	51	27.6
	Other Electives	36	19.3
Teacher Participants (n=48)			
Gender	Male	35	72.9
	Female	13	27.1
Teaching Experience (Years)	Range	2–28	
	Mean (SD)	11.4 (6.8)	
Highest Educational Qualification	Bachelor's Degree	34	70.8
	Higher National Diploma	10	20.8
	Postgraduate Qualification	4	8.3
Parents Participants (n=78)			
Gender	Female	42	54.4
	Male	36	45.6
Educational Level	No Formal Education	12	15.4
	Basic Education	19	24.4
	Secondary Education	25	32.1
	Tertiary Education	22	28.2

4.2 Pedagogical factors influencing sculpture enrollment

The results of the survey showed the presence of significant pedagogical issues that influenced the sculpture education. Most respondents (67.3%) either agreed or strongly agreed that insufficient materials and tools were a barrier to successful sculpture teaching. Likewise, 72.8% believed that practical activities were limited by the space in the studio. The proportion of student respondents who said they were confident in their competencies related to sculpture was only 31.2%, in contrast to 68.4% who indicated they were confident in their graphic design competencies. The teachers also noted that there were not many professional development opportunities in sculpture techniques, and 81.3% of the teachers had not obtained any special training on sculpture in the last five years.

These challenges were expounded in qualitative interviews. One of the Visual Arts teachers who has experience of 15 years stated: "We cannot teach sculpture properly without the right materials. The school offers small amounts of clay, and students cannot afford to purchase their own. The majority of our teaching is theoretical, as we do not have the facilities to do practical work." One more teacher mentioned the issues with relevance to the curriculum: "The syllabus on sculpture focuses on the traditional methods students regard as obsolete. It has nothing to do with modern design or contemporary applications that can be of interest to young people."

Student focus groups showed that there was minimal exposure to works of sculpture and practitioners. One of the participants said, "I have never been to a sculpture studio or seen an expert sculptor. We do not know what sculptors do or how they make their livelihood." This deficit of role models and practical learning seemed to result in low self-efficacy towards sculptural careers.

Participants in focus groups who refused to attend sculpture classes often refer to a lack of familiarity and doubts regarding success opportunities as their key reasons.

4.3 Economic determinants of enrollment decisions

The economic factors proved to have significant impacts on the enrollment choices. Most of the respondents (74.7%) said that most families could not afford sculpture materials. In terms of career opportunities, only 23.4% of the students believed that sculpture provided good employment, but in the case of graphic design, compared to 67.8% for graphic design. Parent respondents reported that 82.1% thought of future employment opportunities as they advised children on which programme to undertake, and 76.9% preferred their children to undertake programmes that offered better career opportunities.

These survey results were put in context by interview data. A participant who is a parent said, "Sometimes, families are not able to afford the primary needs in this region. How am I supposed to explain to my child that he should study something that requires costly materials and will not get a salary after graduating? We need practical choices." One of the education officials admitted, "The creative economy is expanding in Ghana, though not obviously here in the Upper East. They do not see any successful sculptors in their communities, and that is why students and parents do not believe that it is a good career to seek."

Weak industry linkages were found to be a significant gap by the teachers. One of them said: "No galleries, no sculpture markets, no public art commissions in this area. After completion of the programme, there is no place where the students can sell their work or acquire jobs. This fact deters admission." The lack of locally developed creative industry infrastructure, therefore, seems to lead to the reduced perceived economic value of sculpture education even among those who appreciate the cultural value.

4.4 Cultural attitudes and perceptions

Cultural attitudes influenced the understanding of sculpture education to a great extent. According to the survey results, 68.6% of parent respondents related Visual Arts programmes to generally academically weaker students. More particularly in sculpture, 71.8% of the total 100 respondents agreed with the notion that sculpture is seen as a physically demanding job that is not fit for those who desire to have respectable jobs. Perceptions based on gender were also strong, as 64.1% said that sculpture is more appropriate for males than females. Also, 57.7% of the participants mentioned that their community usually discourages artistic careers and promotes teaching, nursing, or business.

Cultural mechanisms behind these attitudes were clarified using qualitative data. As one community leader explained: "*Sculpture is highly regarded in our tradition - our forefathers made beautiful works. However, in the present day, families prefer children to get office jobs with salaries. Sculpture is regarded as a manual work, rather than a professional one.*" A female student who had thought of sculpture said, "*My parents told me that sculpture was a male profession and for dropouts. They told me that people would laugh at me should I choose it. Instead, I took graphic design.*"

Interestingly, certain respondents identified the friction between cultural tradition and modern approaches. One of the local artisans remarked, "*There is a strong pottery and carving tradition in this region. Youth are taught to despise this labour. They do not want to be like their grandparents, but like people they watch on TV.*" This implies a detachment between classic artistic activity and formal educational provision, in which sculpture is not being placed as a continuation of treasured cultural forms but as an independent, undervalued academic subject.

4.5 Predictors of sculpture enrollment intentions

Pearson correlation analysis showed significant relationships between all predictor variables and enrollment intentions. The strongest negative correlation was observed between parental influence and enrollment intentions ($r = -0.412$, $p < .001$) and the positive correlations between perceived career prospects and enrollment intentions ($r = 0.386$, $p < .001$), resource availability and enrollment intentions ($r = 0.354$, $p < .001$), and self-efficacy and enrollment intentions ($r = 0.328$, $p < .001$).

Table 2. Pearson Correlation between Predictor Variables and Enrollment Intentions

Predictor Variable	r	p-value
Parental Influence	-0.412	< .001
Perceived Career Prospects	0.386	< .001
Resource Availability	0.354	< .001
Self-Efficacy	0.328	< .001

To identify the relative contributions of factors to enrollment intentions, multiple regression analysis was performed. The results are presented in Table 3 below;

Table 3. Multiple Regression Analysis Predicting Enrollment Intentions

Predictor Variable	β	t	p-value
Parental Influence	-0.342	-7.21	.001
Perceived Career Prospects	0.298	4.86	.010
Resource Availability	0.267	4.19	.010
Self-Efficacy	0.186	2.97	.004
Cultural Stereotypes	-0.094	-1.83	.068

The regression model was found to be statistically significant, $F(7, 304) = 38.94$, $p < .001$ and the variance explained by the model was 47.3 ($R^2 = .473$, Adjusted $R^2 = .461$). The largest predictor was the parental influence ($\beta = -0.342$, $p < .05$), which revealed that negative parental attitudes significantly lowered the intentions to enrol. Perceived career opportunities were also positively associated with intentions ($\beta = 0.298$, $p < .05$), as was resource availability ($\beta = 0.267$, $p < .05$), as well as self-efficacy ($\beta = 0.186$, $p < .05$). Conversely, cultural stereotypes showed a negative but non-significant effect ($\beta = -0.094$, $p = .068$).

These quantitative results were congruent with qualitative trends. Dominating parental influence has always been stressed in both interviews and focus groups. One student who had at first desired to pursue sculpture commented: *"I was interested in Form One, but my father told me that in case I pursued sculpture, he would cease paying my fees. I had no choice."* On the other hand, the small number of students enrolled in sculpture either mentioned parental apathy or highly supportive family conditions. The combination of results in this way substantiates the primary role of parental attitudes as a modifiable factor affecting sculpture enrollment.

5. Discussion

The study examined pedagogical, economic, and cultural factors that contribute to the low sculpture enrollment in Senior High Schools within the Upper East Region using the Social Cognitive Theory as the theoretical framework. The convergent mixed-methods results indicate that there is a complex network of variables that all lead to a lack of student interest in sculpture, which upholds the concept of triadic reciprocal causation of personal, behavioural, and environmental determinants found in SCT.

The prevalence of the parental impact as the most significant factor of predicting the enrollment intentions corresponds with the past studies on the career choice in Ghana (Boateng et al., 2024) and in the African context, in general (Bohle et al., 2025). The finding has significant theoretical implications in the application of SCT in the collectivist cultural context, where environmental factors, especially family expectations, can have greater influence on behaviour than situations where personal factors dominate in the individualist context. Parental influence has a negative coefficient, which means that parental disapproval significantly lowers enrollment intentions irrespective of student personal interest or self-efficacy; hence, interventions aimed at changing parental attitudes are necessary.

The significant positive relationship between perceived career opportunities and enrollment intentions supports the outcome expectations construct of SCT. Students with perceptions of good career results in sculpture education show more intention to enrol. However, a low ratio of respondents perceiving good employment opportunities implies that the level of expectation about sculpture in this region is largely negative. This trend reflects the results of a larger body of TVET research that perceived economic viability is a key factor in programme choice (ILO, 2024; UNICEF Ghana, 2024). Addressing the issue would involve not only improving actual employment outcomes but also communicating existing opportunities better.

Another important predictor of enrollment was resource availability, which validates the existence of environmental barriers that limit enrollment despite interest in studying among students. This observation is in line with reported institutional obstacles in the teaching and learning of visual arts in Ghana (Aidoo, 2018; Diabour et al., 2021) and a more recent report of TVET infrastructures in the Upper East Region in particular (The Herald Ghana, 2024). The practical implication is that policy intervention should focus on both material conditions and attitudinal factors in order to substantially increase enrolment. Investments in sculpture studios, equipment and materials are a precondition for the viability of a programme.

The qualitative results enhance understanding of how these variables work in real life. The lack of visible sculptors in the communities, the absence of industry attachments, and the disaffiliation to the traditional artistic processes all contribute to the creation of an atmosphere where sculpture becomes unimportant to contemporary aspirations. This is what SCT describe as poor environmental supports that do not model or reinforce sculptural pursuits. A comparison with more commercially visible disciplines, such as graphic design, which students associate with contemporary technology and media industries, sheds light on why there is a variance in enrollment patterns across the visual arts electives.

5.1 Implications for theory, practice, and policy

The results have a number of implications. Theoretically, the research proves that SCT can be used to comprehend educational decisions in the context of developing countries and underpins the significant role of environmental variables, in particular, family,

in collectivist environments. Future theoretical development ought to take into account the cultural moderation of associations between SCT constructs. In practice, the results imply that teachers must give priority to the interventions aimed at parental attitudes development based on sensitisation programmes, career fairs with parents, and showcasing successful sculpture graduates. The reforms in the curriculum must relate sculpture teaching to both modern applications and cultural heritage. The development of partnerships with practising artists and creative businesses could provide role models and work-based learning opportunities that are not presently available.

The policy implications are the necessity of special resources distribution to overcome the infrastructural shortages, the teacher professionalisation oriented to the sculpture techniques and pedagogical methods, and the development of a creative economy in the region to improve actual employment outcomes. The Ghana TVET Service ought to seek to apply more targeted support to undersubscribed disciplines such as sculpture rather than uniform approaches, which can further amplify the current inequalities in enrollments. A partnership between education agencies and cultural organisations would help to rebrand sculpture education as the preservation of treasured history and the development of marketable skills.

6. Conclusion

This paper examined the determinants of low sculpture enrollment in Senior High Schools in the Upper East Region of Ghana using a mixed-method approach based on the Social Cognitive Theory. The results indicate that perceived career prospects, resource availability and parental influence are important predictors of enrollment intentions with a combined variance of 47.3%. Qualitative data sheds light on cultural misunderstandings, infrastructure issues and weak industry connectivity that exacerbate low enrollment trends.

The study contributes to the limited empirical evidence on the topic of sculpture education in developing nations and also shows the usefulness of the Social Cognitive Theory in the study of educational decisions concerning collectivist cultural backgrounds. The synthesised results emphasise that low sculpture enrollment should be addressed through interventions that should be coordinated to address attitudes, resources and outcomes concurrently. One of the priorities is parental sensitisation due to its overwhelming predictive impact, although sustainable enhancement also requires improving material conditions and the establishment of visible channels to sculptural careers.

The study is limited by its regional focus, which might restrict its application to other settings, and the use of self-reported intentions, rather than actual enrollment practices. In future studies, longitudinal designs can be used to track students across programme selection procedures, and other undersubscribed subjects in the visual arts need to be investigated. Comparative research across regions would help elucidate the manner in which context-specific aspects give rise to varying patterns of enrollment.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

References

- Adams, A. M., & Baddianaah, I. (2023). Factors affecting female enrolment in technical and vocational education and training institutions in sub-Saharan Africa: insights from north-western Ghana. *International Journal of Training Research*, 21(3), 187-210.
- Aidoo, J. B. (2018). Challenges facing visual arts programme of senior high schools in Ghana. *International Journal of Humanities, Social Sciences and Education*, 5(3), 136-142. <https://dx.doi.org/10.20431/2349-0381.0503014>
- Amedorme, S. K., & Fiagbe, Y. A. K. (2013). Challenges facing technical and vocational education in Ghana. *International Journal of Scientific & Technology Research*, 2(6), 253-255.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215. <https://psycnet.apa.org/doi/10.1037/0033-295X.84.2.191>
- Bandura, A. (1986). Social foundations of thought and action. *Englewood Cliffs, NJ*, 1986(23-28), 2.
- Bandura, A. (1997). Self-efficacy: The exercise of control (Vol. 11). Freeman.
- Boateng, C., Ackon, F., & Nyarko, I. K. (2024). Factors Influencing Students' Choice of Technical and Vocational Education and Training (TVET) Pathway in the Central Region of Ghana. *African Journal of Empirical Research*, 5(4), 1826-1838. <https://doi.org/10.51867/ajernet.5.4.55>
- Böhle, E., Beckmann, J., & Granato, M. (2025). Preparing transitions: The impact of vocational role models on occupational aspirations within social contexts. *Social Inclusion*, 13. <https://doi.org/10.17645/si.9798>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.
- Creswell, J. W., & Plano Clark, V. L. (2018). Designing and conducting mixed methods research (3rd ed.). SAGE Publications.
- Dasmani, A. (2011). Challenges facing technical institute graduates in practical skills acquisition in the Upper East Region of Ghana. *International Journal of Work-Integrated Learning*, 12(2), 67-78.

- Diabour, K. K., Navei, N., & Marifah, H. F. (2021). Visual arts education and national development: An inquiry into the popularity of visual arts programme in senior high schools in upper west region of Ghana. *International Journal of Humanities Social Sciences and Education*, 8 (12), 42-55. <https://doi.org/10.20431/2349-0381.0812005>
- Diabour, K. K., Navei, N., & Marifah, H. F. (2021). Visual arts education and national development: An inquiry into the popularity of visual arts programme in senior high schools in upper west region of Ghana. *International Journal of Humanities Social Sciences and Education*, 8, 12.
- Fatimah, S., Murwani, F. D., Farida, I. A., & Hitipeuw, I. (2024). Academic self-efficacy and its effect on academic engagement: Meta Analysis. *International Journal of Instruction*, 17(1), 271-294.
- Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs—principles and practices. *Health services research*, 48(6pt2), 2134-2156.
- Ghana Education Service. (2023). Annual education performance report: Upper East Region. Ministry of Education.
- Ghana TVET Service (2025). UNICEF and GHANA TVET service unveil landmark study to bridge skills gap in Ghana's labour market. Retrieved from <https://gtvets.gov.gh/unicef-and-ghana-tvet-service-unveil-landmark-study-to-bridge-skills-gap-in-ghanas-labour-market/#>
- Hey, R., McDaniel, M., & Hodis, F. A. (2024). How undergraduate students learn: Uncovering interrelationships between factors that support self-regulated learning and strategy use. *Metacognition and Learning*, 19(2), 456-478. <https://doi.org/10.1007/s11409-024-09389-8>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610.
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of vocational behavior*, 45(1), 79-122.
- Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. SAGE Publications.
- Mahuyu, J., & Makochehanwa, A. (2020). Perspectives of Parents towards Technical and Vocational Education and Training (TVET) in Zimbabwe. *Advances in Politics and Economics*, 3(4), 1-18.
- Mensah Bonsu, F., Wragg, N., Phillipson, S., & Waller, C. (2025). Ghanaian graphic design education: Redefining Western influences and reclaiming Indigenous cultures. *International Journal of Art & Design Education*, 44(1), 80-97.
- Mertens, D. M. (2019). Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods. Sage publications.
- Momaa. (2024). The future of African art education: Developing talent and shaping careers. Museum of Modern African Art.
- Navarro, R. L., Flores, L. Y., Legerski, J. P., Brionez, J., May, S. F., Suh, H. N., ... & Dimarco, M. (2019). Social cognitive predictors of engineering students' academic persistence intentions, satisfaction, and engagement. *Journal of Counseling Psychology*, 66(2), 170-183. <https://psycnet.apa.org/doi/10.1037/cou0000319>
- Opoku-Asare, N. A., Tachie-Menson, A., & Essel, H. B. (2015). Perceptions, Attitudes and Institutional Factors That Influence Academic Performance of Visual Arts Students in Ghana's Senior High School Core Curriculum Subjects. *Journal of Education and Practice*, 6(21), 39-49.
- Tarhini, A., Hone, K., & Liu, X. (2015). A cross-cultural examination of the impact of social, organisational and individual factors on educational technology acceptance between British and Lebanese university students. *British Journal of Educational Technology*, 46(4), 739-755.
- The Herald Ghana (September 17, 2025). Education Minister urges national rebranding of technical and vocational training. Retrieved from <https://theheraldghana.com/education-minister-urges-national-rebranding-of-technical-and-vocational-training/>
- Tshering, K., Dorji, P., & Jatsho, S. (2024). Enhancing students' behavioural and cognitive engagement through active learning strategies in physics. *International Journal of Didactical Studies*, 5(1), Article 23328. <https://doi.org/10.1111/bjet.12169>
- UNICEF Ghana. (2024). Ghana TVET Report: Ashanti Region Skills Supply and Demand Side Assessment Report. UNICEF Ghana Office.
- Woreta, S. A. (2024). The mediating role of self-efficacy and outcome expectations in the relationship between peer context and academic engagement. *Behavioral Sciences*, 15(5), Article 681. <https://doi.org/10.3390/bs15050681>
- Younas, A., Durante, A., Fàbregues, S., & Escalante-Barrios, E. L. (2024). Strategies for educators to teach mixed methods research: A discussion. *The Qualitative Report*, 29(3), 831-845. <https://doi.org/10.46743/2160-3715/2024.6464>
- Zhou, Y., Zhou, Y., & Machtmes, K. (2024). Mixed methods integration strategies used in education: A systematic review. *Methodological Innovations*, 17(1), 41-49. <https://doi.org/10.1177/20597991231217937>