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Perceived Skill Development and Peace Attainment among TVET Trainees in Elgeyo Marakwet County Kenya

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ABSTRACT :

Technical and vocational education and training (TVET) is expected to develop capabilities relevant to productive work and constructive social participation. This study examined trainees' perceptions of skill development and their association with perceived peace attainment in Elgeyo Marakwet County, Kenya. The article reports the skill-development objective of a wider doctoral study. A cross-sectional questionnaire survey covered final-year trainees at Chepsirei and Kerio Valley technical and vocational colleges. Of 297 questionnaires administered, 274 were returned, representing 92.3%. Responses to seven five-point Likert statements were summarised using frequencies, percentages, means and sample standard deviations. Disagreement ranged from 72.3% for problem-solving to 94.5% for confidence and responsibility. Item means ranged from 1.38 to 2.18. Skill-development scores nevertheless showed a positive association with peace-attainment scores ($r = .317$, $p < .001$, $N = 274$). These results indicate limited endorsement of skill-related benefits alongside a positive relationship between respondents' assessments of skills and peace. They do not demonstrate objectively measured competence, behavioural change or a causal contribution to peace. Institutions should review practical learning and the explicit development of communication, digital and problem-solving capabilities. Future evaluations should assess demonstrated competencies and peace-related outcomes separately and over time.

Keywords: Technical and Vocational Education and Training; Skill Development; Peace Attainment; Practical Learning; Kenya

Introduction

Technical and vocational education and training (TVET) prepares learners for occupational participation, but its wider social contribution depends on more than access to courses or qualifications. Practical competence, communication, digital capability and problem-solving may influence how learners approach work and relationships. Whether trainees recognise these capabilities as outcomes of their training, and whether their assessments relate to perceived peace attainment, are empirical questions. This article examines those questions among final-year trainees in two TVET institutions in Elgeyo Marakwet County, Kenya.

The UNESCO recommendation places vocational education within a broad framework of learning, occupational preparation and social participation (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2015). This provides a policy basis for examining capabilities beyond occupation-specific tasks. However, a policy expectation is not evidence that these outcomes occur in every institution. Research needs to distinguish opportunities to learn, capabilities actually demonstrated and respondents' beliefs about training benefits. The present study addresses the third of these through questionnaire responses.

Human Capital Theory offers a basis for understanding investment in productive knowledge and capabilities (Becker, 1964). Within vocational education, practical and transferable skills can be considered resources for participation in work and further learning. Their potential relevance to peace involves additional processes, including communication, constructive problem-solving and engagement with others. Positive Peace Theory directs attention to constructive social conditions and relationships rather than equating peace with a single educational or economic outcome (Galtung, 1996). These perspectives motivate investigation without establishing that technical competence necessarily produces peaceful conduct.

Evidence from Kenya indicates that the conditions supporting skills acquisition require attention. Muchira et al. (2023) examined technical and soft skills in TVET curricula and identified barriers involving resources, equipment and practical curriculum delivery. Their study establishes the relevance of institutional conditions to skills preparation. It does not demonstrate that the same barriers operated in the colleges examined here, nor does it directly establish a relationship between skills and peace. The present research extends attention to trainees' assessments of a broader set of skill-related propositions and their association with perceived peace attainment.

The connection to peace also requires explicit educational attention. Bhari et al. (2021) provide practical guidance on inclusive delivery and integrating cooperation and conflict-resolution capabilities into vocational training. Their guide presents a basis for programme design rather than an estimate of the effects of ordinary TVET provision. Van der Veen and Datzberger (2022), examining a programme in Sierra Leone, similarly direct attention to the wider social and institutional conditions surrounding vocational initiatives. Together, these sources caution against assuming that access to vocational learning automatically establishes a peacebuilding contribution.

The specific gap addressed here concerns the relationship between perceived skill development and perceived peace attainment in two Kenyan vocational colleges. Employment outcomes alone do not describe trainees' assessments of technical, digital and interpersonal preparation, while policy guidance cannot establish the extent to which learners recognise those benefits. This article therefore reports item-level distributions alongside the thesis-reported correlation between skill-development and peace-attainment scores. It does not estimate the separate effect of each skill or claim to test an intervention.

The objective was to examine perceived skill development through TVET and its relationship with perceived peace attainment among final-year trainees. The null hypothesis was that the two scores had no statistically significant relationship. The central analytical distinction is between the level of endorsement and the association between respondents' scores. Predominantly unfavourable assessments can coexist with a positive correlation if respondents who assess skills relatively more favourably also assess peace relatively more favourably.

Conceptual focus

The skill-development section addressed practical technical skills, communication, digital participation, problem-solving, confidence and responsibility, community participation, and avoidance of harmful activities. These statements cover both perceived capabilities and proposed social consequences of possessing skills. They are not interchangeable indicators of tested competence. The peace section addressed perceived TVET contributions to coexistence, cohesion, constructive disagreement resolution and community peace. The proposed relationship concerns these perceptions; mechanisms connecting actual skill acquisition to peace remain questions for further research.

Methods

Design and study setting

The study used a cross-sectional descriptive survey within a wider mixed-methods doctoral investigation. This article reports the quantitative skill-development component. The setting comprised Chepsirei Technical and Vocational College and Kerio Valley Technical and Vocational College in Elgeyo Marakwet County. No intervention or comparison group was introduced. The design describes respondents' assessments at one point in time and cannot establish changes attributable to training.

Participants and sampling

The eligible population comprised 482 final-year trainees, including 237 at Chepsirei and 245 at Kerio Valley. The planned questionnaire sample comprised 297 trainees, allocated as 147 and 150 across the two institutions, respectively. The thesis describes stratification and simple random selection within the trainee sampling framework. A total of 274 questionnaires were returned, giving a response rate of 92.3%. The available summaries do not identify the institutional distribution of the completed questionnaires. Findings therefore describe participating trainees and should not be assumed to represent all young people or TVET institutions in the county.

Measures and instrument preparation

Responses used five categories coded 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree and 5 for strongly agree. Seven skill-development statements examined perceived benefits and propositions about their social relevance. Item means were interpreted against the neutral midpoint of 3.00 alongside the full response counts. A low mean indicates limited endorsement of the statement; it does not itself identify the respondent's competence or the reason for disagreement.

Six peace-attainment statements addressed perceived contributions of TVET to peaceful coexistence, social cohesion, non-violent approaches to disagreement, reduced conflict-related factors, graduates' contributions to peaceful communities and strengthening TVET as a peace strategy. The measure therefore concerns beliefs about TVET's contribution rather than independently recorded community peace. The recommendation-oriented final item also differs from statements describing perceived outcomes.

The wider study reports expert review and pilot testing of the questionnaire. Pilot Cronbach's alpha coefficients were .81 for skill development and .85 for peace attainment. These are reported pilot estimates and do not establish reliability in the final sample. The available summaries do not sufficiently specify the exact item membership, aggregation and missing-data procedures used to construct the correlated scores. This restricts independent assessment of their measurement properties.

Data collection and ethics

The researcher and trained research assistants distributed and collected questionnaires and checked returned instruments for completeness. The thesis reports voluntary participation, informed consent, confidentiality and secure information handling. Institutional permission and research authorization procedures are described in the wider study. Only aggregate trainee questionnaire findings are included here, and participant identities are not disclosed. Interview accounts are outside the scope of this article's analysis.

Statistical analysis

Frequencies and percentages described responses. Strongly disagree and disagree were combined to summarise disagreement, while agree and strongly agree were combined to summarise agreement. Means and sample standard deviations were recalculated from the five-category counts. The thesis-reported two-tailed Pearson correlation assessed the relationship between skill-development and peace-attainment scores, with statistical significance considered at .05. No skill-specific correlation, adjusted regression effect or causal estimate is claimed. The raw dataset was not available for re-estimating the correlation or checking its assumptions.

Results

Response and participant characteristics

The analysis included 274 returned questionnaires from 297 distributed, leaving 23 without a completed return. Male respondents numbered 186 (67.9%), and female respondents numbered 88 (32.1%). The largest age category was 20–24 years, with 112 respondents (40.9%), followed by 15–19 years, with 108 (39.4%). Twenty-one respondents (7.7%) were aged 25–29 and 33 (12.0%) were aged 30–34. These distributions describe the sample; they do not establish the absence of participation differences across demographic groups.

Perceived technical and transferable skills

All seven skill-related statements attracted majority disagreement. Means ranged from 1.38 to 2.18, consistently below the neutral midpoint. Table 1 presents the distributions and the recalculated statistics. The pattern indicates limited recognition of the proposed benefits across several domains rather than dissatisfaction confined to one capability.

Table 1: Perceptions of skill development through TVET

Statement	Disagree n (%)	Neutral n (%)	Agree n (%)	M (SD)
TVET provides practical technical skills required in the workplace	221 (80.7)	7 (2.6)	46 (16.8)	1.74 (1.31)
TVET training improves communication skills	225 (82.1)	27 (9.9)	22 (8.0)	1.60 (1.09)
TVET develops digital skills for modern economic participation	258 (94.2)	6 (2.2)	10 (3.6)	1.43 (0.81)
TVET improves problem-solving abilities	198 (72.3)	23 (8.4)	53 (19.3)	1.94 (1.20)
Acquired skills increase confidence and responsibility	259 (94.5)	3 (1.1)	12 (4.4)	1.38 (0.79)
Skilled individuals are more likely to participate positively in community development	244 (89.1)	18 (6.6)	12 (4.4)	1.66 (0.83)
Acquired skills discourage involvement in harmful activities	203 (74.1)	38 (13.9)	33 (12.0)	2.18 (0.92)

Note. N = 274 per statement. Disagree combines strongly disagree and disagree; agree combines agree and strongly agree. Means and sample standard deviations use the original five categories coded 1–5. Statements are shortened for presentation. Percentages may not total 100 because of rounding.

For practical technical skills, 221 respondents (80.7%) disagreed that TVET provided skills required in the workplace, compared with 46 (16.8%) who agreed. The mean was 1.74 (SD = 1.31), with the widest response dispersion among the seven statements. This identifies an unfavourable overall assessment while recognising variation in trainees' views. The item does not distinguish concerns about the skills taught, the opportunity to practise them or their relevance to particular workplace tasks.

Communication improvement attracted disagreement from 225 respondents (82.1%), agreement from 22 (8.0%) and neutrality from 27 (9.9%). Its mean was 1.60 (SD = 1.09). Digital skills attracted disagreement from 258 respondents (94.2%), with only 10 (3.6%) agreeing; the mean was 1.43 (SD

= 0.81). These responses indicate particularly limited endorsement of digital preparation. They do not identify which digital tasks respondents could perform or whether access to equipment affected their answers.

Problem-solving attracted the lowest combined disagreement among the seven statements, although 198 respondents (72.3%) still disagreed. Fifty-three (19.3%) agreed and 23 (8.4%) were neutral. Its mean was 1.94 (SD = 1.20). The relatively higher agreement should not be interpreted as strong overall endorsement. It indicates that more respondents recognised this benefit than recognised several other benefits, within an otherwise predominantly negative pattern.

Confidence and proposed social outcomes

The statement concerning increased confidence and responsibility attracted disagreement from 259 respondents (94.5%), agreement from 12 (4.4%) and neutrality from three (1.1%). Its mean of 1.38 (SD = 0.79) was the lowest of all statements. Because confidence and responsibility were combined within one statement, the responses cannot establish which aspect respondents were assessing or whether their experiences differed between the two.

The proposition that skilled individuals were more likely to participate positively in community development attracted disagreement from 244 respondents (89.1%) and agreement from 12 (4.4%). The mean was 1.66 (SD = 0.83). For the statement that acquired skills discouraged harmful activities, 203 respondents (74.1%) disagreed, 33 (12.0%) agreed and 38 (13.9%) were neutral. The corresponding mean was 2.18 (SD = 0.92). These findings concern respondents' assessments of proposed social benefits. They do not establish the prevalence of harmful activities or measure changes in community participation.

Association with perceived peace attainment

The thesis reported a positive correlation between skill-development and peace-attainment scores, $r = .317$, $p < .001$, $N = 274$. Respondents with relatively more favourable assessments of skill development tended to report relatively more favourable assessments of peace attainment. The association was modest and statistically significant. It does not show that particular skills caused peace, that most trainees experienced positive benefits, or that skill development was more important than other influences.

Under the reported analysis, the null hypothesis of no linear association was rejected at the .05 level. This decision concerns the association between the reported scores and remains subject to confirmation of their scoring and the statistical assumptions. It cannot be extended to a claim of demonstrated peacebuilding effectiveness. Low endorsement across individual statements and a positive correlation describe different aspects of the data and are compatible.

Discussion

Limited endorsement across skill domains

The main descriptive finding is the breadth of unfavourable assessments. Practical technical preparation, communication, digital participation and problem-solving all attracted majority disagreement, as did confidence and responsibility and the proposed social benefits of acquired skills. This pattern suggests that institutional review should examine several dimensions of learners' preparation. It does not support an explanation based solely on one missing skill, nor does it establish that trainees lacked every competence addressed in the questionnaire.

The findings can be considered alongside Muchira et al. (2023), whose Kenyan study identified constraints relevant to technical and soft skills preparation. However, the current questionnaire does not demonstrate inadequate equipment, insufficient trainer capability or weak industrial attachment in these colleges. These remain possible explanations to investigate with institutional records, observation and participant accounts. Moving from perceived limitations to a diagnosis requires evidence about how learning is organised and what learners can demonstrate.

Digital preparation and confidence with responsibility received especially limited endorsement. Their low means identify priorities for closer assessment, but the questionnaire does not explain why responses clustered towards disagreement. Digital competence would require task-based assessment across relevant applications, while confidence and responsibility would benefit from separate measures. Treating these responses as an objective ranking of competence deficits would exceed the evidence.

Connecting skill development with peace

The positive correlation supports a relationship between respondents' assessments of skills and peace. Plausible connections include how people communicate, address practical problems and participate in shared activities. The overall correlation does not test those mechanisms, and none of the individual skill statements can be assigned a separate contribution from this result. The shared questionnaire method also permits a general favourable or unfavourable view of TVET to influence both scores.

Bhari et al. (2021) advocate incorporating inclusive learning, cooperation and conflict-resolution capabilities into vocational delivery. This offers a practical basis for considering how a skills programme might address social relationships. In this study, such approaches are implications to investigate rather than interventions shown to work. Technical performance and constructive social conduct should each have explicit learning objectives and

assessment rather than assuming progress in one demonstrates progress in the other.

The institutional context is also relevant. Van der Veen and Datzberger (2022) show why vocational initiatives must be considered within wider social conditions. Their setting and programme differ from the two Kenyan colleges, so direct equivalence is inappropriate. The comparison nevertheless supports asking whether opportunities to apply skills, relationships within institutions and experiences outside training affect the proposed connection to peace. Those processes were not isolated in the present survey.

Contribution to the research gap

The article contributes contextual evidence about perceived skill-related benefits among final-year trainees in two institutions. It distinguishes the different statements rather than treating vocational education as a single undifferentiated experience. It also reports a relationship with perceived peace attainment while showing that statistical significance does not establish widespread recognition of positive outcomes. This addresses a narrower question than whether TVET prevents conflict, and provides a foundation for more direct measurement.

Human Capital Theory informs the focus on capabilities developed through education, while Positive Peace Theory motivates attention to constructive social relationships (Becker, 1964; Galtung, 1996). The results do not test either theory comprehensively. They indicate that productive preparation and social benefit need separate empirical examination. The article's contribution is therefore an examination of trainee perceptions and their association, rather than proof of a causal chain from skills acquisition to peaceful communities.

Implications for practice and further research

Institutional leaders should review opportunities for supervised practice, communication and problem-solving across programmes and identify digital tasks relevant to trainees' intended occupations. Observation of lessons, practical assessments and feedback from learners and placement supervisors would help establish specific needs. Changes to resources or delivery should follow that diagnosis. The current findings support reviewing these areas but cannot determine which intervention would yield the greatest improvement.

Social capabilities should also be made explicit where peace-related outcomes are intended. Collaborative tasks and guided reflection could provide opportunities to practise listening, shared responsibility and constructive responses to disagreement. These are proposed educational responses to the perceived gaps, not effects established by the survey. Evaluation should determine whether trainees demonstrate the intended capabilities and whether those capabilities transfer beyond the training setting.

Future research should separate technical and transferable competence from attitudes towards TVET and from peace-related outcomes. Repeated measurement before and after training, practical assessments and independent sources would improve interpretation. Following graduates could clarify how skills are applied in workplaces and community settings. Larger samples across more institutions would also support analysis of programme and institutional differences without assuming that findings from two colleges represent the county as a whole.

Limitations

The cross-sectional design does not establish temporal order or causal effects. All analysed responses were self-reported and concern perceived benefits or general propositions. The study did not directly assess technical competence, actual digital performance, harmful behaviour or changes in community peace. General perceptions of institutional effectiveness may contribute to the observed association. Findings from final-year trainees cannot automatically be generalised to graduates, employers or community members.

The constructs also require caution. Several skill statements concern proposed consequences rather than competencies, and confidence and responsibility are combined. Peace statements include perceived TVET contributions and a recommendation-oriented item. Final composite item membership, scoring procedures and missing-data rules were not sufficiently documented in the available summaries. Pilot reliability does not establish final-sample reliability or resolve these construct issues. No individual skill effect or adjusted association is inferred.

The absence of raw data prevented independent checks of the correlation, influential observations, distributional assumptions and institutional clustering. Completed returns by institution were not supplied, so alignment with the planned allocation could not be assessed. The high response rate alone does not exclude non-response bias. These limitations narrow the conclusions to reported perceptions and a thesis-reported bivariate association.

Conclusion

Trainees generally did not endorse TVET's skill-related benefits, particularly confidence and responsibility and digital preparation. More favourable skill-development scores nevertheless accompanied more favourable peace-attainment scores. This association concerns perceptions and does not establish measured competence or causal effects. Institutions should assess practical and transferable capabilities and evaluate peace-related outcomes separately. Clearer measurement and follow-up evidence are needed to assess the proposed skills pathway to peace.

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