

Perceived Effectiveness of the Mechanisms Adopted by Developmental Stakeholders for Disadvantaged Youth Transformation in Liberia

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ABSTRACT: Liberia's post-conflict youth face unemployment, educational deficits, and exclusion despite government, NGO, and faith-based empowerment mechanisms with unexamined effectiveness. This study examined the perceived effectiveness of mechanisms implemented by development stakeholders for youth transformation through agricultural entrepreneurship. A quantitative cross-sectional survey of 391 disadvantaged youth across Liberia's 15 counties employed stratified proportional and simple random sampling. Mechanisms were rated on six-point effectiveness scale and analysed using descriptive statistics, Pearson correlation, multiple regression, one-way ANOVA, post-hoc tests, and exploratory factor analysis. NGO mechanisms recorded the highest per-item mean (1.893, SD = 0.240), narrowly above government (1.769, SD = 0.348) and substantially above faith-based (1.464, SD = 0.276), with ANOVA confirming significant inter-group differences [$F(2, 1170) = 171.62, p < .001$]. Regression shows that government mechanism ($\beta = -0.279, p < .001$) and market access innovation ($\beta = -0.894, p < .001$) were significantly negatively associated with youth transformation index, whereas alternative financing was significantly positively associated with it ($\beta = 0.135, p < .05; R^2 = 0.106$). Rural youth reported higher transformation scores than peri-urban peers [$F(2, 388) = 4.548, p = .011$]. Findings revealed systemic gap between existing mechanisms and youth needs, highlighting integrated finance- and market-linked agricultural entrepreneurship for youth transformation.

KEYWORDS: agricultural entrepreneurship, disadvantaged youth, developmental stakeholders, empowerment mechanisms, youth transformation

I. INTRODUCTION

1.1 Background of the Study

Youth disadvantage remains one of the most critical development challenges facing low- and middle-income countries. The International Labour Organization (2025) estimates that approximately 73 million young people are unemployed globally, with the burden disproportionately concentrated in fragile and conflict-affected settings (Šima, 2025). Youth unemployment rates are consistently two to three times higher than those of adults and, in sub-Saharan Africa, are exacerbated by educational deficits, weak social protection, and structural economic exclusion (Rao, 2025). When development stakeholders fail to implement effective transformative mechanisms, disadvantaged youth become increasingly vulnerable to persistent poverty, social marginalization, and involvement in criminal networks (Bhadra, 2023).

Across West Africa, youth vulnerability interacts with structural fragility to intensify socioeconomic instability. Studies from Sierra Leone, Côte d'Ivoire, Ghana, and Nigeria show that persistent youth unemployment fuels social unrest, gang affiliation, and the persistence of post-conflict insecurity (Lahai & Koomson, 2020). Regional research further indicates that, without sustained investment in vocational training, microfinance, mentorship, and agricultural entrepreneurship, young people in fragile states remain trapped in low-productivity informal livelihoods (Lakemann, 2025). However, Baxter et al. (2022) demonstrate that adequately funded secondary education and targeted skills programmes can disrupt this cycle and improve long-term socioeconomic outcomes.

In Liberia, youth disadvantage is both severe and historically rooted. Nearly 15 years of civil conflict (1989–2003) devastated educational infrastructure, eroded human capital, and left many young people without formal education or sustainable livelihoods (Smith-Omomo, 2018; Ochube, 2023). Approximately one-third of Liberia's population is aged 15–35, and one in three economically active youth remains unemployed, making youth exclusion a governance and security challenge linked to gang violence in Monrovia and other urban centres (Bloh, 2025; Ani et al., 2025). In response, the Government, NGOs, and faith-based organisations have implemented vocational training, agricultural extension, microfinance, and entrepreneurship programmes. However, comparative assessments of their perceived effectiveness remain fragmented and predominantly qualitative, limiting informed policy and investment decisions (Cairney, 2025). This study addresses that gap.

1.2 Statement of the Problem

Despite sustained investment in vocational training, microfinance, agricultural extension, and entrepreneurship programmes, youth transformation in Liberia remains limited due to fragmented, supply-driven interventions and weak stakeholder coordination of transformation programmes. The situation is also compounded by inadequate market linkages and persistent financial, infrastructural, social, and climate-related constraints (Bah & Ulibarri, 2026). Consequently, disadvantaged youth continue to experience unemployment, social exclusion, gender inequality, and limited access to productive resources (Ani et al., 2025; Andersson & Harnois, 2020). Existing studies are predominantly qualitative or descriptive, lack counties representative evidence, and have not comparatively evaluated the effectiveness of government, NGO, and faith-based mechanisms. The contribution of innovative empowerment approaches using rigorous hypothesis-testing methods is also lacking. This study addresses these empirical and methodological gaps through a quantitative assessment of perceived stakeholder effectiveness with coverage across Liberia's 15 counties.

1.3 Research Objectives

The general objective of this study was to evaluate the perceived effectiveness of mechanisms adopted by developmental stakeholders for disadvantaged youth transformation in Liberia. Specifically, the study sought to:

- (i) assess the demographic and socio-economic characteristics of respondents;
- (ii) identify mechanisms adopted by government, NGO, faith-based, and joint stakeholders in transforming disadvantaged youth into agricultural entrepreneurs;
- (iii) determine the effect of stakeholder mechanisms on youth transformation outcomes;
- (iv) compare the effectiveness of government, NGO, and faith-based mechanisms; and
- (v) Identify strategies for improving stakeholder mechanisms through innovative empowerment approaches.

1.4 Research Questions

- (i) What are the socio-economic and demographic characteristics of the respondents?
- (ii) What mechanisms have developmental stakeholders adopted to transform disadvantaged youth?
- (iii) What is the perceived effect of stakeholder mechanisms on youth transformation outcomes?
- (iv) How does the effectiveness of government, NGO, and faith-based mechanisms compare?
- (v) What strategies can improve stakeholder mechanisms for sustainable youth transformation?

1.5 Research Hypotheses

- H₁: Government mechanisms have a significant positive effect on youth transformation outcomes.
- H₂: NGO mechanisms have a significant positive effect on youth transformation outcomes.
- H₃: Faith-based mechanisms have a significant positive effect on youth transformation outcomes.
- H₄: There are significant differences in youth transformation outcomes by residential location (urban, peri-urban, rural).
- H₅: Innovative empowerment mechanisms show a significant positive relationship with youth transformation outcomes.

II. LITERATURE REVIEW

2.1 Youth Transformation and Developmental Stakeholders

Youth transformation is increasingly conceptualised as a multidimensional process encompassing cognitive, behavioural, economic, and social changes that enable young people to transition from vulnerability to productive agency. However, scholars remain divided between narrow economic definitions centred on employment and enterprise creation and broader perspectives incorporating wellbeing, civic participation, and gender equity. Evidence suggests that employment-focused interventions often overlook the structural and relational constraints sustaining youth disadvantage, particularly in fragile contexts (Lingard et al., 2017; DeJaeghere, 2021). Accordingly, this study operationalises youth transformation through agricultural entrepreneurship, market access, financial inclusion, technological adaptation, and environmental sustainability. In post-conflict Liberia, transformation is further constrained by the enduring legacy of civil conflict, including disrupted education, trauma, weak institutions, and limited social capital (Vonhm, 2022). Individual agency, mental health, and informal livelihood strategies remain central to youth resilience yet are inadequately integrated into development programming (Fortune, 2021; Mayengo et al., 2025). Evidence further indicates that stakeholder interventions yield mixed outcomes: integrated, multi-component programmes consistently outperform isolated interventions (Kluve et

al., 2019), while Liberia's government initiatives are constrained by governance and implementation deficits (Udenka, 2023; Wesseh, 2025). NGOs exhibit greater operational flexibility but limited sustainability, whereas faith-based organisations leverage community trust despite weak technical capacity (Learwellie, 2024; Kelly, 2020; Dolo, 2018). Despite these distinctions, their comparative effectiveness in transforming disadvantaged youth in Liberia has remained empirically unexamined.

2.2 Mechanisms Used in Youth Transformation

Vocational and technical training remains the most widely implemented youth empowerment mechanism, but its effectiveness is context-specific. Evidence indicates that training yields stronger outcomes for self-employment than formal wage employment, making it particularly relevant in Liberia, where agricultural self-employment predominates, and formal jobs remain scarce (Chakrabarti, 2023; Corio, 2022). However, sustained outcomes require post-training support, as short-term gains are often undermined by weak work motivation (Shahbaz, 2025). Access to finance is another critical constraint. Integrated financing models combining cash transfers with psychosocial and health support outperform standalone financial assistance, yet limited access to alternative financing continues to impede youth enterprise development in Liberia (Bauer et al., 2021; Rogers et al., 2024; Gbatu, 2022). Complementary mechanisms, including mentorship, agricultural support, and digital innovation, strengthen entrepreneurial competencies and market access and remain the most viable option. However, although their effectiveness depends on adequate physical infrastructure, highlighting that technological intervention cannot compensate for persistent infrastructural deficits (Go-Maró, 2024; Oliver & Rittblat, 2025; Innis & van Assche, 2023).

2.3 Theoretical Framework

Human Capital Theory posits that investments in education, training, and health enhance productivity and economic returns, predicting that agricultural skills and entrepreneurship training improve youth livelihoods (Schultz, 1961; Becker, 1964). Although applied to post-conflict Liberia to emphasise human development through education (Jappah & Smith, 2022), the theory is criticised for overlooking structural constraints such as weak markets, insecure land tenure, and financial exclusion that limit youth opportunities (Doussard & Yenigun, 2024). Empowerment Theory extends this perspective by conceptualising transformation as the expansion of agency, resources, and achievements through critical engagement with structural barriers rather than vocational training alone (Freire, 1970; Kabeer, 1999). Empirical evidence highlights the importance of collective agency, multidimensional empowerment, and civic participation in sustaining youth transformation (DeJaeghere, 2021; Jones, 2021; Baumann et al., 2026). Complementing both, the Sustainable Livelihoods Framework argues that sustainable transformation requires simultaneous investment in human, social, financial, physical, and natural capital within enabling institutional environments (DFID, 1999; Stites & Bushby, 2017). Awazi (2026) and Orozco Garcia & Ferguson (2025) further demonstrate that social capital and integrated local development strategies strengthen resilience and intervention effectiveness in fragile contexts. These theories provide a complementary framework linking skills development, agency, and institutional conditions to sustainable youth transformation.

2.4 Empirical Review

The empirical literature is dominated by evaluations of single mechanisms rather than comparative cross-stakeholder assessments. Kluge et al. (2019) find that integrated multi-component programmes in low- and middle-income countries outperform single-strand interventions. Fox and Kaul (2018) confirm this at the policy level, concluding that interventions accelerating transitions to agricultural and non-farm self-employment show stronger sustained impacts than training-only approaches, and that implementation quality and market linkage are decisive moderators of effectiveness regardless of stakeholder type. In Liberia, Learwellie (2024) documents urban–rural disparities in programme effectiveness, with rural programmes suffering from inadequate government funding and logistics despite better targeting. Udenka (2023) identifies a persistent gap between initial employability gains and long-term sustainability attributable to weak motivation and poor employment ecosystems. On the other hand, McMullin (2020) documents structural limitations in Liberia's DDR reintegration programmes, whose 2009 closure left many ex-combatant youth without sustained support.

Agricultural entrepreneurship is the primary transformation opportunity available to disadvantaged rural youth, for whom land and agro-ecological resources offer the most accessible entry point to productive livelihoods. Corio (2022) shows that school-based agricultural education, piloted in Liberia since 2014, offers a cost-effective, scalable route to youth agricultural entrepreneurship, and Go-Maró (2024) documents over 4,000 youth participants in 4-H clubs across seven counties. The literature nonetheless documents persistent barriers, including youth land-rights exclusion (Louis et al., 2020), gender-based access disparities (Witinok-Huber et al., 2021), climate-change impacts (Simmons, 2021), and weak market integration (Dukuly, 2014), which constrain the conversion of agricultural skill into sustainable enterprise. Measurement of transformation outcomes is further complicated by heterogeneous indicators and short evaluation horizons. Coupaud et al.

(2026) find that while short-term income and employment effects are commonly documented, longer-term social outcomes remain largely unmeasured, whereas Kimou and Barry's (2022) randomised trial in Côte d'Ivoire shows that cash-for-work participation, though initially disruptive to trust, significantly increases community and family trust over the medium term. Meanwhile, evidence shows that transformation trajectories are non-linear and require longitudinal, not only cross-sectional, measurement.

2.5 Conceptual Framework

The conceptual framework integrates Human Capital Theory, Empowerment Theory, and the Sustainable Livelihoods Framework to explain how government, NGO, and faith-based mechanisms influence youth transformation. Stakeholder interventions, including vocational training, microfinance, mentorship, agricultural support, and entrepreneurship development, and operate through mediating factors such as digital agriculture, alternative financing, and market access. Youth transformation is measured by agricultural entrepreneurship capacity, improved livelihoods, and strengthened agency, while demographic and socioeconomic characteristics moderate these relationships. The framework posits that programme effectiveness depends on alignment between intervention design, youth needs, and enabling institutional and market conditions (Rogers, 2003; Dearing & Cox, 2018).

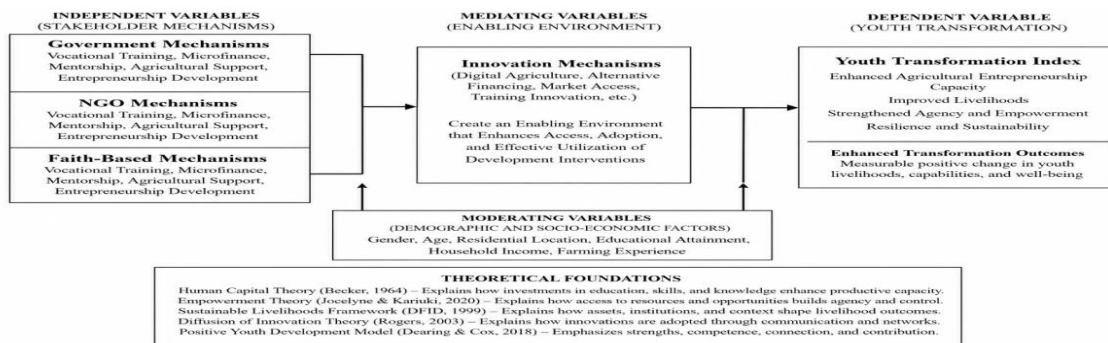


Figure 1: Conceptual framework of stakeholder mechanisms and youth transformation

III. METHODOLOGY

3.1 Research Philosophy and Design

This study adopted a positivist philosophy and a quantitative explanatory cross-sectional survey to examine associations between stakeholder mechanisms and youth transformation through hypothesis testing and systematic observation (Kaluarachchi, 2025; Mohajan, 2020). Although directional relationships were assessed, the cross-sectional design limits causal inference; therefore, findings indicate associations rather than causality.

3.2 Study Area

The study was conducted across Liberia's 15 counties: Montserrado, Bong, Grand Bassa, Nimba, Margibi, Maryland, Lofa, Grand Gedeh, Bomi, Sinoe, Grand Kru, River Cess, River Gee, Gbarpolu, and Grand Cape Mount. Liberia was selected because its post-conflict context, diverse stakeholder landscape, national coverage, and the Government's ARREST Agenda provide a strong basis for evaluating youth transformation mechanisms (Wesseh, 2025). While national coverage enhances generalisability, county-level differences in economic structure, institutional capacity, and youth demographics warrant cautious interpretation and future disaggregated analyses.



Figure 2: Map of Liberia showing the 15 study counties

3.3 Population and Sampling

The target population comprised disadvantaged youth aged 15–35 across all 15 counties who had received, or were eligible for, developmental stakeholder interventions, estimated at 68,194 disadvantaged youth, derived by applying proportional population-growth adjustments to county-level age-cohort data from the 2008 National Population and Housing Census (Jockers et al., 2022; Lindberg, 2014; Levey et al., 2013; Country, 2017). Because updated census figures were not yet available at the time of data collection, this projection is treated as an approximation rather than a precise 2025 count, and its implications for representativeness are discussed in Section 5.5. Sample size was determined using Slovin's (1960) formula for finite populations, $n = N / [1 + N(e)^2]$, where $N = 68,194$ and $e = 0.05$, yielding $n = 399$. After removing incomplete questionnaires, the final achieved sample was $n = 391$ (98.0% response rate).

A three-stage stratified, proportional, and simple random sampling procedure was used. In Stage One, all 15 counties were included to ensure national representativeness. In Stage Two, respondents were proportionally allocated to each county by its share of the disadvantaged youth population, so that Montserrado ($n = 287$) received a substantially larger sample than low-population counties such as River Cess ($n = 1$). In Stage Three, individual respondents within each county were selected by simple random sampling from community-level beneficiary registers maintained by stakeholder organisations. Table 1 summarises the distribution for the five largest counties; the remaining ten counties, each contributing between one and thirteen respondents in proportion to population share, together accounted for 36 respondents. Montserrado's 73.4% share is proportional to its share of the estimated disadvantaged-youth population, reflecting its concentration of disadvantaged youth, partly due to the post-war relocation of former combatants to the capital, where anonymity and limited traceability facilitated engagement in criminal and illicit livelihoods. While this population-weighted sampling enhances national representativeness, it reduces statistical power for detecting county-level differences in sparsely sampled counties. Meanwhile, no sensitivity analysis excluding Montserrado was conducted as it is treated as a limitation (Section 5.5), and county-exclusion sensitivity analysis is recommended for future research using this dataset.

Table 1: Sample distribution of disadvantaged youth respondents (selected counties, $n = 391$)

County	DY Population (N_i)	Sample (n_i)	% of Sample
Montserrado	49,093	287	73.4
Nimba	3,521	21	5.4
Margibi	2,878	17	4.3
Bong	2,738	16	4.1
Grand Bassa	2,414	14	3.6
Remaining 10 counties (combined)	7,550	36	9.2
Total	68,194	391	100.0

Source: Field Survey, 2025. Sampling: three-stage stratified–proportional–simple random. Remaining counties: Maryland, Grand Gedeh, Lofa, Bomi, Sinoe, Grand Kru, River Cess, River Gee, Gbarpolu, Grand Cape Mount.

3.4 Data Collection Methods

Primary data were collected in 2025 using structured questionnaires administered by five trained enumerators following two days of standardised training. The instrument captured socio-demographics, livelihoods, barriers to agricultural entrepreneurship, government, NGO, and faith-based support mechanisms, and innovative empowerment mechanisms. Standardised anonymity and neutral protocols minimised social desirability bias.

3.5 Measurement of Variables

Stakeholder mechanisms were measured on a six-point real-limit effectiveness scale ranging from Not Effective (0.50–1.49) to Extremely Effective (5.50–6.00). The instrument comprised 14 government items (training, extension, loans, land, inputs, market linkages), 14 NGO items (major agricultural and microfinance programmes), and 13 faith-based organisation items (training, microfinance, mentorship, and input support). Innovative empowerment mechanisms were assessed across eight dimensions: digital agriculture, alternative financing, education and training, market access, land access, technology and infrastructure, support services, and environmental sustainability.

3.6 Validity and Reliability

Content validity was established through expert review by five youth development specialists from the University of Liberia and the Liberia Institute of Statistics and Geo-Information Services (LISGIS), with items scoring a Content Validity Index < 0.78 revised or removed (Madadzadeh & Bahariniya, 2023). A pilot study involving 40 respondents refined the instrument. Exploratory Factor Analysis supported construct validity, identifying two components above the eigenvalue > 1 threshold, the first and dominant of which was a factor (eigenvalue = 6.045) explaining 75.6% of the variance. Internal consistency was modest (Government $\alpha = 0.576$; NGO $\alpha = 0.450$; Faith-based $\alpha = 0.620$) (Gruijters et al., 2021), reflecting heterogeneous programme components. Accordingly, stakeholder mechanisms were analysed as formative composites, with individual item means preferred over aggregate scores. This decision reflects the conceptual distinction between formative and reflective measurement. Because government, NGO, and faith-based items capture heterogeneous, non-interchangeable programme components rather than manifestations of one underlying trait, Cronbach's alpha, which presumes reflective, internally consistent indicators, systematically understates the reliability of formative composites (Gruijters et al., 2021). Content coverage and item-level interpretability were therefore prioritised over alpha thresholds, consistent with recommended practice for formative constructs, and composite scores are interpreted cautiously (Section 5.5).

3.7 Data Analysis Techniques

Data analysis aligned with the study objectives. Objective 1 used descriptive statistics (frequencies, percentages, means, and standard deviations). Objective 2 applied content and Likert-frequency analyses to assess stakeholder mechanisms. Objective 3 employed multiple linear regression, $YT = \beta_0 + \beta_1GOV + \beta_2NGO + \beta_3FBO + \beta_4MktAccess + \beta_5AltFin + \beta_6EduInnov + \epsilon$, where YT represents the Youth Transformation Index. Objective 4 used one-way ANOVA with post-hoc comparisons to examine differences across stakeholder types and residential locations. Objective 5 applied Exploratory Factor Analysis using principal-component extraction and the eigenvalue > 1 criterion to identify innovation mechanism dimensions. Before regression, diagnostic tests assessed model assumptions. Variance Inflation Factors (VIFs) indicated no multicollinearity among the main stakeholder predictors (Government = 1.251; NGO = 1.485; Faith-Based = 1.331), whereas Education and Training Innovation (9.19) and Market Access Innovation (7.97) exhibited higher VIFs due to intercorrelated innovation constructs but were retained for their theoretical relevance. Residual histograms and fitted-value plots supported approximate normality and homoscedasticity, while independence was assumed from the random sampling design. Analyses were conducted using Python 3.12 and SPSS 26.0, with statistical significance set at $p < .05$.

IV. RESULTS AND DISCUSSION

4.1 Demographic Characteristics of Respondents (Objective 1)

Table 2 presents the socio-demographic profile of the 391 respondents. The sample was predominantly male (56.5%; female 43.5%), consistent with registered youth beneficiary populations and persistent gender barriers to programme participation (Witinok-Huber et al., 2021). The largest age group was 25–29 years (53.9%), followed by 30–35 years and above (23.5%), reflecting prolonged post-conflict disruptions to youth life-course transitions (Fortune, 2021). Most respondents resided in peri-urban (69.8%) areas, followed by rural (21.2%) and urban (9.0%) locations. Educational attainment was low, with 40.2% completing primary education, 21.2% junior secondary, 13.3% having no formal education, and only 6.1% holding university qualifications. Employment was reported by 53.5%, mainly in informal or subsistence work, while 31.5% were self-employed and 8.4% worked part-time.

Table 2: Socio-demographic characteristics of respondents (n = 391)

Variable	Category	Frequency	Percentage (%)
Gender	Male	221	56.5
	Female	170	43.5
Age	15–19 years	23	5.9
	20–24 years	65	16.6
	25–29 years	211	53.9
	30–35 years	92	23.5
	35+ years	0	0.0
Home Location	Urban	35	9.0
	Peri-urban	273	69.8
	Rural	83	21.2

Variable	Category	Frequency	Percentage (%)
Education Level	No formal education	52	13.3
	Primary school	157	40.2
	Junior secondary	83	21.2
	Senior secondary	24	6.1
	Diploma/vocational	46	11.8
	University & above	24	6.1
Employment Status	Employed (informal)	209	53.5
	Self-employed	123	31.5
	Part-time	33	8.4
	Petty trading	20	5.1
	Other formal	6	1.5

Source: Field Survey, 2025.

4.2 Mechanisms Adopted by Developmental Stakeholders (Objective 2)

Table 3 presents' composite and selected item ratings for government, NGO, and faith-based mechanisms on the six-point effectiveness scale. Composite mean scores were Government = 1.769 (SD = 0.348), NGO = 1.893 (SD = 0.240), and Faith-Based = 1.464 (SD = 0.276), all below the 'Moderately Effective' (2.50–3.49) threshold, indicating substantial gaps between existing mechanisms and youth transformation needs. Among government mechanisms, Technical Training at Government Agricultural Institutions (Mean = 2.143) and the Liberia Agricultural Transformation Agenda for Youth (Mean = 2.100) ranked highest, whereas Market Linkage Support (Mean = 1.389) and the Rural Youth Empowerment Programme (Mean = 1.373) ranked lowest, reflecting a stronger emphasis on training than market support (Dukuly, 2014). BRAC Agricultural Microfinance Service was the highest-rated mechanism overall (Mean = 4.297, SD = 1.125; 'Quite Effective'), supporting evidence that integrated interventions outperform single-component programmes (Kluve et al., 2019). Faith-based mechanisms performed poorest overall; the Religious Institution Agricultural Education Programme (Mean = 1.056) ranked lowest, with six of 13 items rated 'Not Effective', reflecting strong community trust but limited technical capacity (Tarpeh & Hustedde, 2021; Dean et al., 2023).

Table 3: Composite and selected item-level mean ratings for stakeholder mechanisms (n = 391)

Stakeholder Type	Selected Item	Mean	SD	Interpretation
Government	Technical Training (Gov. Agri. Institutions) — highest	2.143	0.877	LE
Government	Liberia Agri. Transformation Agenda — 2nd highest	2.100	1.156	LE
Government	Market Linkage Support — lowest	1.389	0.650	NE
Government	Rural Youth Empowerment Programme — 2nd lowest	1.373	0.611	NE
Government	Composite Mean (14 items)	1.769	0.348	LE
NGO	BRAC Agri. Microfinance Service — outlier highest	4.297	1.125	QE
NGO	Mercy Corps Agribusiness Training	2.074	0.483	LE
NGO	Farming Equipment Supply Scheme — lowest	1.271	0.689	NE
NGO	Composite Mean (14 items)	1.893	0.240	LE
Faith-Based	Faith-Based Farming Network Programme — highest	1.944	0.742	LE
Faith-Based	Church-Based Agri. Training Centre	1.284	0.938	NE
Faith-Based	Religious Institution Agri. Education Prog. — lowest	1.056	0.252	NE
Faith-Based	Composite Mean (13 items)	1.464	0.276	NE/LE

Scale: 0.50–1.49 = Not Effective (NE); 1.50–2.49 = Less Effective (LE); 2.50–3.49 = Moderately Effective (ME); 3.50–4.49 = Quite Effective (QE); 4.50–5.49 = Very Effective (VE); 5.50–6.00 = Extremely Effective (EE). Source: Field Survey, 2025. Full 41-item rating available from the corresponding author upon request.

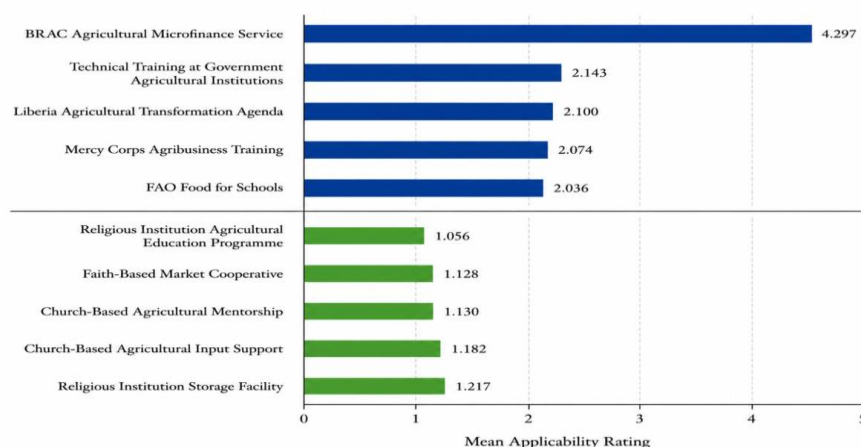


Figure 3: Top- and bottom-rated stakeholder mechanisms

4.3 Effect of Stakeholder Mechanisms on Youth Transformation (Objective 3)

Table 4 presents the multiple regression results predicting the Youth Transformation Index from stakeholder mechanisms and innovation variables. The model was significant [$F(6,384) = 7.58, p < .001$], explaining 10.6% of the variance ($R^2 = 0.106$; Adjusted $R^2 = 0.092$). The result indicates that youth transformation is influenced by broader structural and contextual factors beyond the variables included; plausible candidates omitted from the model include psychological capital (self-efficacy, resilience), social and family support networks, rural infrastructure quality, and local governance effectiveness, each of which is discussed further in Section 4.6 and flagged as a direction for future research. Government mechanisms were a significant negative predictor ($\beta = -0.279, p < .001$), signifying lower effectiveness ratings among respondents. Given the cross-sectional design, this negative association should not be read as government mechanisms causing worse outcomes; plausible alternative explanations include reverse causality (youth with lower transformation outcomes may be preferentially targeted for government support), selection effects (respondents who have accumulated multiple interventions may apply more critical benchmarks), and unmeasured confounders such as baseline disadvantage, alongside documented institutional under-resourcing (Dukuly, 2014). NGO ($\beta = -0.212, p = .068$) and faith-based mechanisms ($\beta = -0.035, p = .732$) were not significant. Alternative financing was the only significant positive predictor ($\beta = 0.135, p = .019$), highlighting the importance of financial access (Gbatu, 2022). On the other hand, Market access innovation was a significant negative predictor ($\beta = -0.894, p < .001$). As with the government-mechanism finding, this association is open to alternative readings beyond unmet market demand, including reverse causality and selection into more market-exposed but under-served interventions, rather than a direct causal effect of the intervention itself.

Table 4: Multiple regression results: effect of stakeholder mechanisms on youth transformation outcomes (n = 391)

Predictor Variable	β (Std.)	SE	t-value	p-value
Constant	48.440	4.347	11.142	< .001***
Government mechanisms	-0.279	0.073	-3.801	.000***
NGO mechanisms	-0.212	0.116	-1.831	.068
Faith-based mechanisms	-0.035	0.103	-0.342	.732
Market access innovation	-0.894	0.232	-3.861	.000***
Alternative financing model	0.135	0.057	2.359	.019*
Education & training innovation	0.295	0.155	1.906	.057

*** $p < .001$; * $p < .05$. Dependent variable: Youth Transformation Index (Joint Stakeholder Support Mechanisms composite). $R^2 = 0.106$; Adjusted $R^2 = 0.092$; $F(6, 384) = 7.58, p < .001$. Source: Field Survey, 2025.

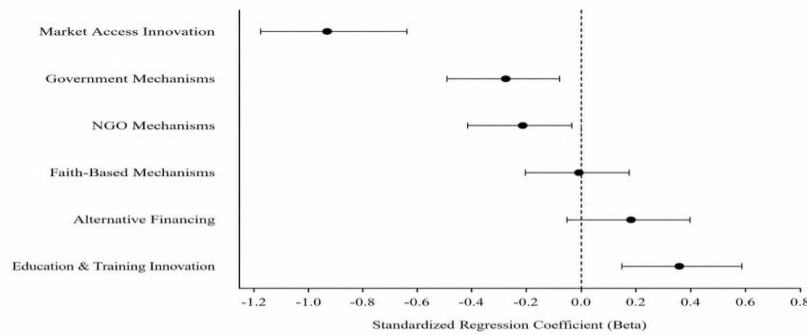


Figure 4: Standardised regression coefficients predicting youth transformation

4.4 Comparative Effectiveness (Objective 4)

4.4.1 ANOVA by Stakeholder Type

Table 5 presents the one-way ANOVA comparing per-item mean effectiveness across stakeholder types. The ANOVA was highly significant [$F(2,1170) = 171.624$, $p < .001$], indicating significant differences in perceived mechanism effectiveness across stakeholder types. Post-hoc comparisons showed significant differences between all stakeholder pairs (all $p < .001$): NGO mechanisms scored higher than government mechanisms (mean difference = 0.098), while government mechanisms outperformed faith-based mechanisms (mean difference = 0.274). Generally, NGO mechanisms were rated highest, followed by government and faith-based mechanisms.

Table 5: One-way ANOVA — comparison of per-item mechanism effectiveness across stakeholder types

Stakeholder Type	N	Mean	SD	Scale Band
Government mechanisms	391	1.663	0.348	Less Effective
NGO mechanisms	391	1.761	0.240	Less Effective
Faith-based mechanisms	391	1.389	0.276	Not Effective

Between-groups $F(2, 1170) = 171.624$, $p < .001$. Post-hoc: all pairwise differences significant at $p < .001$. Source: Field Survey, 2025.

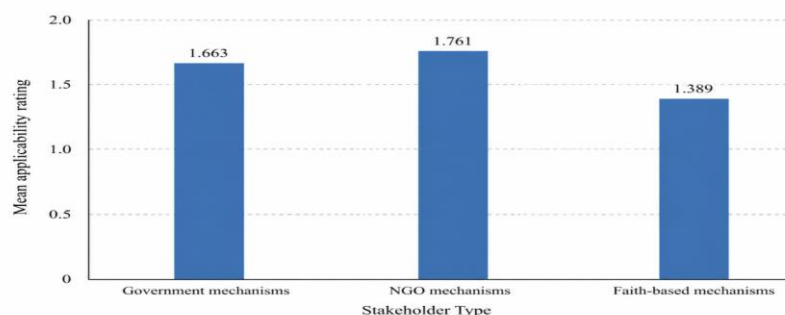


Figure 5: Per-item mechanism effectiveness by stakeholder type

4.4.2 ANOVA by Residential Location

Table 6 presents the ANOVA of the Youth Transformation Index by residential location, revealing a significant effect [$F(2,388) = 4.548$, $p = .011$], confirming H_4 . Post-hoc tests showed a significant difference only between rural (Mean = 32.894) and peri-urban youth (Mean = 30.690) ($t = -2.639$, $p = .009$, MD = -2.204), with rural youth scoring higher. Differences between urban–peri-urban ($p = .060$) and urban–rural ($p = .949$) were not significant. The rural advantage may reflect the greater relevance of agricultural interventions, stronger community-based NGO/FBO support, and higher motivation for agricultural entrepreneurship. The urban group's non-significant comparisons with both rural and peri-urban youth likely reflect its small sample size ($n = 35$), which limits statistical power, alongside urban youth's more heterogeneous livelihood options that may dilute the influence of agriculture-specific mechanisms on their transformation scores.

Table 6: One-way ANOVA — Youth Transformation Index by residential location

Location	N	Mean (YTI)	SD	F (2,388)	p-value
Urban	35	32.804	5.280	4.548	.011*
Peri-urban	273	30.690	6.354		
Rural	83	32.894	7.605		

* $p < .05$. Post-hoc: Rural vs Peri-urban significant ($t = -2.639$, $p = .009$, $MD = -2.204$); Urban–Peri-urban and Urban–Rural not significant. Source: Field Survey, 2025.

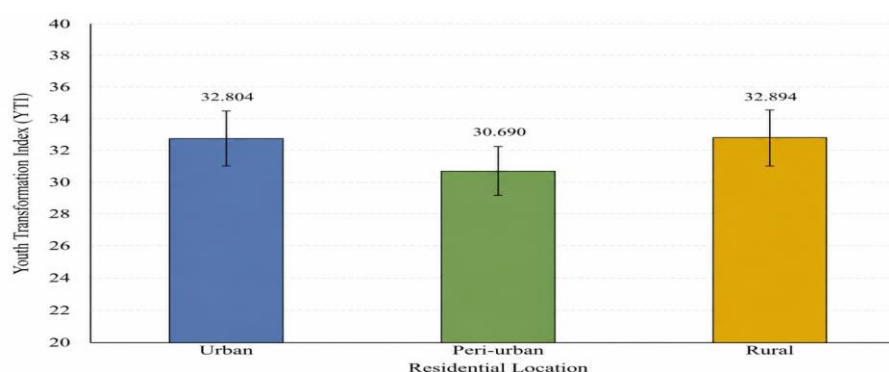


Figure 6: Youth Transformation Index by residential location

4.5 Strategies for Improving Stakeholder Mechanisms (Objective 5)

Table 7 presents the EFA of eight innovation-mechanism composites. Factor 1 (eigenvalue = 6.045) explained 75.6% of the variance, with all mechanisms loading substantially (0.249–0.389), but the loadings are modest and innovation readiness is better characterised as multidimensional rather than unidimensional. Factor 2 (eigenvalue = 1.372) explained an additional 17.2% of the variance, together accounting for 92.8% of total variance. Given the modest loadings (0.249–0.389) across both factors, these results are interpreted as evidence that innovation mechanisms cluster into related but empirically distinguishable sub-domains rather than a single construct; H_5 is more directly tested through the significant positive association between innovation-related variables and youth transformation outcomes reported in Table 4.

Table 8 shows that Alternative Financing (Mean = 34.540, SD = 7.797) and Digital Agriculture Innovation (Mean = 33.239, SD = 9.234) received the highest ratings, whereas Land Access Solution (Mean = 15.942, SD = 2.433) and Market Access Innovation (Mean = 20.367, SD = 3.892) scored lowest, highlighting finance and digital innovation as key enablers and land and market access as persistent structural constraints.

Table 7: EFA results factor structure of innovation mechanisms

Innovation Mechanism	Factor Loading	Eigenvalue	% Variance	Cumulative %
Digital Agriculture Innovation	0.249	6.045 (F1)	75.6	75.6
Alternative Financing Model	0.272	1.372 (F2)	17.2	92.8
Education & Training Innovation	0.389	—	—	—
Market Access Innovation	0.388	—	—	—
Land Access Solution	0.369	—	—	—
Technology & Infrastructure	0.380	—	—	—
Support Service Innovation	0.383	—	—	—
Environmental Sustainability	0.367	—	—	—

Extraction: Principal Components Analysis. Source: Field Survey, 2025.

Table 8: Descriptive statistics for innovation mechanism composites (n = 391)

Innovation Mechanism	Mean	SD	Items (approx.)
Alternative Financing Model	34.540	7.797	9
Digital Agriculture Innovation	33.239	9.234	9
Education & Training Innovation	29.775	6.249	7
Support Service Innovation	26.494	5.020	7
Environmental Sustainability Innovation	25.936	4.917	7
Technology & Infrastructure	20.876	3.533	7
Market Access Innovation	20.367	3.892	7
Land Access Solution	15.942	2.433	6

Source: Field Survey, 2025.

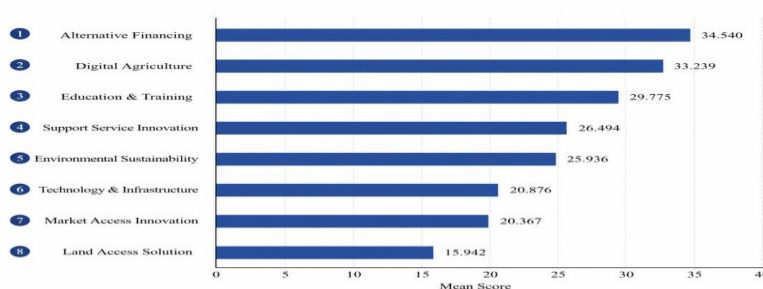


Figure 7: Innovation mechanism ranking

4.6 Discussion of Major Findings

The regression model's modest explanatory power ($R^2 = 0.106$) indicates that the measured stakeholder mechanisms and innovation variables capture only a fraction of what drives youth transformation. Unmeasured psychological factors (self-efficacy, resilience), social and family support networks, rural infrastructure quality, and local governance effectiveness likely account for much of the remaining variance and warrant inclusion in future models. Given the gender imbalance in the sample (56.5% male), gender-disaggregated analysis was not conducted in this study; documented gender barriers to programme participation (Witinok-Huber et al., 2021) suggest that stakeholder-mechanism effects may differ by gender, and disaggregated analysis of the existing dataset is recommended as a priority for future work (Section 5.4).

The most striking finding in this study is that all stakeholder mechanism composites were rated below the 'Moderately Effective' threshold despite substantial youth-directed investments, suggesting a disconnect between intervention effort and perceived effectiveness. Two explanations emerge. The first, and more strongly supported, is structural misalignment, whereby interventions reflect donor and institutional priorities rather than youth needs and livelihood realities. Evidence indicates that Liberia's training-centred programmes are poorly aligned with limited formal employment opportunities, weak labour-market demand, and the informal livelihood strategies adopted by disadvantaged youth (Fox & Kaul, 2018; Dukuly, 2014; Fortune, 2021). The second explanation is implementation failure, with inadequate funding, logistics, institutional capacity, and accountability constraining programme delivery (Learwellie, 2024; Georgieva & Georgieva, 2025). However, the BRAC Agricultural Microfinance Service (Mean = 4.297) demonstrates that integrated, demand-responsive interventions addressing youth financial needs can achieve 'Quite Effective' ratings. Its exceptional performance likely reflects three specific design features: bundling microfinance with market linkages rather than offering finance alone, delivering credit alongside technical agricultural support, and using a demand-responsive design that adapts loan and service terms to youth livelihood realities rather than a fixed training curriculum. If replicable, scaling this integrated model would require government and NGO partners to pair any future financing components with structured market-linkage and technical-support elements, rather than expanding stand-alone credit or training schemes. The findings therefore suggest that the primary limitation lies not in the concept of stakeholder mechanisms but in their inadequate alignment with the transformation needs of disadvantaged Liberian youth.

The finding that NGO mechanisms modestly outperform government mechanisms is consistent with evidence that NGOs often achieve greater operational effectiveness in fragile states. Although external actors strengthen governance, awareness, and service delivery, their interventions may also reinforce aid dependency, which helps explain why NGO mechanisms, despite outperforming government programmes, remained within the 'Less

Effective' category (Serwaah, 2025). Learwellie (2024) attributes this relative advantage to NGOs' emphasis on financial literacy and enterprise linkages, aligning with the present regression results identifying finance- and market-oriented interventions as the strongest predictors of youth transformation. However, Mvukiyehe and Samii (2021) report only modest socioeconomic impacts of NGO programmes in post-conflict Liberia, partly because NGOs tend to operate in geographically self-selected areas. Accordingly, the observed NGO advantage is relative rather than substantive: NGOs outperform government mechanisms but remain insufficient to achieve the level of transformation required by disadvantaged Liberian youth.

Faith-based mechanisms recorded the lowest effectiveness among the three stakeholder groups, challenging claims that faith-based organisations are inherently transformative development actors (Tarpeh & Hustedde, 2021). Instead, the findings support Dean et al. (2023), who argue that FBOs have limited technical capacity for agricultural and entrepreneurship programming. The Religious Institution Agricultural Education Programme and Church-Based Agricultural Training Centre were the two lowest-rated mechanisms in the study. However, these findings do not justify excluding FBOs from youth transformation initiatives. Rather, they support a complementary model in which FBOs leverage their community trust and mobilisation capacity to strengthen recruitment, participation, and social cohesion, while technically specialised NGOs deliver agricultural and entrepreneurship interventions (Jahani & Parayandeh, 2024). This integrated approach better aligns institutional strengths with programme effectiveness.

Rural youth scored significantly higher on the Youth Transformation Index than peri-urban youth despite the concentration of stakeholder resources in urban areas. Two explanations emerge. The proximity hypothesis suggests that agricultural interventions are more relevant to rural livelihoods, consistent with evidence that school-based agricultural education and rural programmes improve productivity despite resource constraints (Corio, 2022; Learwellie, 2024). Alternatively, the aspirational-gap hypothesis posits that peri-urban youth, exposed to urban employment opportunities yet structurally excluded from them by limited land access, higher living costs, and weaker agricultural land tenure near urban peripheries, perceive existing mechanisms as inadequate, reflecting unmet aspirations and reliance on informal livelihood strategies (Fortune, 2021). Although the data cannot distinguish conclusively between these explanations, the absence of a significant urban–rural difference suggests that the observed pattern reflects a peri-urban disadvantage rather than inherent rural superiority.

V. CONCLUSION AND RECOMMENDATIONS

5.1 Summary and Conclusions

5.1.1 Summary

This study evaluated the perceived effectiveness of government, NGO, and faith-based mechanisms for transforming disadvantaged youth in Liberia using data collected across all 15 counties of Liberia through proportional allocation. The findings reveal that all stakeholder mechanisms were perceived as less than moderately effective, indicating a systemic mismatch between programme investments and youth transformation needs. Although NGO mechanisms performed relatively better, only the integrated BRAC Agricultural Microfinance model demonstrated substantial effectiveness, highlighting the value of finance-centred, multi-component interventions. Significant differences existed across stakeholder types. On the other hand, regression analysis identified government mechanisms and market access innovation as negative predictors of transformation and alternative financing as the only positive predictor. Rural youth achieved better transformation outcomes than peri-urban youth, and innovation mechanisms converged into a single novelty readiness construct.

5.1.2 Conclusion

Four conclusions emerge. First, the prevailing supply-driven, training-centred approach is insufficient for sustainable youth transformation, reflecting systemic misalignment rather than isolated programme weaknesses. Second, integrated financial support is the strongest driver of youth transformation, confirming that access to finance remains the principal constraint on agricultural entrepreneurship. Third, faith-based organisations contribute valuable community mobilisation but lack the technical capacity to deliver effective agricultural and entrepreneurship interventions independently. Finally, stronger transformation outcomes among rural youth challenge the urban-centric focus of development programming and stress the need for greater investment in rural empowerment supported by appropriate infrastructure and market systems.

5.2 Policy Implications

The negative association between government mechanisms and youth transformation indicates that the Government of Liberia and the Ministry of Youth and Sports should prioritise redesigning, rather than expanding, existing programmes. Interventions should adopt market-driven, demand-responsive approaches that integrate skills development with finance and market access. Although the ARREST Agenda provides an appropriate policy framework, its perceived effectiveness depends on strengthened institutional capacity and implementation (Wesseh, 2025). For international NGOs and development partners, the effectiveness of the BRAC Agricultural Microfinance

model reinforces evidence that integrated, finance-centred interventions outperform training-only programmes (Fox & Kaul, 2018; Kluve et al., 2019). Consequently, post-training market linkages, alternative financing, and digital extension should be treated as core programme components. Faith-based organisations should leverage their comparative strengths in community mobilisation and social cohesion while partnering with technically specialised organisations to deliver agricultural and entrepreneurship services (Tarpeh & Hustedde, 2021).

5.3 Recommendations

The Ministry of Youth and Sports should review and redesign youth transformation programmes to integrate mandatory market linkages and microfinance, drawing on the BRAC Agricultural Microfinance model. NGOs and development partners should prioritise post-training financial services, market access, and enterprise support to address the financing constraints limiting youth transformation. Faith-based organisations should formalise partnerships with government and technically specialised NGOs, focusing on community mobilisation while delegating skills and entrepreneurship training to capable partners. The Government of Liberia should also undertake a national Technical and Vocational Skills Development (TVSD) review to align training provision with labour market demand, particularly in agricultural entrepreneurship (Dukuly & Huang, 2020). In practical terms, implementation pathways include: (a) government piloting mandatory market-linkage clauses in two to three counties before national rollout; (b) NGOs re-tooling existing training budgets to add a financing/market-access module rather than requesting new funding; and (c) faith-based organisations formalising referral agreements with technical NGOs within existing community structures. These changes carry resource implications, additional microfinance capital, market-linkage staff, and inter-agency coordination, that are likely lower than the cost of parallel stand-alone programmes, since they build on existing delivery infrastructure rather than creating new ones, though this trade-off warrants explicit costing in future implementation research.

5.4 Areas for Further Research

Future research should prioritise longitudinal studies tracking youth before, during, and after programme participation to establish causal transformation pathways beyond the limitations of cross-sectional designs. County-level comparative studies are also needed to examine how institutional and agricultural contexts influence the effectiveness of stakeholder mechanisms across Liberia. Finally, qualitative research should investigate the processes underpinning the exceptional performance of the BRAC Agricultural Microfinance model and assess its transferability to other Liberian contexts, providing evidence to guide the scaling of integrated financial interventions.

5.5 Limitations of the Study

This study has several limitations. The cross-sectional design limits causal inference, with findings reflecting associations at a single point in time. Sample size estimation using Slovin's formula may be more conservative than power-based approaches. The stakeholder mechanism scales showed modest reliability ($\alpha = 0.450\text{--}0.620$), reflecting their heterogeneous, multi-programme composition; consequently, composite scores should be interpreted cautiously, and future studies should refine these measures. The concentration of respondents in Montserrado may reduce representativeness for smaller counties, and no sensitivity analysis excluding this county was conducted. The target-population estimate relied on the 2008 census (Jockers et al., 2022) proportionally adjusted for growth, since updated census figures were unavailable at the time of data collection; this dating introduces additional uncertainty into the sampling frame. The sample's gender imbalance (56.5% male) also meant that gender-disaggregated analysis of stakeholder-mechanism effects was not conducted. Finally, self-reported effectiveness ratings may be influenced by framing effects and varying interpretations of scale anchors, warranting the use of vignette-based or observational measures in future research.

Abbreviations: ANOVA = analysis of variance; EFA = exploratory factor analysis; FBO = faith-based organisation; LISGIS = Liberia Institute of Statistics and Geo-Information Services; NGO = non-governmental organisation; TVSD = Technical and Vocational Skills Development; VIF = variance inflation factor; YTI = Youth Transformation Index; ARREST = Agriculture, Roads, Rule of Law, Education, Sanitation, and Tourism.

VI. DECLARATIONS

Informed Consent

Written informed consent was obtained from all participants before the interview. Participants were informed of their right to withdraw at any stage without consequence, and parental or guardian consent was obtained for participants under the age of 18.

Data Availability

The datasets generated and analysed during this study are available from the corresponding author upon request.

Author Contributions

D.A.C. Kiamue, V.C. Asogwa, M.M. Dlamini, and M. Mathenjwa contributed to conceptualisation, methodology, data collection, formal analysis, and writing (original draft, review, and editing).

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Conflict of Interest

The authors declare no conflict of interest.

Declaration of Generative AI Use

AI-assisted writing tools were used in a limited capacity to support sentence restructuring and grammar checking during drafting. All research design decisions, data collection, statistical analyses, interpretation of findings, and substantive conclusions are solely the work of the authors. No AI tool was used to generate data, create citations, or substitute for scholarly judgement.

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