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Review Article

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From Skills to Wellbeing: How Psychosocial and Relational Factors Shape Youth Livelihood Outcomes in Bangladesh

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Abstract

This study examines how vocational and technical skills training translates into youth livelihood outcomes in Bangladesh when mediated by psychosocial wellbeing and relational support systems. Drawing on the Capability Approach, Ecological Systems Theory, and Positive Youth Development (PYD), the analysis moves beyond skills-centric explanations to explore livelihoods as a wellbeing-embedded and relationally conditioned process. Using a convergent mixed-methods design, the study combines survey data from 417 youth aged 15–24 in rural Kayetpara and urban Dhaka with qualitative evidence from 12 focus group discussions and 6 key informant interviews. Multivariate regression and structural equation modeling indicate that access to vocational or technical training is a strong predictor of income generation, outperforming education level, gender, or location alone. However, emotional distress, limited peer and mentor support, and weak family encouragement significantly constrain livelihood gains, particularly among younger adolescents and young women. Qualitative findings help explain these patterns, showing that while training often enhances confidence and perceived capability, many young people struggle to convert skills into sustainable livelihoods in emotionally unsafe, gender-restrictive, or socially unsupportive environments. Urban youth especially females reported heightened stress, stigma, and competitive pressures that diluted the economic returns of training.

In response, the study proposes a Youth Livelihood–Wellbeing Pathway Framework comprising three interdependent pillars: (1) psychosocially aligned skills development, (2) integrated emotional wellbeing and mental health support, and (3) relationally enabling ecosystems that foster mentorship, trust, and help-seeking. The findings highlight the importance of age- and gender-responsive youth services that integrate economic, psychosocial, and relational dimensions. By reframing livelihoods as a systems-embedded wellbeing process, the study contributes to youth wellbeing and care scholarship and informs policy debates on designing training interventions that are not only economically effective, but also inclusive and sustainable.

Keywords: Youth Wellbeing, Youth Livelihoods, Vocational and Technical Training, Psychosocial Wellbeing, Relational Support, Bangladesh, Positive Youth Development, Mixed-Methods, Youth Services

1. Introduction

Youth aged 15–24 constitute more than 30 million people approximately 18% of Bangladesh's population representing a significant demographic opportunity alongside persistent developmental challenge [1]. Despite sustained national investments in education, skills development, and employment promotion, many young people continue to experience uneven transitions from training to work, particularly adolescents (15–17), transitional youth (18–21), and young adults (22–24). These challenges are compounded by fragmented service systems, entrenched gender norms, and geographic disparities, which differentially shape young people's access to opportunities and

support [2]. Unemployment and underemployment remain disproportionately high among rural youth and young women, many of whom engage in informal, precarious, or unpaid work. Although educational participation has expanded, fewer than 40% of young people report that their qualifications align with their current employment, highlighting a persistent mismatch between skills provision and labor market realities [2]. Vocational and technical training is frequently advanced as a corrective strategy; however, such programs are often urban-centered, narrowly skills-focused, and insufficiently adapted to the lived realities of marginalized youth, limiting their effectiveness. Critically, prevailing policy and programmatic approaches tend to underemphasize psychosocial wellbeing and relational support, despite growing evidence that these factors are central to young people's ability to apply skills, navigate labor markets, and sustain livelihoods. Emotional distress, low self-confidence, weak peer or mentor networks, and limited family encouragement can significantly constrain livelihood pathways particularly for younger adolescents and urban girls who face heightened stigma, stress, mobility restrictions, and unsafe environments [3,4]. When these dimensions are overlooked, skills training risks producing unequal and fragile returns, even where technical competencies are acquired.

Responding to these gaps, this study examines how vocational and technical training interacts with psychosocial wellbeing and relational support to shape youth livelihood outcomes in Bangladesh. Rather than asking only whether young people receive training, the analysis focuses on how emotional and relational conditions mediate the translation of skills into income and livelihood stability. The study further emphasizes institutional responsiveness, examining how program designs and service ecosystems either enable or constrain youth transitions to work and wellbeing. By adopting a mixed-methods approach, the study contributes to youth livelihoods and wellbeing scholarship in three ways. First, it demonstrates that livelihood outcomes are not solely a function of skills acquisition, but are embedded within psychosocial and relational ecosystems. Second, it highlights how age, gender, and geography intersect with emotional readiness and social support to produce differentiated outcomes. Third, it advances a systems-oriented perspective that reframes youth livelihoods as a wellbeing process, rather than a purely economic endpoint.

Guided by these concerns, the study addresses four research questions:

1. How does vocational or technical training influence youth income across urban and rural settings?
2. What roles do emotional wellbeing, self-esteem, and peer or family support play in shaping livelihood outcomes?
3. How do gender norms, mobility, and infrastructural conditions mediate training and employment trajectories?
4. How do adolescents and older youth perceive confidence, wellbeing, and social support in their transition to livelihoods?

To answer these questions, the study pursues three objectives:

1. To assess the relationship between vocational or technical training and monthly income.
2. To examine how psychosocial and relational wellbeing mediate income outcomes.
3. To identify structural and institutional barriers affecting youth transitions from training to employment, particularly for marginalized groups.

Methodologically, the study employs a convergent mixed-methods design, combining multivariate regression analysis with qualitative evidence from focus group discussions and key informant interviews. The analytical framework integrates Positive Youth Development, the Youth Systems Framework, Sen's Capability Approach, and Bronfenbrenner's Ecological Systems Theory, enabling a multidimensional understanding of youth embedded within overlapping personal, social, and institutional systems. Overall, this research contributes to global debates on youth wellbeing, health, and care by demonstrating that emotional resilience and relational support are not ancillary, but foundational to sustainable livelihood outcomes. The findings underscore the need for integrated, youth-centered services that value connection, confidence, and care alongside skills offering important implications for policy and program design in Bangladesh and comparable contexts.

2. Literature Review

2.1. Theoretical Framing

This study adopts an integrated multi-framework approach to explain how vocational training translates unevenly into youth livelihood outcomes in Bangladesh. Rather than treating skills acquisition as a linear pathway to income, the framework conceptualizes youth livelihoods as the outcome of interacting economic, psychosocial, and ecological systems. This systems-oriented framing aligns with Children and Youth Services Review (CYSR) scholarship emphasizing youth wellbeing, agency, and service responsiveness beyond narrow labor-market metrics. Becker's Human Capital Theory provides the study's foundational economic logic, positing that education and skills training constitute investments that increase productivity and earnings [5]. Consistent with this theory, the study hypothesizes that access to technical or vocational training should predict higher income among youth. However, Human Capital Theory alone is insufficient to explain the observed heterogeneity in income returns particularly by age, gender, and location or why trained youth experiencing emotional distress or weak social support often fail to convert skills into sustainable livelihoods. These limitations necessitate complementary theoretical lenses.

To address this gap, the study draws on Sen's Capability Approach, which shifts analytical attention from resources (e.g., training credentials) to the real freedom's youth possess to achieve livelihoods they value [6]. From a capability perspective, vocational training represents a resource, but income outcomes depend on conversion factors such as emotional wellbeing, personal safety, mobility, social recognition, and relational support. This framework is especially salient for young women and adolescents in Bangladesh, whose opportunities to deploy skills are frequently

constrained by gender norms, insecurity, and restricted agency. In this study, psychosocial wellbeing and relational agency are therefore treated as key capability-enabling conditions rather than peripheral variables.

The DFID Sustainable Livelihoods Framework is used to situate individual youth outcomes within broader vulnerability and institutional contexts [7]. It informs the study's attention to how human capital (training), social capital (peer and family support), and institutional capital (access to programs, employer linkages, trust in services) interact with structural constraints such as labor-market informality, urban congestion, and gendered exclusion. This framework reinforces the study's focus on livelihood sustainability rather than income alone. Central to the study's design is Bronfenbrenner's Ecological Systems Theory, which explicitly guided variable selection and age-disaggregated analysis [8]. Youth are conceptualized as embedded within nested systems:

- The microsystem (family encouragement, emotional wellbeing),
- Mesosystem (peer and mentor relationships),
- Exosystem (training institutions, labor-market access), and
- Macrosystem (gender norms, policy environments).

This ecological framing provides the analytical rationale for examining why adolescents (15–17) are more strongly influenced by family and schooling contexts, while older youth (18–24) are increasingly shaped by labor-market pressures, institutional responsiveness, and social expectations. Psychosocial variables included in the quantitative models were selected explicitly to capture these system-level influences.

To further interrogate how support functions within these systems, the study incorporates Relational Agency Theory. Relational agency foregrounds youths' capacity to seek support, collaborate, and navigate complex decisions with others. In contexts of weak institutional scaffolding, relational assets such as peer mentoring, trusted adults, and family recognition become critical mediators between skills and outcomes. This lens informs both the measurement of relational variables and the interpretation of their sometimes-contradictory associations with income, particularly for young women. Finally, the Positive Youth Development (PYD) framework provides a strength-based orientation that reconceptualizes youth as active agents rather than passive recipients of training [9,10]. The PYD "Five Cs" competence, confidence, connection, character, and caring inform the study's operationalization of self-esteem, emotional wellbeing, and relational engagement. These constructs are treated as developmental assets that shape youths' readiness to engage with training, persist through setbacks, and pursue livelihood opportunities. Taken together, these frameworks form a cohesive analytical lens that directly informs the study's research design, variable selection, and interpretation of findings. They enable the analysis to move beyond the question of whether training works to examine under what psychosocial and ecological conditions skills translate into meaningful and sustained livelihood outcomes in fragile and unequal settings such as Bangladesh.

2.2. Empirical Evidence and Global Learning

Despite sustained progress in expanding access to education, youth labor-market outcomes in Bangladesh remain fragile. Youth unemployment exceeds 11%, while underemployment and informal work are widespread, particularly among rural youth and young women [11]. Empirical studies consistently identify a persistent mismatch between Technical and Vocational Education and Training (TVET) provision and labor-market demand, undermining the effectiveness of skills investments [2]. The TVET system remains largely urban-centric and supply-driven, with limited employer engagement and insufficient adaptation to diverse learner profiles. A growing body of research indicates that these structural constraints are compounded by psychosocial and relational barriers. Evidence from Bangladesh and comparable low-resource contexts shows that youth experiencing low self-esteem, emotional distress, or social isolation are less likely to complete training or translate acquired skills into employment [4]. Gendered norms further intensify these challenges: young women face restrictions related to mobility, safety, and household expectations that reduce participation and confidence in training and work environments [12]. Adolescents (15–17) are particularly underserved by age-appropriate vocational pathways, while young adults (22–24) are more likely to experience prolonged job search and psychological fatigue in the absence of psychosocial support. International evidence reinforces the importance of integrated approaches. A large-scale meta-analysis by Kluve et al., examining 113 youth employment programs across 31 countries, demonstrates that interventions combining technical training with soft skills development, mentoring, and psychosocial support consistently outperform skills-only programs [13]. These integrated interventions were 20–30% more likely to yield positive employment outcomes, particularly for disadvantaged youth. Similarly, recent syntheses by the World Bank highlight that livelihood programs are most effective when training is embedded within broader service ecosystems that include counseling, job placement, and social support. Comparative programmatic models further illustrate how system integration improves outcomes [14]. Germany's dual apprenticeship model links classroom learning with employer-based training and incentives, contributing to low youth unemployment and smoother school-to-work transitions. Singapore's Skills Future initiative emphasizes lifelong, flexible skills development supported by mentoring, digital access, and guidance services.

In Rwanda, decentralized and mobile TVET models have expanded rural access through gender-sensitive curricula and peer-based support, enabling young women to enter non-traditional sectors such as renewable energy and digital services. By contrast, empirical assessments of Bangladesh's TVET system point to limited scale, weak private-sector partnerships, and minimal integration of mental health or relational support services. The absence of structured school-to-work transition mechanisms leaves many young people particularly those classified as NEETs (Not in Education, Employment, or Training) without institutional scaffolding to navigate employment pathways effectively. Evidence published in Children and Youth Services Review reinforces these

conclusions. Islam and Perera demonstrate that youth livelihood programs embedding emotional resilience and relational trust improve persistence and economic mobility [3]. More recently, Iwasaki et al., show that youth outcomes improve when services are responsive to developmental stage, social context, and interconnected service systems, rather than focusing narrowly on training outputs [15]. Together, this body of evidence underscores the need for youth livelihood interventions that integrate technical skills with psychosocial and relational supports an empirical gap this study seeks to address.

2.3. Synthesis: Key Gaps and Strategic Priorities

This review identifies five critical gaps in youth livelihood programming, with corresponding system-level responses:

Gap	Strategic Response
1. Mismatch between training and market needs	Co-design TVET with employers; embed real-world applications
2. Age and gender-based exclusion	Develop tiered, age-specific curricula and safe, inclusive learning environments
3. Weak integration of mental health	Incorporate PYD, stress management, and emotional support into training
4. Undervalued relational agency	Facilitate peer mentorship, family involvement, and youth–adult partnerships
5. Centralized, urban-biased delivery	Expand mobile, localized training models in underserved rural areas

In response, this study advances a Youth Livelihood Framework that positions income as only one facet of youth development. It centers emotional wellbeing, relational support, and institutional responsiveness as equally critical to sustainable livelihoods. Rather than treating training as a standalone intervention, it situates youth development within nested systems family, peer, institutional, and ecological thereby contributing to more inclusive and resilient service designs in fragile contexts.

3. Methodology

3.1. Research Design

This study adopted a convergent parallel mixed-methods design, consistent with best practices outlined by Creswell and Plano Clark (2018). This design was chosen to integrate both quantitative and qualitative data collected independently but analyzed together to gain a more comprehensive understanding of youth employment dynamics in Bangladesh. The rationale for using this approach is twofold:

(1) to triangulate findings and enhance validity, and

(2) to explore not just "what works" but also "why" or "how" certain human capital investments influence income outcomes. This approach is particularly suited for examining socio-economic disparities across gender and location.

3.2. Sampling Strategy and Participants

A stratified purposive sampling approach was employed to select 417 youth participants across urban (Dhaka) and rural (Kayetpara) sites, ensuring adequate representation of gender, location, and skill categories. Stratification allowed meaningful subgroup comparisons while purposive selection ensured relevance to research objectives. Additionally, 12 Focus Group Discussions (FGDs) and 6 Key Informant Interviews (KIIs) were conducted with community leaders, training providers, and employers to contextualize the quantitative results.

3.3. Data Collection

3.3.1. Quantitative Data Collection

Quantitative data were collected using a structured questionnaire designed to capture demographic characteristics, educational attainment, vocational or technical training exposure, employment status, and monthly income, alongside psychosocial indicators relevant to youth livelihood transitions. Informed by the study's theoretical framing, the instrument also included measures of self-esteem, emotional wellbeing, peer and family support, and perceived barriers to training and employment. The questionnaire was developed drawing on established youth livelihood and wellbeing surveys and was pre-tested with 25 youth participants in a non-study site. Feedback from the pilot was used to refine item wording, improve cultural appropriateness, and enhance internal consistency of psychosocial measures. Data were collected using tablet-based electronic forms to minimize data entry errors and allow real-time validation checks. Trained enumerators administered the survey in Bangla, the primary language of participants.

3.3.2. Qualitative Data Collection

Qualitative data were gathered through 12 Focus Group Discussions (FGDs) involving a total of 72 youth participants (aged 16–24) and 6 Key Informant Interviews (KIIs) with training providers, employers, and local service actors. FGDs were stratified by age group and gender to facilitate open discussion and capture age- and gender-specific experiences of training, psychosocial wellbeing, and livelihood pathways. Each FGD lasted approximately 90–120 minutes. Semi-structured FGD and KII guides were developed to explore perceived enablers and barriers to vocational training, emotional and psychological challenges, relational support systems, and experiences of transitioning from training to work. All discussions were conducted in Bangla, audio-recorded with consent, transcribed verbatim, and translated into English for analysis. The term transcribed and translated therefore refers to the conversion of spoken Bangla narratives into written English transcripts, rather than interpretive data transformation.

3.3.3. Ethical and Inclusion Considerations

Gender-sensitive and youth-safe facilitation strategies were employed throughout data collection. Female-only FGDs were

conducted in private and secure locations to encourage participation and reduce social inhibition. FGDs involving adolescents aged 15–17 were conducted separately using age-appropriate facilitation techniques. In these cases, written parental or guardian consent was obtained in addition to participant assent. These procedures were designed to ensure ethical integrity, minimize power imbalances, and promote authentic disclosure, particularly on sensitive topics related to emotional wellbeing, gender norms, and social support.

3.4. Data Analysis

3.4.1. Quantitative Analysis

Quantitative data were analyzed using SPSS (version 23). Descriptive statistics were first generated to summarize participant characteristics and key variables. Group differences in monthly income by technical training status, gender, age group, and location were examined using one-way ANOVA. Multiple linear regression models were then estimated to assess the relative contribution of technical training, education level, gender, and geographic location to income outcomes while controlling for potential confounders. To examine the interrelationships among training, psychosocial variables, and income, Structural Equation Modeling (SEM) was conducted using AMOS. SEM was selected to test theoretically informed pathways derived from the Capability Approach and Ecological Systems Theory, allowing psychosocial wellbeing and relational agency to be modeled as mediating constructs rather than isolated predictors. Latent variables were constructed from multiple observed indicators, and model fit was assessed using standard goodness-of-fit indices. Multicollinearity diagnostics and residual checks were conducted to ensure model robustness.

3.4.2. Qualitative Analysis

Qualitative data from FGDs and KIIs were analyzed using inductive thematic analysis. Transcripts were read repeatedly to ensure familiarization, after which initial codes were generated to capture recurring patterns and meanings. Codes were iteratively refined and clustered into higher-order themes, including access barriers, gendered constraints, emotional wellbeing, relational support, skill relevance, and labor-market navigation. The qualitative analysis was conducted by the author. To mitigate interpretive bias, analytic memos were maintained throughout the coding process, and themes were continuously compared across age groups, gender, and rural–urban contexts. Quantitative findings informed the development of qualitative probes, and qualitative insights were used to contextualize and explain statistical associations.

3.4.3. Integration of Mixed Methods

Integration occurred at the interpretation stage through triangulation of quantitative and qualitative findings. Convergences and divergences between statistical results and youth narratives were examined to strengthen explanatory depth and enhance credibility. This mixed-methods integration enabled the study to move beyond identifying predictors of income to explaining how and under what conditions vocational training translates into livelihood outcomes.

3.5. Ethical Oversight and Data Quality

To ensure rigor, the study implemented several quality assurance mechanisms: pre-testing of instruments, daily debriefings during fieldwork, real-time data validation, and random spot-checks. Ethical approval was obtained from an independent academic panel, and informed consent was secured from all participants. For participants under age 18, verbal and written assent was collected in addition to parental or guardian consent. FGDs with minors were conducted in separate groups to maintain safety and comfort. Confidentiality was assured for adolescent participants through anonymized transcripts and private interview settings, with no identifying information stored alongside responses.

4. Results and Findings

4.1. Educational and Technical Training Disparities

Educational and training access remains uneven across youth in Bangladesh. As shown in Table 1, only 36% of rural youth completed secondary or higher education, compared to 55% of urban youth. Gender differences were modest, with 44% of females and 36% of males achieving similar levels. The largest gap appears by age just 6% of adolescents (15–17) completed secondary school, versus 47–49% among youth aged 18–24. This highlights early dropout risks for adolescents and limited secondary access in rural areas. In terms of technical training, Table 2 shows only 25% of rural youth accessed TVET compared to 35% of urban youth. Female participation (33%) slightly outpaced male participation (29%), suggesting some progress in gender inclusion. Training access increased only marginally with age: 28% among adolescents and 31% among older youth. These results call for life-stage-sensitive strategies. Adolescents require foundational academic support and introductory training, while older youth need modular, demand-driven TVET linked to labor market entry.

Description	Rural	Urban	Male	Female	15–17 yrs	18–20 yrs	21–24 yrs	Overall
Completed Secondary or Higher Education	36%	55%	36%	44%	6%	47%	49%	46%
Note: *Data derived from field survey of 417 youth respondents*								

Table 1: Educational Attainment by Location, Gender, and Age Group

Description	Rural	Urban	Male	Female	15–17 yrs	18–20 yrs	21–24 yrs	Overall
Received Technical Training	25%	35%	29%	33%	28%	28%	31%	30%
Note: *Data derived from field survey of 417 youth respondents*								

Table 2: Participation in Technical Training by Location, Gender, and Age

4.2. Income Differentials by Skill Level, Gender, Location, and Age

Technical training is strongly linked with youth income. As shown in Table 3, trained youth earned BDT 11,834 on average 58% more than untrained peers (BDT 7,489). Notably, trained rural youth earned more (BDT 15,765) than their urban counterparts (BDT 8,245), challenging urban income assumptions. Trained females (BDT 11,522) earned nearly the same as males (BDT 12,146), indicating narrowing gender gaps. However, income trends by age are complex. Adolescents (15–17) gained little from training (BDT 6,200 vs. 5,056). For 21–24-year-olds, non-trained youth reported higher income (BDT 13,945) than trained youth (BDT 8,027), possibly due to informal or entrepreneurial activities. As shown in Table 4, these income differences between skilled and unskilled youth are statistically significant. One-way ANOVA results confirm that technical training contributes to income variation ($F(1, 420) = 30.361$, $p < .001$). These findings underscore the need for age-specific strategies: adolescents need life skills and career exploration, while older youth need entrepreneurship-linked or demand-responsive training.

Description	Rural	Urban	Male	Female	15–17 yrs	18–20 yrs	21–24 yrs	Overall
Skilled Youth	15,765	8,245	12,146	11,522	6,200	6,580	8,027	12,005
Non-Skilled Youth	8,768	6,347	7,654	7,324	5,056	9,879	13,945	7,558
Note: *Data derived from field survey of 417 youth respondents*								

Table 3: Monthly Income of Youth by Skill Level, Gender, Location, and Age

Source	df	SS	MS	F
Between Groups	1	1,105,237.21	1,105,237.21	30.361
Within Groups	420	15,287,391.80	112,563.41	
Total	421	16,392,629.01		
Note: *F (1,420) = 30.361, p < .001. Source: Author's field survey data*				

Table 4: One-Way ANOVA: Income Differences by Skill Level

Subgroup	Trained Avg. Income (BDT)	Untrained Avg. Income (BDT)
Rural Female	15,042	8,027
Urban Male	8,932	6,542
Adolescent Female (15–17)	5,821	4,884
Older Youth (21–24) Male	8,950	14,268
Note: *Table S3 disaggregates Table 3 across key intersectional categories for deeper interpretation*		

Table S3: Income by Training Status and Subgroup (Extended Version of Table 3)

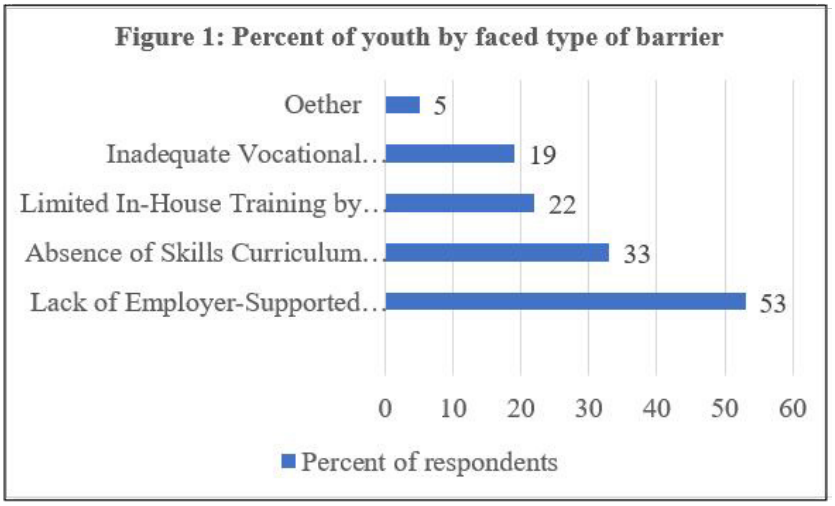
4.3. Barriers to Training and Employment

Overall, 67% of youth respondents reported experiencing at least one barrier to accessing skills training or employment. As summarized in Table 5 (Main Text), urban youth reported more barriers (73%) than rural youth (60%), potentially due to overcrowded services. Gender gaps were also notable males reported slightly more barriers (69%) than females (63%). Age-disaggregated data reveal adolescents (15–17 years) faced the fewest barriers (33%), likely due to continued schooling. However, qualitative data suggest many constraints particularly among girls remain underreported due to social stigma. Youth aged 18–20 experienced moderate challenges (62%), while the oldest group (21–24) reported the highest (71%) highlighting the need for targeted career and transition support.

As illustrated in Figure 1 (Main Text), the three most frequently reported barriers included:

- Lack of market-relevant training (53%)
- Low awareness of opportunities (33%)
- Limited employer-sponsored training (22%)

Additional FGD findings revealed gender-specific issues like unsafe transportation and cultural restrictions affecting young women. These insights call for inclusive, context-sensitive interventions.



Source: Author. Top Barriers:

- Lack of market-relevant training (53%)
- Low awareness of opportunities (33%)
- Limited employer-sponsored training (22%)

Figure 1: Common Barriers to Youth Training and Employment

Group	% Reporting Barriers
Urban Youth	73%
Rural Youth	60%
Male Youth	69%
Female Youth	63%
Adolescents (15–17)	33%
Youth 18–20	62%
Youth 21–24	71%
[Supplementary Material: See Table S5 for full disaggregated breakdown by gender × location × age]	

Table 5: Summary of Youth Barriers by Gender and Location

Age Group	Urban Male	Urban Female	Rural Male	Rural Female
15–17	29%	37%	24%	41%
18–20	62%	58%	64%	61%
21–24	73%	68%	70%	69%

Table S5: Disaggregated Barriers by Gender × Location × Age

4.4. SEM and Predictive Modeling of Youth Income

Regression analysis confirmed that technical training was the strongest income predictor, more impactful than gender, location, or education. Structural Equation Modeling (SEM) further revealed that access to market-aligned skills mediates the effect of gender and geography on income outcomes reinforcing the role of both structural and individual enablers.

Predictor	Coefficient (β)	p-value
Technical Training	0.471	< .001
Education Level	0.204	0.017
Gender (Male)	0.128	0.038
Urban Location	0.095	0.049

Table 6: Multiple Regression Predictors of Youth Monthly Income

This finding aligns with Human Capital and Capability frameworks, showing that without structural supports, even trained youth may underperform. [Supplementary Material: see Full regression outputs in Tables S6–S8]

Path	Coefficient	p-value
Technical → Income	0.471	<.001
Gender → Income	0.128	0.038
Urban → Income	0.095	0.049

Table S6: SEM Model Paths

Variable	β	p-value
Belief in self-worth	0.091	0.064
Confidence in future	0.082	0.131
Identity pride	-0.177	0.012

Table S7: Self-Esteem Variable Significance

Predictor	VIF
Technical Training	1.32
Education Level	1.18
Urban Location	1.25

Table S8: Multicollinearity Diagnostics

4.5. Self-Esteem Perceptions by Gender, Location, and Age

Youth self-esteem varies sharply by geography, gender, and age. Rural youth reported significantly lower confidence only 4% expressed confidence in their goals vs. 19% in urban areas. Females had lower self-belief: 72% felt they lacked valuable skills versus 58% of males.

Indicator	Urban (%)	Rural (%)	Male (%)	Female (%)
Confidence in achieving goals	19	4	18	7
Belief in having useful skills	38	19	42	28
Comfort in expressing opinions	41	27	45	22

Table 7: Youth Self-Esteem Perceptions by Gender and Location

Adolescents showed more neutral responses especially 15–17-year-olds, 89% of whom answered 'neutral' on confidence metrics. This indicates uncertainty rather than outright negative self-view, perhaps due to developmental transitions and low exposure to skill-building. Older youth, especially 21–24, expressed growing frustration likely due to unmet aspirations and weak labor absorption.

4.6. Self-Esteem and Monthly Income Associations

Regression results show that self-esteem explained only a modest share of income variance (5.3%). Interestingly, only one variable pride in personal identity was statistically significant and negatively associated with income.

Indicator	β Coefficient	p-value
Confidence in personal future	0.082	0.131
Belief in valuable contributions	0.105	0.089
Pride in personal identity	-0.177	0.012
[Supplementary Material: see Table S9 for full coefficient details]		

Table 8: Self-Esteem and Monthly Income Regression Output

Indicator	β Coefficient	p-value
Confidence in achieving goals	0.074	0.142
Belief in having useful skills	0.101	0.091
Comfort in expressing opinions	0.065	0.179
Confidence in personal future	0.082	0.131
Belief in valuable contributions	0.105	0.089
Pride in personal identity	-0.177	0.012
Ability to influence peer decisions	0.049	0.213

Table S9: Full Self-Esteem Regression Coefficients

4.7. Mental Health and Emotional Wellbeing

The emotional wellbeing of youth appears fragile: 57% disagreed they had felt emotionally well in the prior two weeks, particularly urban youth (62%) and adolescents (83%). Stress levels were high especially among females (60%) and rural youth (61%).

Indicator	Urban (%)	Rural (%)	Male (%)	Female (%)
Felt emotionally well	38	53	44	36
Experienced recent stress	62	61	57	60
Trusted person for support	12	8	10	10

Table 10: Mental Health Indicators by Gender and Geography

Only 10% of youth had someone they trusted when distressed. This isolation, especially among girls, demands youth-sensitive psychosocial support systems.

4.8. Mental Health and Youth Income

Mental health significantly predicted youth income ($R^2 = 0.052$), with two indicators stress and access to trusted emotional support negatively correlated with income.

Indicator	β Coefficient	p-value
Recent stress	-0.227	< .01
Access to support person	-0.168	0.043
[Supplementary Material: see Tables S12–S13 for ANOVA and regression coefficients]		

Table 11: Regression of Emotional Wellbeing Indicators on Income

Source of Variation	F-value	p-value
Stress Level	7.29	0.008
Support Trust	4.67	0.033

Table S12: ANOVA on Emotional Distress Predictors

Predictor	β Coefficient	p-value
Stress	-0.227	< .01
Emotional Support	-0.168	0.043

Table S13: Linear Regression: Stress and Income

4.9. Youth Perceptions of Relational Agency

Relational agency indicators were consistently low across groups.

Indicator	Adolescents 15-17(%)	Youth 18–24 (%)	Male (%)	Female (%)
Can speak in training settings	33	45	51	27
Feels peer/mentor support	29	39	43	31
Asks for help when challenged	27	35	40	30

Table 14: Relational Agency Indicators by Age and Gender

Adolescents and female youth showed the greatest relational hesitation, underscoring the need for mentoring programs and inclusive engagement platforms.

4.10. Relational Agency and Income

Relational agency explained 9.5% of youth income variance. Peer or mentor support was the only positive predictor (β = 0.338), confirming the value of social capital.

Predictor	β Coefficient	p-value
Peer/Mentor Support	0.338	< .001
Speaking in Group Settings	-0.112	0.042
Family Encouragement	-0.147	0.038

Table 17: Relational Agency Regression Model Summary

Unexpectedly, speaking up and family encouragement were negatively linked to income, perhaps because they occur during non-earning periods (e.g., training). These contradictions stress the importance of aligning relational growth with labor market readiness.

[Supplementary Material: see Tables S15–S17 for extended regression data]

Variable	β Coefficient	p-value
Peer Support	0.338	< .001
Speaking Confidence	-0.112	0.042
Family Encouragement	-0.147	0.038

Table S15: Relational Predictors Model Summary

Interaction Term	β Coefficient	p-value
Peer Support × Age	0.214	0.019
Speaking Confidence × Age	-0.073	0.077

Table S16: Interaction Effects by Age Group

Diagnostic	Value
Adjusted R^2	0.087
Standard Error	7036.7
Durbin-Watson	1.93

Table S17: Regression Diagnostics and Model Fit

4.11. Qualitative Insights: Life Readiness, Self-Esteem, Wellbeing, and Relational Agency

To complement the quantitative findings, focus group discussions (FGDs) were conducted with 72 youth participants (aged 16–24) across two districts in Bangladesh. These discussions provide deeper insight into youth perceptions of technical training, psychological growth, and service responsiveness. The narratives surfaced a broader picture of development not solely in terms of income, but in dimensions of self-efficacy, resilience, emotional health, and social connectedness

4.11.1. Training Experience and Readiness for Life

A dominant theme across groups was discontent with overly theoretical training content. Many youths especially in rural and peri-urban contexts expressed a strong preference for practical, hands-on learning in digital skills, entrepreneurship, and real-life applications. These accounts highlight the gap between training delivery and life readiness, where youth seek not just skills for work, but for functioning confidently in complex environments.

4.11.2. Female Participants Stressed Additional Challenges Such as:

- The need for gender-sensitive infrastructure
- Safe transportation and flexible scheduling
- Structured job placement or apprenticeship opportunities after training

These insights call for a reorientation of TVET programs toward youth-centric design, integrating safe, practical, and inclusive delivery systems.

4.11.3. Self-Esteem, Self-Efficacy, and Psychological Growth

Many youth participants reported a marked improvement in self-esteem and perceived capability after joining training programs. While these shifts didn't always translate into immediate economic gains, they fostered a growing sense of personal agency and control over one's future.

"Before, I didn't think I could ever do anything on my own. But now I can explain a topic in class, complete tasks by myself, and even help others."
— *Female, 21, rural Narayanganj*

Participants described moments of recognition leading group discussions, completing tasks independently, or being asked to help peers as catalysts for increased confidence. These moments were framed not just as external validation but as evidence of internal transformation.

"I saved Tk. 500 from my first freelance job and bought medicine for my mother. That felt better than anything else."
— *Male, 22, rural Narayanganj*

While quantitative results showed a positive correlation between confidence and income, these narratives suggest that self-efficacy a youth's belief in their capacity to act may itself be a valuable developmental outcome, regardless of income gains.

4.11.4. Mental Health and Emotional Resilience

Participants frequently cited emotional distress, rejection, and family pressure as barriers to consistent engagement and goal achievement. Long periods of unemployment, unacknowledged effort, and uncertainty about the future fostered a climate of psychological strain.

"Job searching is exhausting. Sometimes I feel hopeless, like no one wants to hire someone like me."
— *Female, 23, urban Dhaka*

Informal coping mechanisms like relying on close peers or withdrawing into solitude—were common. However, few had access to structured mental health services or formal psychosocial support within training institutions.

"Sometimes I just stay quiet and sleep. There's no one who understands. My father just tells me to find a job."
— *Male, 21, peri-urban Dhaka*

These narratives corroborate the regression results, which showed a negative association between emotional distress and income. More importantly, they suggest that emotional wellbeing should be framed as a core outcome of youth programs, not just an enabler of economic success.

4.11.5. Relational Agency, Peer Networks, and Family Recognition

Experiences with relational agency youths' ability to express themselves, build trust, and seek support were mixed. While some gained confidence through encouragement and peer dynamics, others felt inhibited by group hierarchies or passive trainers.

"At first, I stayed quiet. But slowly, the trainer started asking me directly, and I gained courage."
— *Female, 18, urban Dhaka*

Positive changes in family and peer dynamics were also reported, often catalyzed by visible engagement in training or micro-achievements. Recognition from previously skeptical relatives became a source of motivation and pride.

"My friends respect me more now because I know something they don't."
— *Male, 20, urban Demra, Dhaka*

These relational dynamics reflect the partial alignment with quantitative findings: peer support was positively associated with income, while voice and family encouragement were not directly predictive. However, qualitatively, both were repeatedly framed as crucial to youth's sense of belonging, safety, and emotional strength.

4.11.6. Narrative Synthesis and Implications

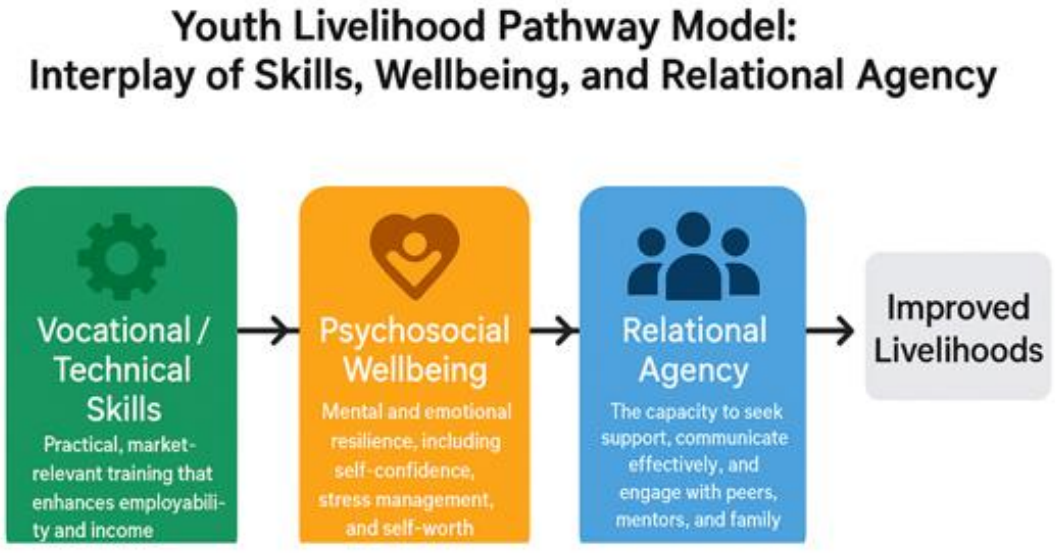
The qualitative findings underscore that youth development programs must do more than provide technical knowledge they must also cultivate emotional resilience, relational strength, and self-belief. While many youths reported growth in self-esteem and confidence, these psychological gains often existed alongside persistent structural and emotional barriers. Experiences of discouragement, isolation, and emotional fatigue limited how far personal growth could translate into income or mobility. This suggests that relational progress (e.g., gaining voice, respect, or social support) is necessary but not sufficient without enabling systems that convert growth into tangible opportunities. These findings suggest a fundamental need to reframe youth training outcomes beyond narrow economic metrics. Programs should embrace psychological wellbeing, resilience, and life readiness as central development goals particularly for adolescent girls, rural youth, and others navigating layered disadvantage. Integrated approaches that provide safe spaces for expression, access to mental health support, and relational capacity-building are especially critical in contexts where emotional distress, silence, or shame inhibit engagement.

Importantly, these insights are not anecdotal they complement and deepen the quantitative findings. Regression analyses showed that stress, emotional wellbeing, and peer support significantly influenced income, while training alone was insufficient when psychosocial readiness was lacking. Youth voices from the focus groups confirmed this dynamic, describing how personal achievements felt undermined by systemic discouragement, family pressure, or limited-service responsiveness. These findings inform the development of a conceptual Youth Livelihood Framework (detailed in Figure 2, see Discussion), which integrates technical, emotional, and social dimensions of youth development. The framework synthesizes the statistical associations between training access, psychosocial wellbeing, and income with the lived experiences of confidence, support, and self-doubt. It conceptualizes youth outcomes not solely as economic achievements, but as the product of intersecting systems where skills, mental health, and relational agency interact with enabling or constraining structures. This model reflects both global best practices and context-specific realities, offering a pathway toward youth programming that is not only scalable, but also emotionally safe, gender-sensitive, and human-centered.

5. Discussion

This study advances youth livelihood scholarship by demonstrating that vocational training influences income outcomes only when embedded within supportive psychosocial and relational systems. As articulated in Figure 2 (Youth Livelihood Pathway Model), technical skills, psychosocial wellbeing, and relational agency function as interdependent and mutually reinforcing domains shaping youth livelihood trajectories in Bangladesh. By integrating quantitative modeling with qualitative narratives, the analysis moves beyond identifying correlates of income to explaining the conditions under which training is converted into sustainable livelihood outcomes.

In doing so, the findings challenge the linear assumptions of traditional human capital approaches, which treat skills acquisition as sufficient for economic mobility. Instead, the results align with emerging Children and Youth Services Review scholarship that emphasizes system responsiveness, youth wellbeing, and relational safety as central to effective service design. The study therefore contributes to a growing body of evidence that youth livelihood outcomes are best understood and supported through integrated, youth-centered systems rather than skills-only interventions.



Source: Author.

Figure 2: Youth Livelihood Pathway Model: Interplay of Skills, Wellbeing, and Relational Agency

Figure 2 presents a conceptual model illustrating how vocational and technical skills generate income returns only when reinforced by emotional wellbeing and enabling relational environments. The model highlights psychosocial wellbeing and relational agency as mediating mechanisms that condition the effectiveness of skills training, while situating youth livelihoods within broader ecological systems that differ by age, gender, and context.

5.1. Technical Skills are Foundational but Insufficient

Consistent with Human Capital Theory, regression and SEM results show that access to vocational or technical training is the strongest predictor of youth income outperforming education level, gender, and location. However, the uneven returns to training observed across age and gender groups highlight the limitations of skills-only models. Trained youth experiencing emotional distress, weak peer networks, or unsupportive family environments derived significantly lower income benefits, despite possessing marketable skills. These findings align with critiques of human capital models that overlook conversion conditions. Interpreted through the Capability Approach, training represents a resource whose livelihood value depends on psychosocial wellbeing, mobility, safety, and social recognition. Where these conversion factors are absent as was frequently the case for urban youth and young women skills did not translate into sustained income. This extends existing literature by empirically demonstrating how emotional wellbeing and relational support function as capability enablers in youth livelihood pathways.

5.2. Age-Based Contrasts: Adolescents vs. Older Youth

Age-disaggregated analysis revealed stark contrasts in how youth engage with and benefit from training. Adolescents (15–17) experienced the weakest income returns, even when trained. Qualitative findings suggest this reflects developmental factors identity formation, emotional uncertainty, dependence on family systems as well as structural constraints, such as limited access to age-appropriate work. In contrast, older youth (18–24) achieved higher earnings but reported substantially greater emotional stress, particularly among urban females. For this group, peer mentorship and trusted relationships emerged as more influential than technical skills alone. These patterns align with Ecological Systems Theory, which predicts that adolescents are more shaped by family and schooling contexts, while older youth are increasingly influenced by labor-market pressures and institutional responsiveness. The findings suggest that uniform TVET models are ill-suited to diverse developmental stages. Adolescents require confidence-building, emotional safety, and exploratory skill exposure, whereas older youth benefit most from job-linked mentorship and psychosocial resilience supports.

5.3. Relational Agency: A Contextual Mediator

Relational agency youths' capacity to seek help, express themselves, and collaborate emerged as a complex and context-dependent factor. While peer and mentor support were positively associated with income, other indicators such as speaking up in group settings or family encouragement showed negative associations. Rather than contradicting relational theory, these findings underscore its conditional nature. In unsafe or gender-restrictive environments, particularly for urban girls, visible agency may invite social sanction rather than opportunity. From a relational agency and PYD perspective, agency is not inherently empowering unless institutions and social norms are responsive. These results caution against assuming that participation or voice automatically yields economic returns without parallel investments in emotional safety and inclusive service environments.

5.4. Rural vs. Urban Surprises

One of the study's most unexpected findings was that trained rural youth reported higher average income than trained urban peers. Qualitative data suggest that stronger family ties, lower living costs, and tighter community networks may enhance the conversion of skills into income in rural contexts. Urban youth, despite greater proximity to services, faced intense labor-market competition, psychological stress, and weaker relational support. These challenges urban-centric assumptions in youth employment policy and aligns with emerging evidence that localized, community-embedded training models can outperform centralized approaches. The finding reinforces the value of rural training hubs and decentralized service delivery that leverage existing social capital.

5.5. Contribution to Youth Services and Policy Scholarship

Taken together, these findings contribute to youth services research in three key ways. First, they empirically demonstrate that psychosocial wellbeing and relational agency are not auxiliary outcomes but central mechanisms shaping livelihood success. Second, they show that youth livelihood pathways are age- and gender-differentiated, requiring tailored service responses. Third, they provide evidence that system responsiveness across family, peer, institutional, and policy domains is critical for converting skills into sustainable livelihoods. In line with Children and Youth Services Review priorities, this study argues for a shift from skills-only interventions toward integrated youth livelihood systems that value emotional resilience, relational safety, and institutional trust alongside technical competence.

5.6. Limitations

This study acknowledges several limitations that should be considered when interpreting the findings and planning future research:

- **Geographic Scope:** The research was limited to two purposively selected locations—urban Dhaka and rural Kayetpara. While this enables meaningful urban–rural comparisons, findings may not fully capture the diversity of youth experiences across Bangladesh.
- **Self-Reported Data:** Income and employment outcomes were based on self-reports, which can introduce recall bias. To reduce this risk, enumerators used contextual prompts, and qualitative data were triangulated to validate responses.
- **Gender-Based Social Desirability Bias:** Focus group discussions (FGDs), particularly with younger urban females, may have been influenced by social desirability, leading to underreporting of emotional or gender-sensitive experiences.

- **Qualitative Disclosure Limitations:** Despite neutral facilitation, some FGD responses may reflect selective disclosure, especially on sensitive topics like mental health and family conflict.
- **Cross-Sectional Design:** The study provides a snapshot in time and does not account for changes in youth income or wellbeing over time. Longitudinal studies would be better suited to explore causal pathways and sustained impact.
- **Analytical Constraints:** Although multiple regression and SEM were used to explore predictive relationships, causal inference remains limited by the non-experimental design. Qualitative analysis was used to contextualize these statistical associations.

Future research should broaden geographic coverage, adopt longitudinal methods, and deepen inquiry into how relational and psychosocial dynamics shape youth trajectories across varying contexts.

6. Conclusion and Recommendations

This study provides mixed-methods evidence that youth income outcomes in Bangladesh are shaped not only by access to vocational and technical training but also by psychosocial wellbeing, relational agency, and structural context. Quantitative analyses confirm that technical skills training is a stronger predictor of income than academic credentials, gender, or geographic location. However, these returns are uneven. Trained rural youth earned higher average incomes than trained urban peers, challenging prevailing urban-centric assumptions and pointing to the latent potential of decentralized, community-embedded training models. Pronounced age- and gender-based disparities persist. Adolescents (15–17) remain significantly underserved by both education and training systems, and income returns for this group are minimal. For older youth, particularly urban females, emotional distress, limited family encouragement, and weak relational support were associated with poorer outcomes. In contrast, peer mentorship and emotional confidence were positively associated with income, underscoring the importance of psychosocial and relational conditions in shaping livelihood trajectories [16-32].

Taken together, these findings demonstrate that skills acquisition alone is insufficient. Livelihood outcomes emerge through the interaction of training with emotional readiness, relational safety, and responsive systems. To reflect this evidence, the study advances the Youth Livelihood Pathway Framework (Figure 2), grounded in three interlinked pillars:

- **Psychosocially Aligned Skills Development:** Training programs should integrate confidence-building, peer learning, and participatory methods to support youths' readiness to engage with work, particularly for adolescents transitioning from school to livelihood pathways.
- **Emotional Wellbeing Support:** Counseling, stress management, and referral services should be embedded within training institutions to address emotional distress, improve retention, and strengthen youths' capacity to sustain employment.
- **Relational Agency and Supportive Ecosystems:** Youth-serving systems must foster emotionally safe environments that enable trust, mentorship, and help-seeking, allowing relational agency to function as a positive mediator rather than a source of risk or exclusion.

6.1. Policy and Programmatic Recommendations

Immediate Priorities include

- Deploying mobile or decentralized TVET units in rural and climate-vulnerable areas to expand access and reduce geographic exclusion.
- Integrating digital, climate-resilient, and entrepreneurial competencies into youth curricula to reflect evolving labor-market demands.
- Ensuring gender-responsive infrastructure such as safe transportation, flexible scheduling, and childcare support to reduce participation barriers for young women.

Systemic Reforms Should Focus on:

- Institutionalizing peer mentorship and basic mental health services across youth-serving agencies and training providers.
- Incentivizing private-sector apprenticeships and employer partnerships aligned with emerging job sectors.
- Strengthening Labor Market Information Systems (LMIS) to improve alignment between training supply and labor demand.
- These measures must be tailored to the differentiated needs of adolescents, older youth, young women, and rural populations to avoid one-size-fits-all approaches.

6.2. Future Research Directions

Future research should build on this study by addressing three priority areas, sequenced by urgency and feasibility.

- **First, Longitudinal Research is the Most Urgent Priority:** Panel or cohort studies tracking youth over time are needed to examine how vocational training, psychosocial wellbeing, and relational support interact across key life transitions. Such designs would clarify whether improvements in emotional resilience and relational agency precede, accompany, or follow income gains, thereby strengthening causal inference particularly for adolescents and young women whose trajectories are highly sensitive to shifting social and institutional contexts.
- **Second, Cost-Effectiveness Analyses of Integrated Training Models are a High and Feasible Priority:** Comparative evaluations should assess decentralized and psychosocially enriched training approaches such as mobile TVET units or community-based delivery relative to conventional skills-only programs. Evidence on cost per sustained employment outcome would support more efficient allocation of resources in constrained policy environments.
- **Third, Relational Agency and Adaptive Livelihoods Warrant Deeper Inquiry:** Future qualitative and mixed-methods studies should examine how relational agency contributes to innovation, entrepreneurship, and adaptive livelihood strategies in fragile, informal, or climate-affected contexts. This would extend youth livelihood research beyond

wage employment and illuminate alternative pathways to resilience. Together, these research directions would advance theory, inform program design, and strengthen evidence-based youth services that integrate economic, psychosocial, and relational dimensions core priorities within the Children and Youth Services Review scholarly agenda.

6.3. Final Note: Youth Systems as Ecosystems of Empowerment

Youth economic empowerment cannot be separated from psychosocial wellbeing. Skills do not translate into sustainable livelihoods without emotional safety, meaningful relationships, and social inclusion. For adolescents in particular who are navigating identity formation and emotional development empowerment begins with belonging. Schools, NGOs, and training institutions must therefore evolve into integrated ecosystems that support both capability and connection. By fostering dignity, voice, and resilience alongside skills, youth development efforts in Bangladesh can become more inclusive, durable, and transformative.

Ethical Considerations

This study adhered to internationally recognized ethical standards in the design, implementation, and reporting of research involving human participants. Before data collection, all participants were informed of the study's objectives, procedures, and their rights, including the right to withdraw at any time without consequence. For participants under the age of 18, informed consent was obtained from their parents or legal guardians. Confidentiality and anonymity were strictly maintained. All responses were de-identified during processing, and no personally identifiable information appears in this manuscript. Focus group discussions and interviews were conducted in safe and private settings, with attention to the comfort of female participants. Ethical approval was granted by an independent ethics review panel comprising senior academics from the University of Dhaka and Bangladesh Agricultural University. The study followed the principles outlined in the Declaration of Helsinki, and special care was taken to minimize psychological risk and ensure cultural sensitivity.

Declarations

Ethics Approval and Consent to Participate

This study was conducted in accordance with internationally recognized ethical standards for research involving human participants. Informed consent was obtained from all participants prior to data collection, and parental or guardian consent was secured for participants under the age of 18. Ethical approval for the study was granted by a review panel comprising senior academics from the University of Dhaka and Bangladesh Agricultural University.

Availability of Data and Materials

The datasets generated and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Author Contributions

The sole author conceived and designed the study; led data collection, analysis, and interpretation; and drafted the manuscript in its entirety. Artificial intelligence tools were used solely for language editing and clarity enhancement, and did not contribute to the study design, data analysis, interpretation of findings, or substantive intellectual content. All analytical decisions and conclusions are the responsibility of the author.

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