



Does Agripreneurship Deliver? Testing the Triple-Challenges Outcome among Female Youth Agripreneurs in the Eastern Cape

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Abstract

South Africa's triple challenges of poverty, inequality, and unemployment are routinely paired, in policy and scholarship, with the claim that agripreneurship can meaningfully reduce them, a claim more often asserted than tested. Anchored in the capability approach, which distinguishes available resources (capability) from what is actually achieved (functioning), this study asks whether a proposed agripreneurship framework shows that any of its levers deliver success rather than merely building perceived potential. Using data from a purposively sampled pilot of 10 female youth agripreneurs (FYAs) in the Eastern Cape, the study estimates, via bootstrapped PLS-SEM, the structural paths leading to the ultimate agripreneurship outcome construct (AGRIP). Needs exerted the strongest effect on perceptions of the triple challenges ($\beta = -0.55, p < .001$); land showed a marginal association ($\beta = -0.55$, CI spanning zero). The model explained substantial upstream variance (R^2 of TRIP = .90), yet none of the three paths terminating in AGRIP were significant, despite venture quality having the largest raw coefficient ($\beta = -0.73$). This pattern indicates capability formation without yet-confirmed functioning. The paper recommends against marketing any agripreneurship framework to policymakers as a proven solution before a larger, adequately powered confirmatory study directly tests the outcome-level paths.

Keywords: agripreneurship, capability approach, PLS-SEM, female youth, Eastern Cape, SDG 5: Gender Equality

Introduction and Problem Statement

South Africa's "triple challenges" of poverty, inequality, and unemployment are among the most extensively documented features of the country's post-apartheid political economy (Bhorat et al., 2021; Francis et al., 2021), yet they remain, in a specific and consequential sense, under-tested as a target for intervention. Policy and scholarly literature widely assert that agripreneurship, entrepreneurial engagement with agriculture and its value chain, can reduce

poverty through household income, reduce inequality by opening an asset-building pathway to historically excluded groups, and reduce unemployment through self-employment and downstream job creation (Francis et al., 2021; Mayende, 2022). A comparatively small literature has tested, with a structural model and a falsifiable statistical criterion, whether the specific mechanisms proposed to connect resources, an enabling framework, and venture quality to a measurable agripreneurship outcome actually hold under estimation (Bruton et al., 2013; Naudé, 2010; Sutter et al., 2019).

Female youth, positioned at the intersection of gendered and generational exclusion and, in the Eastern Cape specifically, a former-homeland land history that continues to shape access to productive assets (Mayende, 2022; Ngcukaitobi, 2021), are repeatedly named in policy documents as a target population for agripreneurship-led development, even as youth unemployment approaches half of those aged 15 to 34 who want work (Heintz & Naidoo, 2021), rural poverty runs roughly double urban rates (Gumede, 2021), and labor-market income inequality accounts for the large majority of the country's overall income inequality (Leibbrandt & Díaz Pabón, 2021). Recent South African evidence continues to show this gap in practice: young people frequently regard farming as low-status and low-return, and women, despite their high involvement in farming, remain underserved in institutional support, credit access, and training (Zenda et al., 2026).

This manuscript is one of three built from the same small pilot dataset ($n = 10$), collected with the same structured questionnaire administered to the same purposively sampled population of FYAs in the Eastern Cape. Its distinct contribution is to synthesize every structural path in the underlying model that terminates in or feeds directly into the ultimate agripreneurship outcome construct (AGRIP), asking whether the model, taken as a whole, shows that any of the levers it proposes actually deliver agripreneurial success, rather than assuming that strong perceived need, land importance, and framework confidence translate automatically into a delivered outcome. The problem this study addresses, concretely, is that the causal chain from agripreneurship resources to a statistically confirmed triple-challenges outcome has not yet been tested for female youth agripreneurs in the Eastern Cape, even as policy continues to advance agripreneurship as though that chain were already established.

Theoretical Framework

This study is anchored in Amartya Sen's capability approach (Sen, 1999), read alongside a development-economics literature that treats entrepreneurship's contribution to poverty, inequality, and unemployment reduction as an empirical claim requiring evidence rather than a theoretical inevitability (Bruton et al., 2013; Naudé, 2010; Sutter et al., 2019). The approach's central move, extended by Nussbaum (2011) and systematized for applied research by Robeyns (2005), separates a person's capability set, the real opportunities available given their resources, and the personal, social, and environmental "conversion factors" that determine how effectively those resources translate into valued outcomes, from their achieved functioning, the outcome actually realized.

This distinction maps directly onto the study's constructs. Needs (NEED, access to funds, training, regulatory information, and networks) and land (LAND, access to and the perceived enabling role of land) are modeled as capability inputs. The triple-challenges construct (TRIP) indexes how acutely respondents experience the vulnerability context against which capability must be built. The proposed policy framework (FRMW) and venture quality (QUAL) are modeled as conversion factors, institutional and enterprise-level conditions that determine how effectively a resource endowment converts into the real freedom to succeed. Agripreneurship (AGRIP) is modeled as the achieved functioning itself, respondents' own

assessment of whether female youth agripreneurship creates employment, reduces poverty, offsets inequality, and contributes to output.

The wider entrepreneurship-as-development-strategy literature supplies the study's second theoretical pillar: capability formation, however robust, does not entail functioning achievement (Robeyns, 2005; Sen, 1999), and this entailment gap can only be closed empirically, construct by construct. Bruton et al. (2013) frame entrepreneurship as a proposed poverty solution that the field has historically under-tested relative to its policy prominence; Sutter et al. (2019) find the empirical evidence for entrepreneurship's poverty-reducing effect considerably thinner than the policy rhetoric asserting it; and Naudé (2010) argues that entrepreneurship's contribution to structural transformation is real but heterogeneous and institutionally contingent rather than automatic. South African evidence on SMMEs, the broader category within which agripreneurial ventures sit, shows a sector still dominated by micro and survivalist informal enterprises despite decades of institutional support architecture (Urban, 2021), and successive government strategies have named SMMEs and agripreneurship as central to inclusive growth since at least the 1996 White Paper on Small Business, without a correspondingly rigorous record of outcome-level testing (Bruton et al., 2013; Sutter et al., 2019; Urban, 2021). This is the evidence-to-policy gap the present study is designed to test directly: not whether resources and perceptions are formed, which the wider literature and this study's own descriptive results suggest respondents already endorse strongly, but whether those resources and perceptions convert into a measurable, delivered functioning.

Purpose

The purpose of this study is to test, using a structural equation model estimated from pilot data on female youth agripreneurs in the Eastern Cape, whether the full set of paths hypothesized to terminate in the ultimate agripreneurship outcome construct (AGRIP) is statistically supported, distinguishing capability formation from achieved functioning. Five hypotheses, corresponding to the complete set of structural paths in the model that terminate in or feed directly into AGRIP, were tested: H1, needs (NEED) have a significant effect on perceptions of the triple challenges (TRIP); H2, land (LAND) has a significant effect on TRIP; H3, the proposed framework (FRMW) has a significant effect on agripreneurship outcomes (AGRIP); H4, the triple challenges (TRIP) have a significant effect on AGRIP; and H5, the quality of entrepreneurial ventures (QUAL) has a significant effect on AGRIP. H1 and H2 test whether capability-formation inputs predict the vulnerability context; H3 through H5, the hypotheses on which the paper's central question turns, test whether institutional- and venture-level conversion factors, and the vulnerability context itself, predict the achieved functioning that constitutes agripreneurial success.

Methods

Research Approach and Design

This study adopted a quantitative, deductive approach guided by objectivity, replicability, and structured data analysis, consistent with a broader literature that treats these as the foundational principles for testing pre-specified hypotheses about complex social and economic phenomena (Creswell & Creswell, 2018; Hair et al., 2022; Ma & Lee, 2026). The study is located within the positivist paradigm, which remains the dominant framework for quantitative social-science research and emphasizes objectivity, replicability, and empirical validation of measurable relationships between variables (Boda, 2025; Castillo, 2025; Diaz-Melian et al., 2026; Esmaeili et al., 2025; Lian & Dimitrijevic, 2025). This paradigm was judged appropriate given the study's aim of testing pre-specified, theory-derived hypotheses, including the capability-versus-functioning distinction central to this manuscript, rather than generating theory inductively.

A cross-sectional, correlational research design was used to examine relationships among the study's latent constructs at a single point in time, an approach widely used in the social sciences to investigate associations among variables without manipulation and well suited to naturalistic, real-world settings of this kind (Ayaz & Oencil, 2025; Bravo-Jaico et al., 2025; Creswell & Creswell, 2018; Pangilinan, 2025). A structural equation modeling approach was selected because it allowed both the measurement properties of each construct and the predictive relationships between constructs to be assessed within a single coherent model (Hair et al., 2022; von Hardenberg & Gonzalez-Voyer, 2025; Zhang & Tuerde, 2025). Data were collected using a structured, self-administered questionnaire organized into twelve substantive sections, administered to the same sample as two companion manuscripts drawn from this pilot study. This manuscript isolates and tests the distinct subset of hypotheses and structural paths that terminate in the AGRIP construct.

Sampling and Participants

A non-probability, purposive sampling method was used to identify female youth agripreneurs (FYAs) operating in the Eastern Cape Province, a population for which no reliable sampling frame exists and for which probability sampling was therefore impractical (Cabanelas et al., 2025; Duffett & Mxunyelwa, 2025; Miah et al., 2026). Non-probability sampling of this kind remains prominent in quantitative research targeting specific, hard-to-enumerate populations in resource-limited or hard-to-reach settings, and is appropriate for generating an initial test of a proposed measurement and structural model prior to a larger-scale confirmatory study (Chand et al., 2025; Etikan et al., 2016; Letshaba et al., 2025). Consistent with an initial, exploratory administration of a newly assembled instrument, the achieved sample was small ($n = 10$); results should accordingly be read as indicative rather than as generalizable population estimates. Respondents were required to (a) self-identify as women, (b) fall within the 18–35 youth age band conventionally used in South African policy, and (c) be actively operating, or establishing, an agriculturally based enterprise in the Eastern Cape Province.

Reliability and Validity Assessment

Internal consistency, reliability, and convergent validity for the study's six constructs (NEED, LAND, TRIP, FRMW, QUAL, AGRIP) were assessed using Cronbach's alpha, composite reliability (rhoC), average variance extracted (AVE), and rhoA. Cronbach's alpha is widely regarded as a key indicator of internal consistency for scales and questionnaires across disciplines, with a value of 0.70 or higher commonly cited as the standard cutoff for acceptable reliability, and 0.80 to 0.90 preferred for higher-stakes applications (Chan et al., 2025; Deles & Aral, 2025; Holas et al., 2024; Menon et al., 2025; Nunnally & Bernstein, 1994; Steen et al., 2025; Trabzon & Sert, 2024). AVE was evaluated against the conventional 0.50 threshold for convergent validity (Fornell & Larcker, 1981). The heterotrait-monotrait ratio (HTMT; Henseler et al., 2015), the conventional criterion for discriminant validity in PLS-SEM, could not be computed for the present pilot sample and is flagged as an item for the confirmatory follow-up study.

Data Analysis

The structural and measurement models were estimated using partial least squares structural equation modeling (PLS-SEM), a variance-based estimation technique well suited to small samples, formatively and reflectively specified constructs, and prediction-oriented, exploratory theory-building of the kind undertaken here (Hair et al., 2022). PLS-SEM was preferred over covariance-based SEM because it does not require multivariate normality, remains estimable with small samples relative to the number of model parameters, and is designed for disentangling direct relationships among observed and unobserved variables in prediction-

oriented research rather than the strict confirmatory testing of an already well-established model (Hair et al., 2022; von Hardenberg & Gonzalez-Voyer, 2025). The measurement model was assessed first, followed by the structural model, which comprised the five hypothesized paths. Statistical significance of path coefficients was assessed using bootstrapped t-statistics and 95th percentile confidence intervals, with a path treated as significant when its confidence interval excluded zero (approximately $t > 1.96$, $p < .05$).

Ethical Considerations

Ethical clearance was obtained from the Walter Sisulu University Senate Research Ethics Committee (Protocol Number FMPAS/DPMG/2024/0010) prior to data collection, consistent with the role ethics committees play in overseeing research integrity, ensuring ethical compliance, and protecting the rights and welfare of research participants across international and local standards (Borrelli & Basok, 2025; Crawford et al., 2025; Dingwall & Vassy, 2026; Krisnoi et al., 2026; Tapscott & Machón, 2025). The researchers completed TRREE certificate training in research ethics, ethics evaluation, and informed consent ahead of data collection, and a letter of permission was sought from the organizations through which respondents were accessed (De Vos et al., 2011). Informed consent was obtained from all respondents, who were advised of their right to decline participation or withdraw at any time without penalty; respondent anonymity and confidentiality were maintained throughout data collection, capture, and reporting, and no procedure exposed respondents to physical or psychological harm, in keeping with the principle of non-maleficence (De Vos et al., 2011).

Findings

Respondent Perceptions by Construct

Table 1 summarizes respondents' mean item ratings on the 5-point scales specific to each questionnaire section across the study's six constructs.

Table 1

Descriptive Summary of Respondent Perceptions, by Construct

Construct	Section	Items	Mean range	Approx. construct mean	SD range
Needs (NEED)	F	8	4.2–4.6	4.5	0.52–0.71
Land (LAND)	J	8	4.1–4.6	4.3	0.68–0.99
Triple challenges (TRIP)	G	5	4.3–4.7	4.6	0.48–0.68
Framework (FRMW)	M	19	4.2–4.8	4.4	0.63–0.92
Quality (QUAL)	E	10	2.9–4.7	4.4	0.48–0.99
Agripreneurship (AGRIP)	H	5	4.0–4.6	4.3	0.52–0.84

Note. Ratings are on 5-point scales specific to each questionnaire section. Item-level means and standard deviations are reported in full in the supplementary questionnaire data file.

Respondents rated the needs and triple-challenges items as felt “very often,” with the lowest variability of any section, indicating strong consensus that active support is required and that poverty, inequality, and unemployment remain acutely felt. Respondents endorsed the framework items (Section M), the agripreneurship-outcome items (Section H), and the land items (Section J) with comparably high mean ratings. In capability-approach terms, this is a picture of strong, broadly consistent perceived capability. The quality-requirements construct (QUAL) was the most variable of the six, driven principally by item E4 (“I am aware of where to get finance”), which returned the lowest mean (2.9) and, jointly, the largest standard

deviation (0.99) of any item in the model, an early signal that awareness of finance access may be the weakest conversion factor in respondents' entrepreneurial readiness.

Construct Reliability and Validity

Table 2 reports the reliability and convergent validity statistics for the study's six constructs.

Table 2

Construct Reliability and Convergent Validity

Construct	Cronbach's α	Composite reliability (rhoC)	AVE	rhoA
NEED	0.922	0.939	0.667	0.962
LAND	0.678	0.455	0.260	0.355
TRIP	0.661	0.784	0.512	0.828
FRMW	0.980	0.982	0.744	0.983
QUAL	0.858	0.850	0.445	0.861
AGRIP	0.792	0.897	0.711	0.996

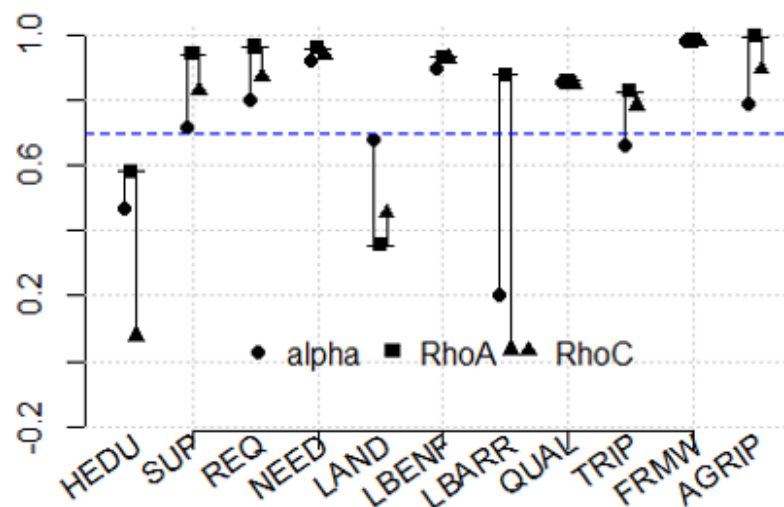
Note. AVE = average variance extracted; rhoC = composite reliability; rhoA = Dijkstra–Henseler's reliability coefficient. NEED = needs; LAND = land; TRIP = triple challenges; FRMW = framework; QUAL = quality of entrepreneurial ventures; AGRIP = agripreneurship.

Three constructs, NEED, FRMW and AGRIP, met or comfortably exceeded the conventional 0.70 alpha threshold (Nunnally & Bernstein, 1994), with FRMW ($\alpha = .98$) and NEED ($\alpha = .92$) showing particularly strong internal consistency, and AGRIP showing strong composite reliability (rhoC = .90) even where its alpha ($\alpha = .79$) sat closer to the threshold. QUAL ($\alpha = .86$) and TRIP ($\alpha = .66$, rhoC = .78) showed acceptable-to-good composite reliability. LAND was the weakest-performing construct, with both alpha ($\alpha = .68$) and AVE (.26) falling below the Fornell and Larcker (1981) 0.50 convergent validity threshold. Given the pilot sample size, these estimates are best read as diagnostic of items warranting revision, particularly within LAND, ahead of a larger confirmatory study.

Figure 1 plots these reliability statistics for each construct against the conventional 0.70 cut-off (dashed line); LAND is the clearest and most consistent outlier across all three indices.

Figure 1

Construct-Level Reliability Statistics (Alpha, rhoA, rhoC) Plotted Against the Conventional 0.70 Threshold



Note. The dashed line marks the conventional 0.70 cut-off.

Structural Model: Path Analysis and Hypothesis Testing

The structural model was estimated with bootstrapping (percentile method, 95% confidence intervals) to test the five hypothesized paths spanning the route from capability-formation inputs to the achieved-functioning outcome, AGRIP. Figure 2 presents the full bootstrapped structural model.

Figure 2

Bootstrapped PLS-SEM Structural Model Showing Standardized Path Coefficients, Significance Markers, 95% Confidence Intervals, and R² Values for the Endogenous Constructs

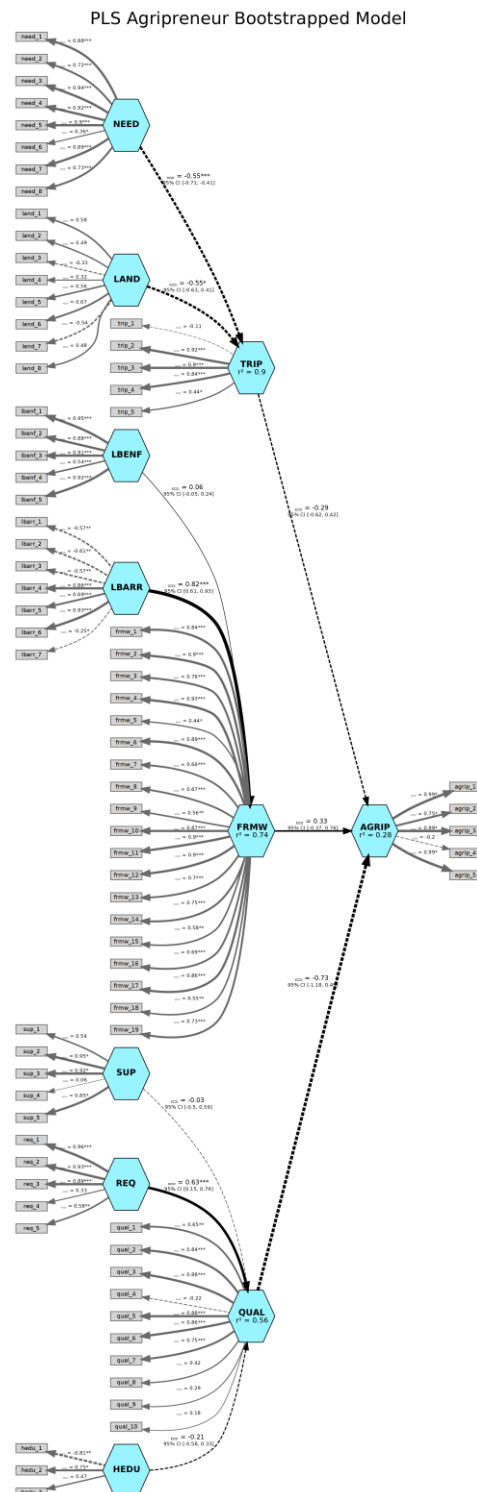


Table 3 reports the structural path coefficients and hypothesis test results.

Table 3*Structural Path Coefficients and Hypothesis Test Results (Regression Analysis)*

Hypothesis	Path	β (std.)	95% CI	Decision	R^2 of outcome
H1	NEED $\rightarrow$ TRIP	-0.55	[-0.71, -0.41]	Supported ($p < .001$)	TRIP: .90
H2	LAND $\rightarrow$ TRIP	-0.55	[-0.63, 0.41]	Marginally supported ^a	—
H3	FRMW $\rightarrow$ AGRIP	0.33	[-0.37, 0.76]	Not supported	AGRIP: .28
H4	TRIP $\rightarrow$ AGRIP	-0.29	[-0.62, 0.42]	Not supported	—
H5	QUAL $\rightarrow$ AGRIP	-0.73	[-1.18, 0.40]	Not supported	—

Note. CI = confidence interval. Decisions follow the convention that a path is statistically significant where its bootstrapped 95% confidence interval excludes zero.

^aFor H2, the path was flagged as significant at the 5% level in the underlying model's bootstrap output; however, its own reported confidence interval, [-0.63, 0.41], spans zero, and the result should be treated as marginal pending re-estimation with a larger sample.

The results divide sharply along the capability-versus-functioning line this study's theoretical framework predicts. Needs exerted the strongest, most reliably estimated effect on perceptions of the triple challenges (H1: $\beta = -0.55$, $p < .001$), and land showed a marginal, tentative association with the same construct (H2: $\beta = -0.55$, CI spanning zero); the model explains an unusually large share of variance at this stage (R^2 of TRIP = .90). By contrast, none of the three paths terminating directly in AGRIP reached statistical significance: not the framework (H3: $\beta = 0.33$, CI [-0.37, 0.76]), not the triple challenges (H4: $\beta = -0.29$, CI [-0.62, 0.42]), and not venture quality (H5: $\beta = -0.73$, CI [-1.18, 0.40]), despite QUAL $\rightarrow$ AGRIP carrying the single largest raw path coefficient in the model. The model explains a comparatively modest share of variance in AGRIP itself ($R^2 = .28$). These results answer the study's organizing question directly: on the present evidence, the model does not yet show that any of its proposed levers statistically confirm delivery of agripreneurship success, even as the upstream relationships that build the capability to pursue it are estimated with considerably more confidence.

Discussion and Conclusions

The central finding of this study is not that agripreneurship fails to matter for South Africa's triple challenges; it is that, on the evidence this pilot sample can provide, the causal chain connecting the framework, the triple challenges, and venture quality to a delivered agripreneurship outcome is not yet statistically confirmed, even though the upstream relationships that build the capability to pursue agripreneurship are estimated with considerably more confidence. This is precisely the pattern the capability approach anticipates can occur (Robeyns, 2005; Sen, 1999), and precisely the pattern a rigorous test of an entrepreneurship-as-development-strategy claim needs to detect rather than obscure (Bruton et al., 2013; Sutter et al., 2019). Respondents overwhelmingly agree that needs-based support matters, that the triple challenges remain acutely felt, that the framework is warranted, and that agripreneurship in principle should reduce poverty, offset inequality, and create employment (Table 1); what the structural model shows is that this strong perceptual agreement, capability formation in Sen's terms, does not, in this sample, statistically confirm itself as achieved functioning.

This distinction has direct policy relevance. It is easy, and disappointingly common, in the wider South African policy literature to cite strong stakeholder agreement that land, support, and institutional backing are needed as though it were evidence that a framework works, when it is only evidence that the framework's inputs are perceived as important. The gap between these two claims is exactly where this study's structural results fall: R^2 for TRIP = .90 alongside R^2 for AGRIP = .28, with three non-significant outcome-level paths directly

downstream of the strongest relationships in the model. The largest raw coefficient, QUAL $\rightarrow$ AGRIP at $\beta = -0.73$, illustrates the gap most clearly: its wide confidence interval, $[-1.18, 0.40]$, means the pilot sample cannot yet distinguish a strong negative effect, a strong positive effect, or no effect at all. This inability to confirm the outcome-level paths should not be read as disproving the theorized links; a sample of ten respondents, however carefully modeled, is not powered to detect outcome-level structural effects with confidence, even where the same model estimates upstream relationships precisely.

Limitations

The study is bounded by four limitations bearing directly on this interpretation. The achieved sample was very small ($n = 10$), reflecting the purposive, pilot-scale design; this sharply limits statistical power at the outcome-level paths (H3–H5) and widens their bootstrapped confidence intervals, so the non-significant findings reported here should be read as “not yet confirmed” rather than “disproven.” The LAND construct showed reliability and convergent validity below conventional thresholds (Table 2), with downstream implications for the precision of the outcome-level test given its role feeding into TRIP. The cross-sectional design captures perceptions at a single point in time and cannot establish causal direction or change over time. Purposive sampling, while appropriate for this hard-to-sample population, precludes probability-based generalization, and findings are further bounded by the single-province setting.

Recommendations

These findings support five recommendations. First, and most importantly, no agripreneurship framework drawing on this pilot study’s results should be marketed to policymakers, funders, or higher education partners as a confirmed triple-challenges solution; it should be presented as a well-supported hypothesis about capability formation (H1, and marginally H2) that has not yet been confirmed at the level of achieved functioning (H3–H5), pending an adequately powered confirmatory study. Second, funders and government stakeholders should prioritize piloting a small, well-monitored cohort of ventures with built-in, objective outcome tracking of revenue, employment created, and continuity of operations, so that the currently unconfirmed relationship between the framework, venture quality, and delivered success can be tested directly. Third, given the strength of the needs-to-triple-challenges relationship (H1), support programs should continue to prioritize funding access, entrepreneurship training, regulatory information, and networks, the most robustly evidenced capability-formation lever in the model. Fourth, instrument developers should revise the LAND item set before it is used in a larger confirmatory study. Fifth, a confirmatory administration of the same instrument to a substantially larger, purposively but more broadly drawn sample of FYAs across the Eastern Cape’s district municipalities, powered specifically to detect the AGRIP-related paths, computing the heterotrait-monotrait ratio for discriminant validity (Henseler et al., 2015), and considering a longitudinal design capable of testing whether ventures measurably move objective indicators over time, represents the single most important direction for further research. A first, partial step in this direction, using a considerably larger purposive sample of 100 youth agri-preneurs in Nqabane, Mbhashe Local Municipality, and structural equation modeling estimated in AMOS, found youth involvement in agripreneurship significantly associated with perceived reductions in poverty and unemployment (Masha & Mdeni, 2025; Mdeni & Masha, 2025), an encouraging parallel finding that, because the sample was not disaggregated by gender, does not itself confirm H3 through H5 for the female-youth population this study examines.

References

- Ayaz, D., & Oencil, S. (2025). Determining the association between pesticide safety behaviors and health literacy of farmers registered in WhatsApp groups of Antalya Provincial Agriculture and Forest Directorate: A descriptive-correlational study. *Clinical and Experimental Health Sciences*, 15(1), 48–55. <https://doi.org/10.33808/clinexphealthsci.1383819>
- Bhorat, H., Stanwix, B., & Thornton, A. (2021). Changing dynamics in the South African labour market. In A. Oqubay, F. Tregenna, & I. Valodia (Eds.), *The Oxford handbook of the South African economy*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780192894199.013.29>
- Boda, P. A. (2025). Validity theory and validation of demographic self-report: A critical quantitative appraisal. *Current Opinion in Behavioral Sciences*, 65, Article 101577. <https://doi.org/10.1016/j.cobeha.2025.101577>
- Borrelli, E., & Basok, T. (2025). Ethical dilemmas of conducting research among precarious status migrants: Research ethics boards and beyond. *Studies in Social Justice*, 19(3), 453–472. <https://doi.org/10.26522/ssj.v19i3.5124>
- Bravo-Jaico, J., Maquen-Niño, G. L. E., Germán, N., Valdivia, C., Alarcón, R., Aquino, J., & Serquén, O. (2025). Assessing digital transformation maturity in higher education institutions: A correlational analysis by actors and dimensions. *Frontiers in Computer Science*, 7, Article 1549262. <https://doi.org/10.3389/fcomp.2025.1549262>
- Bruton, G. D., Ketchen, D. J., & Ireland, R. D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing*, 28(6), 683–689. <https://doi.org/10.1016/j.jbusvent.2013.05.002>
- Cabanelas, P., Mora Cortez, R., Pérez-Moure, H., & Lampón, J. F. (2025). Sampling and sample size in B2B marketing: Current practices and recommendations. *Industrial Marketing Management*, 125, 71–86. <https://doi.org/10.1016/j.indmarman.2024.12.014>
- Castillo, W. (2025). My path from traditional to critical quantitative methods: integrating racial equity frameworks in quantitative research. *Current Opinion in Behavioral Sciences*, 65, 101578. <https://doi.org/10.1016/j.cobeha.2025.101578>
- Chan, D., Lin, J. Y., & Loy, S. L. (2025). Development and psychometric validation of a clinical instrument for infant feeding and lifestyle evaluation. *Journal of Pediatric Gastroenterology and Nutrition*, 80(5), 870–879. <https://doi.org/10.1002/jpn3.70012>
- Chand, P.K., Tandon, U. and Mishra, N., 2026. Workation and Gen Z: a modern paradigm for perceived employee wellness. *Tourism Recreation Research*, 51(3), pp.968-985. <https://doi.org/10.1080/02508281.2025.2577460>
- Crawford, A., Fichtner, L., & Suess, C. A. (2025). Ethical research in the German social sciences: Exploring the significance and challenges of institutionalized research ethics practices. *Research Ethics*, 21(3), 448–479. <https://doi.org/10.1177/17470161241270787>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Deles, B., & Aral, N. (2025). Reliability of the Fathering Role Perception Scale in a Turkish sample: A meta-analysis. *Iranian Journal of Public Health*, 54(7), 1364–1376. <https://doi.org/10.18502/ijph.v54i7.19143>
- De Vos, A. S., Strydom, H., Fouché, C. B., & Delport, C. S. L. (2011). *Research at grass roots: For the social sciences and human service professions* (4th ed.). Van Schaik Publishers.
- Díaz-Melián, R. A., Quintero-Febles, J. M., & García-Hernández, A. M. (2026). Stigma among nurses toward individuals with mental health conditions: an integrative review of

- qualitative and quantitative studies. *Nursing Reports*, 16(2), 50. <https://doi.org/10.3390/nursrep16020050>
- Dingwall, R., & Vassy, C. (2026). Ethics regulation and sociology in France. *Research Ethics*, 22(2), 211–226. <https://doi.org/10.1177/17470161251337511>
- Duffett, R., & Mxunyelwa, A. (2025). Instagram mega-influencers' effect on Generation Z's intention to purchase: A technology acceptance model and source credibility model perspective. *Journal of Theoretical and Applied Electronic Commerce Research*, 20(2). <https://doi.org/10.3390/jtaer20020094>
- Esmaceli, M., Sheydayi, A., & Jamalabadi, F. (2025). A systematic review of qualitative and quantitative content analysis applications in urban planning research: Proposing a mixed method approach. *Journal of Urban Planning and Development*, 151(3), 04025020. <https://doi.org/10.1061/JUPDDM.UPENG-5080>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Francis, D., Habib, A., & Valodia, I. (2021). Introduction: Confronting inequality, poverty and unemployment in South Africa. In A. Oqubay, F. Tregenna, & I. Valodia (Eds.), *The Oxford handbook of the South African economy*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780192894199.013.5>
- Gumede, V. (2021). Revisiting poverty, human development and inequality in democratic South Africa. *Africa Insight*, 51(1), 15–34. <https://doi.org/10.1177/09737030211032961>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- Heintz, J., & Naidoo, K. (2021). Employment, unemployment and the structure of the labour market. In A. Oqubay, F. Tregenna, & I. Valodia (Eds.), *The Oxford handbook of the South African economy*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780192894199.013.7>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Holas, P., Shevchuk, Y., & Jankowski, T. (2024). The Polish adaptation of the Self-Compassion Scale Short Form. *Psychiatria Polska*, 58(4), 637–651. <https://doi.org/10.12740/PP/172115>
- Krisnoi, W., Khemakanaka, I., Lueboonthavatchai, P., Tasanapradit, P., Mingpakanee, R., & Chaichanawongsaroj, N. (2026). Assessing satisfaction and performance of the CUREC electronic submission system. *BMC Medical Ethics*, 27(1), 26. <https://doi.org/10.1186/s12910-026-01379-6>
- Leibbrandt, M., & Díaz Pabón, F. A. (2021). Inequality in South Africa. In A. Oqubay, F. Tregenna, & I. Valodia (Eds.), *The Oxford handbook of the South African economy*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780192894199.013.9>
- Letshaba, R. K., Mahosi, B. N., & Sibiyi, A. (2025). Does entrepreneurship education invigorate opportunity recognition and exploitation?. *Southern African Journal of Entrepreneurship and Small Business Management*, 17(1), 1–9. <https://doi.org/10.4102/sajesbm.v17i1.1068>

- Lian, W., & Dimitrijević, B. (2025). Analytic hierarchy process-based industrial heritage value evaluation method and reuse research in Shaanxi Province—a case study of Shaanxi Steel Factory. *Sustainability*, 17(9), 4125. <https://doi.org/10.3390/su17094125>
- Ma, T., & Lee, Y. (2026). Overview of quantitative research. *Family Medicine*, 58(2), 81. <https://doi.org/10.22454/FamMed.2026.406133>
- Masha, A. K., & Mdeni, T. (2025). The impact of poverty, inequality and unemployment on youth: A case study of Nqabane, South Africa. *Insights into Regional Development*, 7(2), 141–157. <https://doi.org/10.70132/y4836873386>
- Mayende, G. (2022). *The land and agrarian question: The first frontier of decolonisation in South Africa*. Skotaville.
- Mdeni, T., & Masha, A. K. (2025). Youth agri-preneurship in rural South Africa: A case study of Nqabane, Eastern Cape. *International Journal of Development and Sustainability*, 14(9), 664–684. <https://doi.org/10.63212/IJDS25040901>
- Menon, V., Grover, S., & Vidhukumar, K. (2025). A primer on reliability testing of a rating scale. *Indian Journal of Psychiatry*, 67(7), 725–729. <https://doi.org/10.4103/indianjpsychiatry58425>
- Miah, M., Jannat, F., & Szabó-Szentgróti, G. (2026). Effects of green HRM practices on environmental performance: The role of green organisational citizenship behaviour, psychological green climate, and green self-efficacy for greening healthcare organisations. *Social Responsibility Journal*, 22(4), 725–759. <https://doi.org/10.1108/SRJ-02-2025-0112>
- Naudé, W. (2010). Entrepreneurship, developing countries, and development economics: New approaches and insights. *Small Business Economics*, 34(1), 1–12. <https://doi.org/10.1007/s11187-009-9198-2>
- Ngcukaitobi, T. (2021). *Land matters: South Africa's failed land reforms and the road ahead*. Penguin Random House South Africa.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Nussbaum, M. C. (2011). *Creating capabilities: The human development approach*. Harvard University Press. <https://doi.org/10.4159/harvard.9780674061200>
- Pangilinan, A. M. (2025). Challenges and commitment to teaching: A quantitative descriptive-correlational study of Filipino teachers in select coastal villages. *International Journal of Open-access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR)*, 4(2), 1684–1692. <https://doi.org/10.63498/etc397>
- Robeyns, I. (2005). The capability approach: A theoretical survey. *Journal of Human Development*, 6(1), 93–117. <https://doi.org/10.1080/146498805200034266>
- Sen, A. (1999). *Development as freedom*. Oxford University Press.
- Steen, S., Law, G. U., & Jones, C. (2025). The internal consistency of the Moral Injury Event Scale: A reliability generalization meta-analysis and systematic review. *European Journal of Psychological Assessment*, 41(6), 466–485. <https://doi.org/10.1027/1015-5759/a000824>
- Sutter, C., Bruton, G. D., & Chen, J. (2019). Entrepreneurship as a solution to extreme poverty: A review and future research directions. *Journal of Business Venturing*, 34(1), 197–214. <https://doi.org/10.1016/j.jbusvent.2018.06.003>
- Tapscott, R., & Machón, D. R. (2025). Procedural ethics for social science research: Introducing the Research Ethics Governance dataset. *Journal of Peace Research*, 62(3), 789–798. <https://doi.org/10.1177/00223433241249352>
- Trabzon, S., & Sert, H. (2024). Validity and reliability of the Turkish version of the Gastroesophageal Reflux Disease Quality of Life Questionnaire. *Clinical and*

- Experimental Health Sciences*, 14(1), 95–101.
<https://doi.org/10.33808/clinexphealthsci.1207694>
- Urban, B. (2021). Entrepreneurship and small business development. In A. Oqubay, F. Tregenna, & I. Valodia (Eds.), *The Oxford handbook of the South African economy*. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780192894199.013.19>
- von Hardenberg, A., & Gonzalez-Voyer, A. (2025). PhyBaSE: A Bayesian structural equation model approach to causal inference in phylogenetic comparative analyses. *Methods in Ecology and Evolution*, 16(6), 1136–1148. <https://doi.org/10.1111/2041-210X.70044>
- Zenda, M., Tirivangasi, H. M., & Mazenda, A. (2026). The role of climate-smart agriculture in strengthening South Africa's food system and climate response. *Management of Environmental Quality: An International Journal*. <https://doi.org/10.1108/MEQ-11-2025-0756>
- Zhang, L., & Tuerde, M. (2025). Bayesian Analysis of Nonlinear Quantile Structural Equation Model with Possible Non-Ignorable Missingness. *Mathematics*, 13(19), 3094. <https://doi.org/10.3390/math13193094>