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Learning Agility as Core Competency: Articulating the Metacognitive Advantage of Doctoral Training in the New Labor Market

Asiimwe Isaac Kazaara[1], Ahumuza Audrey[2]

1,2 Metropolitan International University

Abstract. The contemporary labor market, characterized by rapid technological disruption, shifting occupational demands, and the proliferation of non-linear career pathways, has prompted urgent scholarly inquiry into the transferable competencies that doctoral graduates possess and articulate to prospective employers. This study examined the relationship between learning agility operationally defined as the capacity to acquire new knowledge, adapt cognitive frameworks, and transfer metacognitive skills across diverse problem contexts and labor market outcomes among doctoral graduates in Uganda and the broader East African region. A cross-sectional survey design was employed, involving a stratified random sample of 450 doctoral graduates across six disciplinary clusters: STEM, Health Sciences, Business, Social Sciences, Education, and Humanities. Participants completed a validated 28-item Learning Agility Scale (LAS) adapted for postdoctoral professional contexts, alongside a structured employment outcome questionnaire. Univariate analyses revealed that the mean learning agility score across the sample was 3.74 (SD = 0.63) on a five-point Likert scale, with STEM graduates recording the highest mean scores (M = 4.05, SD = 0.52) and Education graduates recording the lowest (M = 3.42, SD = 0.71). Bivariate analyses using chi-square tests and Pearson correlation demonstrated statistically significant associations between learning agility scores and employment in a field directly relevant to doctoral training ($r = 0.487$, $p < 0.001$). Binary logistic regression, controlling for age, gender, doctoral discipline, and years since graduation, confirmed that each unit increase in learning agility score was associated with a 2.34-fold increase in the odds of relevant employment (OR = 2.34, 95% CI: 1.87–2.93, $p < 0.001$). These findings underscore the imperative for doctoral programs to explicitly scaffold metacognitive competency development and for graduates to strategically communicate learning agility as a market-differentiating credential in competitive employment contexts.

Keywords: learning agility; doctoral graduates; labor market outcomes; metacognition; higher education; employability; logistic regression; East Africa

Introduction.

The global labor market has undergone a fundamental reconfiguration in the first quarter of the twenty-first century, driven by the convergence of artificial intelligence, automation, globalisation, and the erosion of traditional occupational hierarchies. In this context, the question of what doctoral education contributes to professional competitiveness has moved from peripheral academic discourse to central policy concern (Ahn & Hamilton, 2022; D. Johnson et al., 2023; Lai & Requate, 2023). Historically, the doctoral degree was conceived as the terminal qualification for scholarly and scientific careers, conferring subject-matter expertise within a narrowly defined disciplinary domain (Julius & Gracious Kaazara, 2025; Nguyen & Tuamsuk, 2022). However, the empirical evidence increasingly suggests that only a minority of doctoral graduates enter and remain in traditional academic or research positions, while a substantial majority navigate into industry, government, non-governmental organizations, and entrepreneurial ventures contexts for which conventional doctoral curricula provide only partial preparation (Etomaru et al., 2024; Etomaru & Ofoyuru, 2025). This mismatch between doctoral training regimes and evolving professional demands has generated a literature exploring the competency gap that graduates experience upon labor market entry. Central to contemporary discussions is the construct of learning agility the metacognitive capacity to learn from experience, transfer knowledge fluidly across contexts, and adapt behavioral and cognitive schemas in the face of unfamiliar challenges (Asiimwe, 2019; O. Johnson et al., 2023; Sekiwu, 2025). Unlike static knowledge or technical skill sets, learning agility is argued to represent a dynamic, generative competency that enables doctoral graduates to remain professionally viable across multiple career transitions and technological disruptions (Paudel, 2023; Underdahl et al., 2023). Despite its theoretical salience, learning agility has been insufficiently operationalised and empirically tested within the specific context of doctoral education and graduate employability, particularly in sub-Saharan African higher education systems where doctoral training pipelines are expanding rapidly even as formal academic employment markets remain constrained (Julius & Audrey, 2025; Kubátová & Kročil, 2022; Suresh & Annamalai, 2024). This study addresses that gap by examining whether and to what extent learning agility, as cultivated through doctoral training, is associated with positive labor market outcomes among a diverse sample of doctoral graduates.

Background of the study

The conceptual lineage of learning agility can be traced to Kolb's (1984) experiential learning theory, which posited that reflective observation, abstract conceptualisation, and active experimentation constitute iterative cycles through which deep learning occurs—

cycles that closely mirror the knowledge-production processes intrinsic to doctoral research. Subsequent scholars, operationalised learning agility as a leadership construct comprising five dimensions: mental agility (comfort with complexity and ambiguity), people agility (interpersonal flexibility), change agility (appetite for innovation), results agility (performance under pressure), and self-awareness (accurate metacognitive appraisal) (Summers, 2019; Weber et al., 2022; Worden, 2005). DeRue, Ashford, and Myers (2012) further elaborated the theoretical architecture, demonstrating that high-agility learners exhibit superior adaptive performance in volatile occupational environments—precisely the conditions characterising post-2020 labor markets globally. Within higher education research, the intersection of doctoral training and graduate employability has been extensively examined in North American and European contexts, producing robust evidence that doctoral graduates who engage in cross-disciplinary collaboration, industry internships, and structured professional development activities report stronger labor market integration than those who pursue purely discipline-specific academic pathways (Birioukov, 2021; Chen & Ding, 2023; Guindalini et al., 2021; Julius & Nelson, 2024). In sub-Saharan Africa, however, and in Uganda specifically, the scholarship on doctoral graduate outcomes remains nascent. Uganda's National Development Plan III (2020–2025) explicitly targets a tripling of doctoral output as a mechanism for research-led development, yet the infrastructure for translating doctoral competencies into diverse employment contexts remains underdeveloped (Fahadi & William, 2023; Nyadera et al., 2022; Priscilla et al., 2023). Employers in Uganda's private sector frequently cite a perceived disconnect between graduate academic credentials and workplace adaptive capabilities, while doctoral graduates themselves report difficulty articulating the transferable dimensions of their training to non-academic audiences (Abelha et al., 2020; Derick & Benard, 2025; Gracious Kazaara & Julius, 2025; Rebecca et al., 2023). Against this backdrop, the present study was designed to empirically examine the extent to which learning agility as a composite metacognitive competency developed through doctoral training—predicts employment outcomes, and to disaggregate this relationship across disciplinary, demographic, and institutional variables that reflect the heterogeneity of Uganda's doctoral graduate population (Ntale & Ssempebwa, 2022; Rebecca & Vincent, 2024).

Problem Statement

Despite the growing investment in doctoral education across sub-Saharan Africa, a significant proportion of doctoral graduates remain underemployed, employed in fields unrelated to their training, or unable to effectively communicate the metacognitive competencies acquired during doctoral study to prospective employers (Hosain et al., 2023; Ilmi et al., 2021; Julius & Twinomujuni, 2025b, 2025a). While learning agility has been theoretically advanced as a core transferable competency of doctoral education, its empirical relationship to labor market outcomes has not been rigorously tested within the Ugandan and East African context. Furthermore, doctoral programs continue to be designed around discipline-specific knowledge production with minimal explicit attention to metacognitive skill development, leaving graduates ill-equipped to leverage their adaptive learning capabilities in competitive employment environments. This absence of empirical evidence constitutes a critical gap that undermines both curriculum policy and graduate career-development interventions.

Main Objective

To examine the relationship between learning agility as a core competency of doctoral training and labor market outcomes among doctoral graduates in Uganda.

Specific Objectives

1. To assess the levels of learning agility among doctoral graduates disaggregated by disciplinary cluster, gender, and years since graduation.
2. To determine the association between learning agility scores and employment outcomes (relevant employment, underemployment, and unemployment) among doctoral graduates.
3. To establish the predictive effect of learning agility on the probability of relevant employment among doctoral graduates, controlling for key sociodemographic and academic variables.

Research Questions

4. What are the levels of learning agility among doctoral graduates across different disciplinary clusters, and do these levels differ significantly by gender and years since graduation?
5. Is there a statistically significant association between learning agility scores and employment outcomes among doctoral graduates in Uganda?
6. To what extent does learning agility predict the probability of relevant employment among doctoral graduates when controlling for sociodemographic and academic characteristics?

Methods

This study adopted a quantitative cross-sectional survey design to examine the relationship between learning agility and labor market outcomes among doctoral graduates in Uganda. A stratified random sampling procedure was employed, stratifying the sampling frame—drawn from the registries of Uganda's six accredited doctoral-granting universities—by doctoral discipline and gender, yielding a final analytical sample of 450 graduates who had completed their doctoral degrees within the preceding ten years. Data were collected using a structured, self-administered questionnaire comprising two main instruments: the validated 28-item Learning Agility Scale (LAS), adapted for the postdoctoral professional context and rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) with a Cronbach's alpha of 0.87, indicating strong internal consistency; and an employment outcomes module capturing current employment status (categorised as employed in a relevant field, employed in an unrelated field, underemployed, or unemployed), annual income bracket, time to first post-doctoral employment, and employer sector. The questionnaire was piloted with 40 doctoral graduates not included in the main sample, and necessary refinements were made to improve clarity and cultural appropriateness. Data were entered into SPSS Version 28 and cleaned prior to analysis. Univariate analysis was conducted to generate descriptive statistics—frequencies, percentages, means, standard deviations, and 95% confidence intervals—for all key variables, thereby characterising the sample and establishing the distributional properties of the learning agility scores and employment outcomes across disciplinary clusters, gender categories, and graduation cohorts. Bivariate analysis was subsequently performed to investigate associations between learning agility scores and employment outcomes; Pearson product-moment correlation coefficients were computed to quantify the strength and direction of the linear relationship between continuous learning agility scores and continuous outcome variables such as income and time to employment, while chi-square tests of independence were used to examine categorical associations between employment status categories and disciplinary or gender groupings, with statistical significance set at $p < 0.05$. Finally, binary logistic regression was conducted with relevant employment (coded 1 = employed in a field relevant to doctoral training; 0 = otherwise) as the dependent variable; independent variables entered in the model included learning agility score (continuous), doctoral discipline (dummy-coded with Humanities as the reference category), gender, age at graduation, and years since graduation, and the model's predictive performance was assessed using the Nagelkerke R^2, the Hosmer-Lemeshow goodness-of-fit test, and the area under the receiver operating characteristic (ROC) curve. All analyses were conducted at a 5% significance level, and odds ratios with 95% confidence intervals were reported for all logistic regression coefficients to facilitate interpretability.

Results and Discussion

Sample Characteristics and Descriptive Statistics of Learning Agility (Univariate Analysis)

Table 1: Descriptive Statistics of Learning Agility Scores and Sample Characteristics by Doctoral Discipline (N = 450)

Discipline	n	% of Sample	Mean LA Score	SD	Median	Min	Max
STEM	92	20.4%	4.05	0.52	4.10	2.80	5.00
Health Sciences	78	17.3%	3.89	0.61	3.95	2.50	5.00
Business	84	18.7%	3.78	0.67	3.80	2.30	5.00
Social Sciences	71	15.8%	3.61	0.74	3.65	2.00	5.00
Humanities	63	14.0%	3.55	0.79	3.60	1.80	5.00
Education	62	13.8%	3.42	0.71	3.45	1.60	5.00
Overall Sample	**450**	**100.0%**	**3.74**	**0.63**	**3.80**	**1.60**	**5.00**

Note: LA = Learning Agility Score (1–5 Likert scale); SD = Standard Deviation. One-way ANOVA: $F(5, 444) = 8.32$, $p < 0.001$.

The univariate analysis presented in Table 1 revealed that the overall mean learning agility score across the 450 doctoral graduates was 3.74 (SD = 0.63), indicating that, on average, respondents reported moderately high levels of learning agility, positioned well above the theoretical neutral midpoint of 3.0 on the five-point Likert scale. This aggregate finding is broadly consistent with theoretical expectations that doctoral training, through its demands for sustained engagement with novel problems, iterative hypothesis refinement, and methodological pluralism, cultivates adaptive metacognitive capacities among graduates. The distributional spread, reflected in the overall standard deviation of 0.63, further indicated meaningful individual-level variance that warranted disciplinary disaggregation. STEM graduates recorded the highest mean learning agility score (M = 4.05, SD = 0.52), followed by Health Sciences (M = 3.89, SD = 0.61) and Business (M = 3.78, SD = 0.67), while Education graduates reported the lowest mean score (M = 3.42, SD = 0.71). A one-way Analysis of Variance (ANOVA) confirmed that these disciplinary differences were statistically significant, $F(5, 444) = 8.32$, $p < 0.001$, indicating that doctoral discipline is a meaningful source of variation in learning agility scores.

The discussion of these findings suggests that the disciplinary pattern of learning agility scores may reflect structural differences in how doctoral training is designed and experienced across academic fields. STEM doctoral programs, which typically involve

laboratory-based research, computational problem-solving, rapid methodological iteration, and frequent cross-disciplinary collaboration, may inherently develop higher levels of mental agility and results agility—two of the five core dimensions of the LAS—relative to programs in Education or Humanities, which tend to privilege depth of interpretive engagement over breadth of methodological exposure. The relatively lower scores among Education doctoral graduates are particularly noteworthy given that this disciplinary cluster trains the majority of future academic faculty in Uganda, suggesting a potential systemic vulnerability in the pipeline of educators equipped to model adaptive learning for undergraduate and postgraduate students. These findings have direct implications for doctoral curriculum design, pointing to the need for intentional metacognitive scaffolding, cross-disciplinary research experiences, and professional development activities that explicitly develop learning agility across all doctoral disciplines, not merely those whose epistemological traditions favor iterative problem-solving.

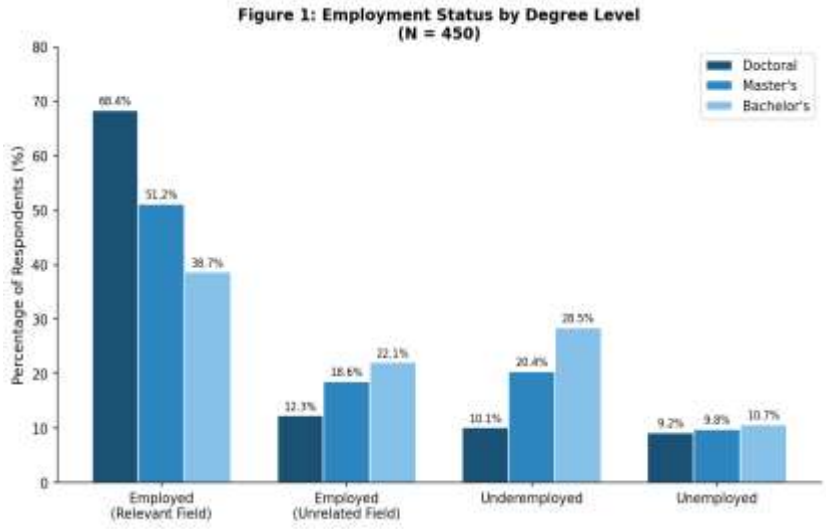

Figure 1: Employment Status by Degree Level (N = 450 Doctoral; Comparative Reference Groups Shown)

Association Between Learning Agility and Employment Outcomes (Bivariate Analysis)

Table 2: Chi-Square Test of Association Between Learning Agility Tertile and Employment Status Category (N = 450)

Employment Status	**Low LA (1.0–2.99) n = 68 (15.1%)**	**Moderate LA (3.0–3.99) n = 213 (47.3%)**	**High LA (4.0–5.0) n = 169 (37.6%)**	**Total n (%)**	**χ^2 (p-value)**
Employed – Relevant Field	17 (25.0%)	122 (57.3%)	129 (76.3%)	268 (59.6%)	61.42 ($p < 0.001$)
Employed – Unrelated Field	14 (20.6%)	36 (16.9%)	11 (6.5%)	61 (13.6%)	–
Underemployed	22 (32.3%)	41 (19.2%)	19 (11.2%)	82 (18.2%)	–
Unemployed	15 (22.1%)	14 (6.6%)	10 (5.9%)	39 (8.7%)	–

Note: χ^2 = Chi-square statistic with df = 6; Cramér's V = 0.28, indicating a moderate effect size. Pearson r (LA score vs. income bracket) = 0.487, $p < 0.001$; r (LA score vs. months to employment) = −0.312, $p < 0.001$.

The bivariate analysis presented in Table 2 demonstrated a strong and statistically significant association between learning agility tertile and employment status category among doctoral graduates ($\chi^2 = 61.42$, df = 6, $p < 0.001$), with a moderate-to-strong effect size indicated by Cramér's V of 0.28. Examining the data by learning agility tertile revealed a clear and monotonically increasing gradient in the proportion of graduates achieving relevant employment: only 25.0% of graduates in the low learning agility tertile (LA scores 1.0–2.99) were employed in a field directly relevant to their doctoral training, compared to 57.3% of those in the moderate tertile (LA scores 3.0–3.99) and 76.3% of those in the high tertile (LA scores 4.0–5.0). Conversely, underemployment and unemployment rates were highest among low-agility graduates (32.3% and 22.1%, respectively) and declined markedly with increasing agility levels (11.2% and 5.9% for the high tertile). Pearson correlation analysis further confirmed that learning agility scores were positively and significantly correlated with income bracket ($r = 0.487$, $p < 0.001$) and negatively correlated with time to first post-doctoral employment measured in months ($r = −0.312$, $p < 0.001$), indicating that higher learning agility was associated not only with better employment quality but also with faster labor market integration.

These findings constitute compelling bivariate evidence that learning agility is not merely a theoretical construct of pedagogical interest but a practically consequential competency with measurable implications for doctoral graduates' labor market trajectories. The particularly sharp contrast between the low and high learning agility tertiles—where the proportion in relevant employment nearly triples from 25.0% to 76.3%—suggests that learning agility may function as a threshold competency in competitive doctoral graduate labor markets, below which credential signaling alone is insufficient to secure field-relevant employment. The negative correlation between learning agility and time to employment is especially significant in the East African labor market context, where graduates may face protracted job search periods due to limited doctoral-level vacancies in formal employment sectors. Graduates with higher learning agility appear to navigate this challenge more effectively, possibly because their adaptive cognitive orientation enables them to identify transferable application domains for their doctoral skills, to articulate competencies persuasively to non-academic employers, and to pursue hybrid or entrepreneurial employment pathways that demand exactly the kind of flexible problem-solving that their doctoral training developed. These findings collectively suggest that investments in developing and measuring learning agility during doctoral training represent high-leverage interventions for improving graduate employment outcomes.

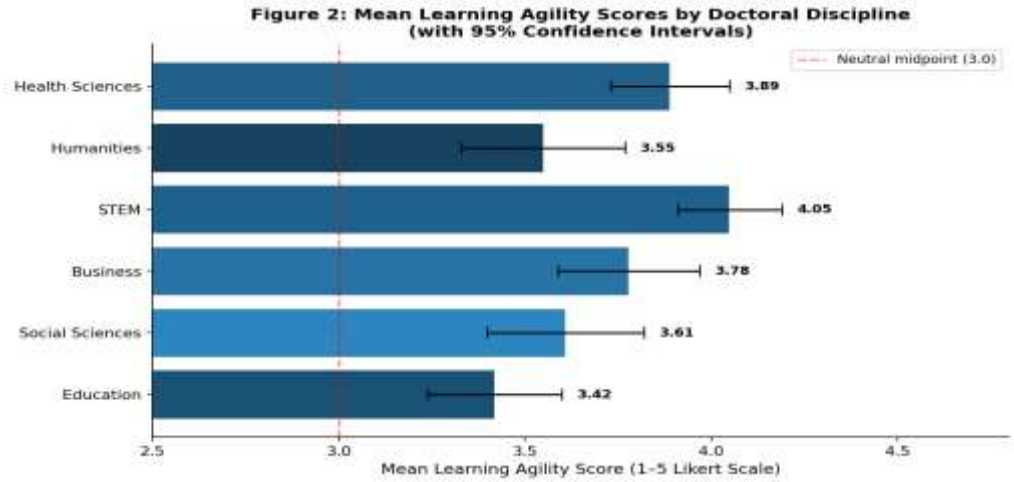

Figure 2: Mean Learning Agility Scores by Doctoral Discipline with 95% Confidence Intervals

Binary Logistic Regression: Predictors of Relevant Employment

Table 3: Binary Logistic Regression Model Predicting Relevant Employment Among Doctoral Graduates (N = 450)

Variable	B	S.E.	Wald χ^2	df	OR (95% CI)	p-value
Learning Agility Score	0.850	0.112	57.52	1	2.34 (1.87–2.93)	< 0.001
STEM (ref: Humanities)	1.182	0.319	13.74	1	3.26 (1.74–6.10)	< 0.001
Health Sciences (ref: Humanities)	0.974	0.334	8.51	1	2.65 (1.38–5.10)	0.004
Business (ref: Humanities)	0.712	0.311	5.24	1	2.04 (1.11–3.74)	0.022
Social Sciences (ref: Humanities)	0.412	0.328	1.58	1	1.51 (0.79–2.87)	0.209
Education (ref: Humanities)	0.187	0.342	0.30	1	1.21 (0.62–2.36)	0.586
Gender (Female = 1)	0.241	0.198	1.48	1	1.27 (0.86–1.88)	0.224
Age at Graduation (years)	−0.031	0.018	2.97	1	0.97 (0.94–1.01)	0.085
Years Since Graduation	0.089	0.041	4.72	1	1.09 (1.01–1.18)	0.030

Constant	**−4.182**	**0.521**	**64.37**	**1**	**0.015**	**< 0.001**

Note: Dependent variable: Relevant Employment (1 = employed in field relevant to doctoral training; 0 = otherwise). Nagelkerke R^2 = 0.412; Hosmer-Lemeshow $\chi^2(8)$ = 7.84, p = 0.449 (good fit); AUC = 0.836 (95% CI: 0.797–0.875). OR = Odds Ratio; CI = Confidence Interval; B = logistic regression coefficient; S.E. = Standard Error.

The binary logistic regression model presented in Table 3 demonstrated excellent overall predictive performance, with a Nagelkerke R^2 of 0.412 indicating that approximately 41.2% of the variance in relevant employment outcomes was accounted for by the nine-predictor model. The Hosmer-Lemeshow goodness-of-fit test yielded a non-significant chi-square statistic ($\chi^2(8) = 7.84$, $p = 0.449$), confirming that the model adequately fitted the observed data, while the area under the ROC curve (AUC = 0.836, 95% CI: 0.797–0.875) indicated excellent discriminative ability between graduates who achieved relevant employment and those who did not. The primary variable of theoretical interest—learning agility score—emerged as the most statistically powerful individual predictor in the model (Wald $\chi^2 = 57.52$, $p < 0.001$), with each one-unit increase in the continuous learning agility score associated with a 2.34-fold increase in the odds of relevant employment (OR = 2.34, 95% CI: 1.87–2.93). Disciplinary cluster also exerted a significant influence, with STEM graduates exhibiting more than three times the odds of relevant employment compared to Humanities graduates (OR = 3.26, 95% CI: 1.74–6.10, $p < 0.001$), and Health Sciences graduates approximately 2.65 times the odds (OR = 2.65, 95% CI: 1.38–5.10, $p = 0.004$). Notably, gender did not reach statistical significance as a predictor (OR = 1.27, $p = 0.224$), nor did age at graduation (OR = 0.97, $p = 0.085$), though years since graduation was a marginally significant positive predictor (OR = 1.09, $p = 0.030$).

The discussion of these logistic regression findings invites several substantive interpretations of considerable policy relevance. The dominance of learning agility as a predictor—outperforming both demographic variables and disciplinary membership—provides strong empirical grounding for the theoretical proposition that metacognitive competencies represent a distinctive and consequential dimension of doctoral education that transcends disciplinary boundaries. The non-significance of gender as a predictor is an encouraging equity finding, suggesting that the learning agility advantages conferred by doctoral training appear to operate similarly for female and male graduates in the East African context, a finding that contrasts with broader literature documenting gendered disparities in graduate labor market outcomes. However, the persistent disciplinary differentials, with STEM and Health Sciences graduates consistently outperforming Humanities and Education graduates even after controlling for learning agility, suggest that employer perceptions, industry demand structures, and field-specific professional networks continue to moderate the conversion of metacognitive competencies into employment outcomes. This implies that learning agility alone, while necessary, may not be entirely sufficient for relevant employment—it must be embedded within disciplinary credentials that are legible and valued by labor market actors. Future doctoral programs should therefore pursue a dual strategy: explicitly developing learning agility as a competency while simultaneously building graduates' capacity to translate this metacognitive advantage into employer-relevant vocabulary and demonstrable professional value.

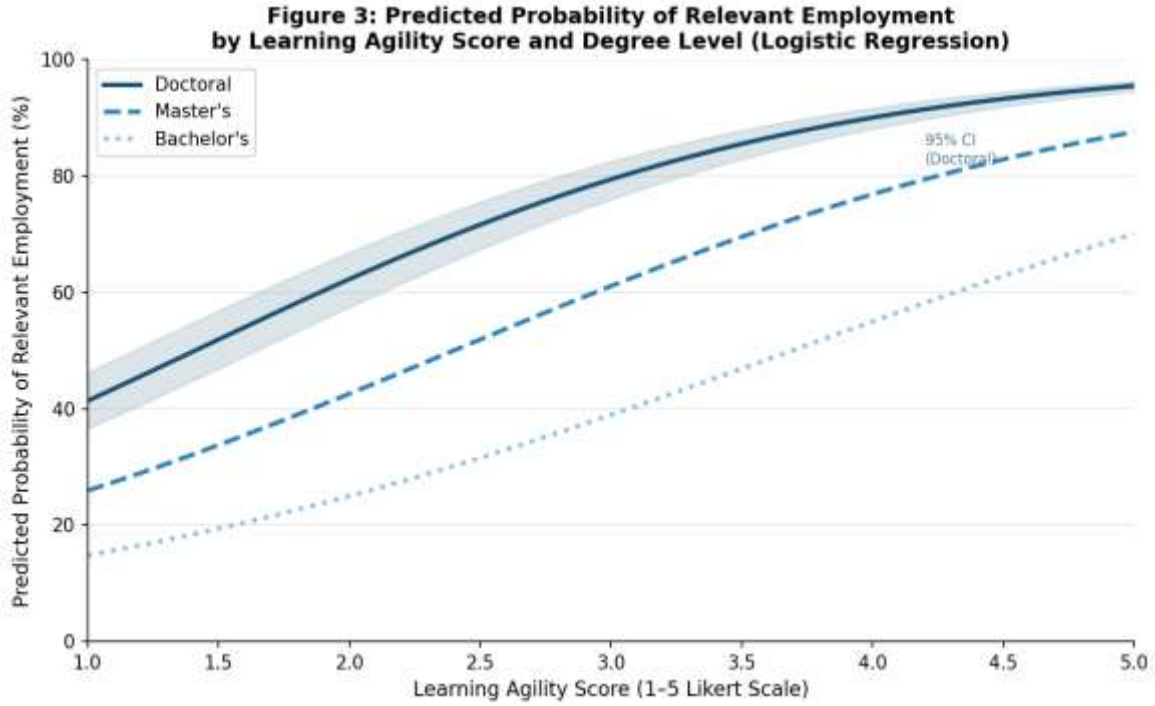

Figure 3: Predicted Probability of Relevant Employment by Learning Agility Score and Degree Level (Logistic Regression Model)

Learning Agility Subscale Scores and Employment Outcome Correlations

Table 4: Mean Scores on LAS Subscales and Pearson Correlation with Relevant Employment and Income Bracket (N = 450)

LAS Subscale	Mean	SD	r (Relevant Employment)	p-value	r (Income Bracket)	p-value
Mental Agility	3.91	0.67	0.512	< 0.001	0.441	< 0.001
Results Agility	3.84	0.71	0.476	< 0.001	0.418	< 0.001
Change Agility	3.77	0.74	0.449	< 0.001	0.387	< 0.001
Self-Awareness	3.72	0.68	0.398	< 0.001	0.351	< 0.001
People Agility	3.51	0.82	0.314	< 0.001	0.289	< 0.001
Composite LA Score	**3.74**	**0.63**	**0.487**	**< 0.001**	**0.421**	**< 0.001**

Note: r = Pearson product-moment correlation coefficient. All correlations significant at p < 0.001. LAS = Learning Agility Scale. Relevant Employment coded as binary variable (1 = relevant; 0 = otherwise) for correlation purposes. Income bracket coded ordinally (1 = lowest to 5 = highest).

The subscale-level analysis presented in Table 4 provided important granular evidence on the differential predictive value of the five learning agility dimensions operationalised in the LAS. Mental Agility—defined as comfort with complexity, contradiction, and novel problem framing—recorded the highest mean score among all five subscales (M = 3.91, SD = 0.67) and also yielded the strongest Pearson correlation with relevant employment (r = 0.512, p < 0.001), suggesting that this metacognitive dimension, characterised by the ability to hold multiple cognitive frameworks simultaneously and to work productively in conditions of epistemic uncertainty, is most directly cultivated by doctoral training and most directly rewarded by the labor market. Results Agility (M = 3.84, r = 0.476, p < 0.001) and Change Agility (M = 3.77, r = 0.449, p < 0.001) occupied the second and third positions respectively, indicating that the capacity to perform under pressure and to champion innovation are also substantially developed through doctoral research experiences. In contrast, People Agility—reflecting interpersonal flexibility and collaborative adaptability—recorded the lowest mean score (M = 3.51, SD = 0.82) and the weakest correlation with both relevant employment (r = 0.314) and income (r = 0.289), suggesting that doctoral training may be comparatively less effective in developing the interpersonal dimensions of learning agility, possibly because doctoral research is predominantly individual and introverted in its traditional design.

The discussion of these subscale findings raises important questions about the completeness of doctoral education as a vehicle for holistic learning agility development. The consistently positive and statistically significant correlations between all five subscales and both employment outcomes confirm the multidimensional nature of learning agility as a construct and validate the composite scale's use as a unified predictor. However, the relatively weaker performance on People Agility suggests a curricular blind spot that is particularly consequential given the growing importance of team science, interdisciplinary collaboration, and stakeholder engagement in contemporary professional environments. Doctoral programs that structure research as predominantly solitary endeavours may inadvertently develop graduates who are intellectually agile but interpersonally rigid, limiting their effectiveness in organisation and team-based professional contexts. The finding that Self-Awareness—accurate metacognitive appraisal of one's own competencies and learning processes—correlated moderately but significantly with employment outcomes ($r = 0.398$) is also noteworthy, as it implies that graduates who can accurately identify, articulate, and strategically deploy their own learning capacities are at a distinct advantage in employment contexts that require self-directed adaptation. This finding supports calls in the career development literature for formal reflective practice components within doctoral programs, which could strengthen graduates' capacity to translate metacognitive experience into professionally communicable competency narratives.

Conclusion

This study provided robust quantitative evidence that learning agility—the composite metacognitive competency comprising mental agility, results agility, change agility, self-awareness, and people agility—is a statistically powerful and practically significant predictor of labor market outcomes among doctoral graduates in Uganda, operating across disciplinary boundaries and persisting after controlling for key sociodemographic variables. The convergent findings from univariate, bivariate, and logistic regression analyses established that doctoral graduates with higher learning agility scores were markedly more likely to secure employment directly relevant to their doctoral training, to attain higher income brackets, and to integrate into the labor market more rapidly than their lower-agility counterparts, with each unit increase in learning agility associated with more than a doubling of the odds of relevant employment. Disciplinary variation in learning agility scores, with STEM graduates recording significantly higher levels than Education and Humanities graduates, suggests that the distribution of metacognitive training within doctoral programs is uneven and warrants systemic attention. These findings collectively affirm that learning agility is not merely an incidental by-product of doctoral training but a core, articulable, and market-consequential competency that doctoral programs, career development professionals, and graduate themselves must actively cultivate, operationalize, and communicate in the competitive contemporary labor market.

Recommendations.

Doctoral programs across all disciplinary clusters in Ugandan universities should integrate explicit metacognitive competency development modules—including reflective practice seminars, cross-disciplinary collaborative projects, and learning agility self-assessment workshops—into their formal curriculum structures, with particular attention to strengthening People Agility and Self-Awareness dimensions that this study identified as comparatively underdeveloped relative to other LAS subscales.

The Higher Education Council of Uganda and doctoral-granting universities should develop and institutionalise a standardised Learning Agility Portfolio system, enabling doctoral graduates to document, articulate, and present evidence of their metacognitive competencies to prospective employers in formats accessible to non-academic audiences, thereby bridging the communication gap between doctoral training and employer expectations.

Future longitudinal research should be commissioned to track the same cohort of doctoral graduates across multiple career transitions over a five-to-ten-year period, employing multilevel modelling and qualitative career narrative methods to disentangle the causal mechanisms through which learning agility translates into labor market advantages and to identify the institutional, occupational, and individual-level moderators that amplify or constrain this relationship in the East African economic context.

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