Scientific Research Publishing

Open Journal of Social Sciences, 2025, 13(10), 97-122
https://www.scirp.org/journal/jss
ISSN Online: 2327-5960
ISSN Print: 2327-5952

Evaluation of Qualifications, Fields of Study, Skills, and Administrative Staff Retention Records in Selected Tertiary Education Institutions in Sierra Leone

Paul Komba Ngaujah[1], Prince Emmanuel Norman[2*], Joseph James Mbavai[1], Saffa Barbee Massaquoi[3], Saidu Challay[4]

[1]Department of Teacher Education, School of Education, Njala University, Bo Campus, Bo, Sierra Leone
[2]Research, Technology, and Innovation Development Directorate, Sierra Leone Agricultural Research Institute (SLARI), Tower Hill, Freetown, Sierra Leone
[3]Department of Agricultural and Home Economics Education, School of Education, Njala University, Bo Campus, Bo, Sierra Leone
[4]Institute of Languages and Cultural Studies, School of Education, Njala University, Bo Campus, Bo, Sierra Leone
Email: pkngaujah@njala.edu.sl, jmbavai@njala.edu.sl, *norman.prince64@gmail.com, s_challay@njala.edu.sl

How to cite this paper: Ngaujah, P. K., Norman, P. E., Mbavai, J. J., Massaquoi, S. B., & Challay, S. (2025). Evaluation of Qualifications, Fields of Study, Skills, and Administrative Staff Retention Records in Selected Tertiary Education Institutions in Sierra Leone. *Open Journal of Social Sciences, 13,* 97-122.
https://doi.org/10.4236/jss.2025.1310006

Received: August 14, 2025
Accepted: September 26, 2025
Published: September 29, 2025

Abstract

This study assessed the relevance of qualifications (RQP), major fields of study to position (RMFSP), and management skills to position (RMSP) in tertiary education institutions in Sierra Leone. A total of 266 questionnaires were administered to administrative staff of six tertiary educational universities in Sierra Leone. Documentary Overview with Administrators was also conducted to solicit their perceptions on the current number of staff, numbers of staff recruited, and promoted per gender across five academic years. Results showed that skewness of RQP, RMFSP, faculties/schools to position (RFSP), relevance of leadership skills to position (RLSP), RMSP, internal public relations to position (RIPRP), relevance of office ICT skills to position (ROISP), and relevance of administrative to position (RAP) of respondents was negative. Mean scores of respondents on relevance parameters ranged from 3.48 to 3.65, indicating relevance to their positions. Standard deviation ranged from 0.76 to 0.87, indicating similar views among respondents. The RIPRP (−0.19), and ROISP (−0.59) revealed platykurtic distribution, whereas other parameters had leptokurtic distribution. Total staff loss negatively influenced the current number of staff, whereas number of staff recruited positively influenced the current number of staff more than the number of staff promoted. Results suggest that improving the developmental, maintenance, and skills utilization process should

form part of the core elements of the policy package necessary to support sustainable long-term growth and employment creation.

Keywords

Academic Administrators, Educational Qualifications, Job Performance, Job Performance Measurement, Vocational Success

1. Introduction

Governments in over 100 countries have designed, implemented, or been involved with regional qualifications frameworks or considered national qualification frameworks (NQFs) in various institutions (Allais, 2010). Developing NQFs is underpinned by the idea that all qualifications can (and should) be expressed in terms of outcomes, without any prescription of learning pathway. International interest in NQFs has arisen because of the relevance, flexibility, and portability of skills and training and the effects they have on employment opportunities. Countries have adopted different approaches to NQFs, but the underlying reasons behind the process are usually similar. These include the need to ease the process of labor mobility across employment sectors, regions, and countries, including lifelong education and training; the need to strengthen links between education, training, and the labor market; recognize prior learning experience and credits; set standards based on learning outcomes; facilitate quality assurance; and improve the perceived status of Technical and Vocational Education and Training (TVET) programs (Allais, 2010).

Regional Model Competency Standards (RMCS) have been developed and implemented in Bangladesh, Indonesia, Lao PDR, and Thailand to foster mutual recognition of skills and qualifications. A number of countries have utilized the RMCS in key sectors, including manufacturing, tourism, construction, and agriculture (ILO, 2006).

The education, labor, and wages and compensation commission departments of governments usually take responsibility for qualifications. In many countries, the NQFs have emanated from the TVET sector, which is known for the development of industry skills and competency standards-based qualifications. The advent of competency-based training has been associated with a relative shift in control of the content of training from providers to industry (World Bank & ILO, 2011).

Improving the developmental, maintenance, and skills utilization process is increasingly recognized as a core element of the policy package necessary to support sustainable long-term growth and employment creation. The implementation of such an improved policy package contributes to a fairer distribution of income and opportunities. According to the OECD Skills Strategy (OECD, 2012), the three key areas for action by governments include the development of relevant skills, activation of skills, and putting skills to effective use. The central goal of

skills policies is that development of relevant skills ensures that the supply of skills is sufficient in quality and quantity to meet current and emerging needs. Supply can be ensured through the development of the right mix of skills using education and training to influence the flow of skills by attracting and retaining talent. The supply of the right mix of skills is responsive to demand and can also have a significant influence on demand. Activation of skills indicates that individuals may have skills, but for obvious reasons may decide to withhold their service from the labor force or labor market. These could be due to personal preferences, life circumstances, or the lack of financial incentives to work. Encouraging inactive individuals to enter or return to the labor market increases the skills base of an economy. This requires identification of inactive individuals, possibly retraining them, ensuring that the benefit system offers them financial incentives to enter or return to the labor market, and removing demand-side barriers to hiring. Investment in skills development by individuals, governments, and stakeholders needs to be driven by policies that ensure the effective utilization of the skills. Moreover, the relationship between the skills demanded in a job and the skills of the person doing the job has an impact on further skills development. Whereas new skills are, to a large extent, developed informally, often through work experience, the unused ones tend to atrophy (Thorn & Schleicher, 2013).

The tertiary educational landscape in Sierra Leone comprises a variety of institutions, including universities, polytechnics, and vocational training institutions, which collectively play a pivotal role in shaping the nation's higher educational framework. However, the relevance of qualifications, fields of study, and skills of administrative staff in tertiary education institutions is not understood by managers of the academic administration units. As a result, the University currently sets different educational qualifications for administrative positions that have been graded at the same pay-class (or pay grade). These positions considered at the same pay-class are: 1) equal in the level of responsibility required for the post, and 2) require tasks that have an equal level of complexity. Despite being equal in this regard, different minimum educational qualifications are required when vacancies for these positions are advertised. This creates inconsistency in the minimum educational qualification requirement for academic administrative positions of equal pay-class or grade.

However, there is a dearth of knowledge on the relevance of the qualifications, fields of study, and skills of administrative staff in tertiary education institutions. Understanding the relevance of the qualifications, fields of study, and skills of administrative staff is imperative, as this has implications for policy guidance regarding skills development needs, capacity sharing, job delivery efficiency, and satisfaction. Thus, the objective of this study was to examine the relevance of the qualifications, major fields of study, and skills of senior cadre administrative staff to the positions they occupy in tertiary education institutions in Sierra Leone; and (2) to assess the current number of staff, numbers of staff recruited, number of staff promoted, and total staff loss.

2. Methodology

2.1. Study Area

The study was conducted at six selected tertiary education institutions of Sierra Leone (Figure 1). Njala University is Sierra Leone's major institution for training in Agriculture, Education, Health, Natural Resources Management, Technology, Social and Environmental Sciences at both undergraduate and postgraduate levels. The constituent institutions of Njala University include the former Bo Teachers College (BTC) at Torwama, the School of Hygiene and Paramedical School at Korwama, in Bo. Bonthe Technical Institute (BTI) is an affiliate institution. Currently, Njala University is operating on two campuses, namely, the Bo Campus and the Njala Campus. As an autonomous institution, Njala University has eight schools/faculties including Agriculture, Education, Environmental Sciences, Social Sciences, Community Health Sciences, Technology, Forestry and Horticulture, as well as a School of Postgraduate Studies. At the moment, schools operating on the Bo Campus are Education, Social Sciences and Community Health Sciences. Njala Campus houses the Schools of Agriculture, Environmental Sciences, Technology, Forestry and Horticulture.

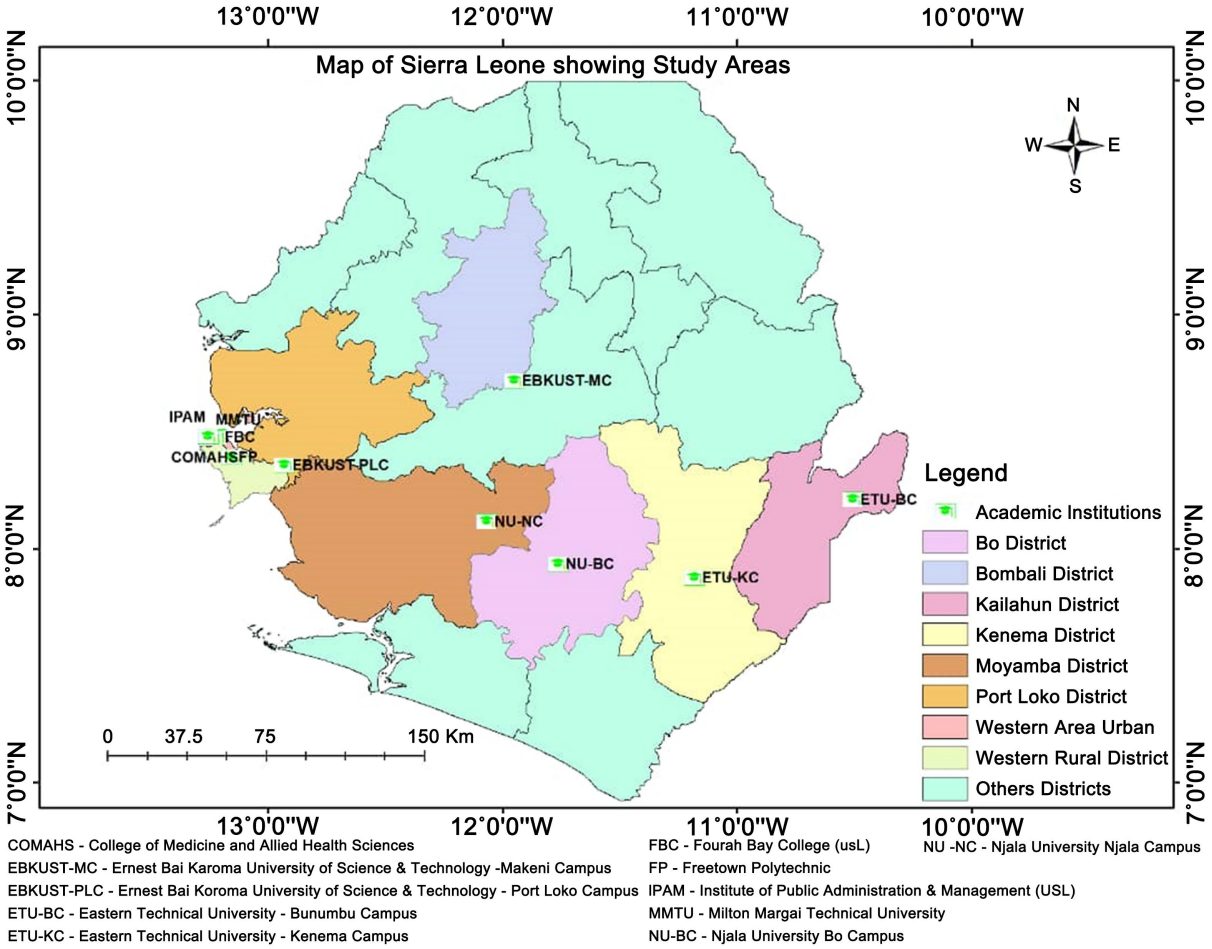

Figure 1. Map of Sierra Leone showing the locations of tertiary education institutions studied.

Eastern Technical University (ETU) is located in Kenema. Kenema is the largest city in the Eastern Province. The city is the capital and administrative center of the Kenema District. Kenema is a major diamond trade center and serves as the economic and financial center of Eastern Sierra Leone. Kenema lies 298 km east-south-east of the nation's capital, Freetown.

Ernest Bai Koroma University of Science and Technology (EBKUST) is located in Magburaka, about seven miles from Makeni, Northern Sierra Leone. This institution has branch campuses in Makeni and Port Loko. EBKUST is a coeducational Sierra Leonean higher education institution.

The University of Sierra Leone (USL) is situated in Freetown. Freetown is the capital and largest city of Sierra Leone, and the major urban, economic, financial, cultural, educational, and political centre. It is a major port city on the Atlantic Ocean and is located in the Western Area of the country. The USL is a public university comprising Fourah Bay College (FBC), the Institute of Public Administration and Management (IPAM), and the College of Medicine and Allied Health Sciences (COMAHS). The restructured University of Sierra Leone is superintended by a Vice-Chancellor and Principal, who is the chief academic and administrative head of the university, and a Registrar.

Milton Margai Technical University (MMTU) is situated at Goderich. Goderich is a town on the outskirts of Sierra Leone's capital, Freetown. The college was established as a polytechnic in 2001 by an Act of Parliament, which merged the Milton Margai College of Education (MMCE), the Freetown Technical Institute (FTI), and the Hotel Tourism Training Institute (HTTI) as one educational institution, resulting in the establishment of three campuses: Goderich Campus, Congo Cross Campus, and Brookfields Campus.

The Freetown Polytechnic (FP) comprises the Freetown Teachers College (FTC) and the Government Technical Institute (GTI). The FTC is located at Kossoh Town, 19 km away from the heart of Freetown city. It is a non-residential college for both staff and students, while GTI is located at Kissy Dockyard.

2.2. Study Design, Research Instrument, Sample Population, and Sample Size

The survey research design using a structured questionnaire and documentary overview research instruments was used for data collection. The research population involved six tertiary educational institutions in Sierra Leone. The population of the study comprised employees from tertiary education institutions in Sierra Leone who were purposively selected based on the focus of the research. For the purpose of regional representation, at least one tertiary institution was selected from the four regions of Sierra Leone. The study population constitutes 326 subjects, of which 266 respondents were selected from six tertiary education institutions in Sierra Leone (NU, USL, EBK, MMTU, FP, and ETU) using the Krejcie & Morgan (1970) formula (**Table 1**). The Vice Chancellors and Principals, Deputy Vice Chancellors, and Registrars were purposively selected, while the other cate-

gories of respondents were selected using a simple random technique for the study (Krejcie & Morgan, 1970).

Table 1. Sample population and size of respondents of the various institutions that participated in the study.

Respondents	Institutions						Total population	Sample size
	NU	USL	EBKUST	MMTU	FP	ETU		
Vice Chancellor and Principal	1	1	1	1	1	1	6	6
Deputy Vice Chancellor	2	3	1	3	1	1	11	11
Registrars	1	1	1	1	1	1	6	6
Deputy Registrars	5	3	1	1	1	2	13	13
Deans of Schools/Directors	20	30	5	5	5	5	70	50
Heads of Departments	35	40	20	4	6	5	110	90
Other Administrative Authorities	30	50	10	5	10	5	110	90
Total	94	128	39	20	25	20	326	266

NU = Njala University, USL = University of Sierra Leone, EBKUST = Ernest Bai Koroma University of Science and Technology, MMTU = Milton Margai Technical University, FP = Freetown Polytechnic, and ETU = Eastern Technical University.

2.3. Data Analysis

The data were coded and analyzed using the Statistical Package for Social Sciences (SPSS) program version 20. Analysis of Variance (ANOVA) was used to test the null hypotheses at the 0.05 level of significance.

2.4. Ethical Consideration

The researcher explained to the respondents the purpose of the research and that their participation was voluntary. Thus, the respondents were free to decline or withdraw at any time during the research period. Respondents were not coerced to participate in the study. The participants gave informed consent to make the choice to participate or not. They were guaranteed that their privacy would be protected by strict standards of anonymity.

3. Results and Discussion

Table 2 presents the qualifications of the administrative staff in six tertiary institutions of Sierra Leone. The majority of the respondents had MSc (26.6%) and PhD (21.7%), followed by those with BSc (8.7%), MEd (7.2%), and MPhil (5.7%), whereas those with MBA (0.4%), BSc + ICSA (0.4%), MPhil + MPA (0.4%), and MPhil + were the lowest percent of staff with the qualifications. Regarding the

major fields of study, Management + Administration (16.0%) had the highest percent of respondents, followed by PhD (21.7%), and those whose major fields of study were in Education Extension (10.3%) and Administration only (8.7%), whereas WSF + Engineering had the lowest at 0.4% (Table 3). The perceived knowledge of the respondents regarding the relevance of skills to their jobs is presented in Table 4. Accordingly, the majority of the respondents, ranging from 69.6 to 96.6%, opined on the relevance of the various types of skills assessed to their jobs, except for the office clerical skills, under Office ICT skills, which had a slightly lower affirmation of 49.4%.

Table 2. Qualifications of administrative staff in tertiary education institutions of Sierra Leone.

Qualification	Frequency	Percent
PhD	57	21.7
MPhil	15	5.7
MPhil + MPA	1	0.4
MPhil + MBA	1	0.4
Med	19	7.2
MPA	5	1.9
MBA	5	1.9
MA	12	4.6
MSc	70	26.6
ACCA	5	1.9
BSc	23	8.7
BSc + ICSA	1	0.4
Bed	9	3.4
BA	4	1.5
HND	21	8.0
HTC	6	2.3
OND	4	1.5
Others	5	1.9

Table 3. Major field of study of administrative staff in tertiary education institutions of Sierra Leone.

Parameter	Frequency	Percent
Management only	18	6.8
Administration only	23	8.7
Management + Administration	42	16.0

Continued

Management - Administration	10	3.8
Administration - Management	5	1.9
Agriculture	17	6.5
Accounting only	11	4.2
Home Economics only	2	0.8
Business only	2	0.8
Banking and Finance only	3	1.1
Economics only	4	1.5
Linguistics only	2	0.8
Literature only	2	0.8
Physics only	2	0.8
Health Education only	6	2.3
Engineering only	11	4.2
Statist, Mathematics/Physics	4	1.5
Education Extension	25	9.5
Medical Studies	3	1.1
Education Extension + Social Work/Sociology	27	10.3
Human kinetics physical education (HKSE) only	3	1.1
Accounting + Banking and Finance	5	1.9
Information communication technologies and computers (ICTC)	9	3.4
Wildlife management ecotourism biodiversity (WMEB)	4	1.5
Wood science and forestry (WSF) + Engineering	1	0.4
Others	22	8.4

Table 4. Skills of administrative staff in tertiary education institutions of Sierra Leone.

Parameter	Description	Frequency		Percent	
		Yes	No	Yes	No
Leadership skills	Decision-making judgment	217	46	82.5	17.5
	Administrative problem-solving	242	21	92.0	8.0
	Analytical	183	80	69.6	30.4
	Team leadership skills	226	37	85.9	14.1
	Organizational leadership skills	223	40	84.8	15.2
Internal public relations	Collegial relationship	190	73	72.2	27.8
	Relating well to other staff	244	19	92.8	7.2
	Motivational skills for colleagues	232	31	88.2	11.8
	Ability to relate well to the public	243	20	92.4	7.6

Continued

Office ICT skills	Computer skills for the job	245	18	93.2	6.8
	Internal external correspondences	220	43	83.6	16.4
	Office clerical skills	130	133	49.4	50.6
	Others specify	8	255	3.0	97.0
Management skills	Coordinating	239	24	90.9	9.1
	Organizing	246	17	93.5	6.5
	Supervising	217	46	82.5	17.5
	Evaluating	210	53	79.8	20.2
	Controlling	215	48	81.7	18.3
	Communicating	254	9	96.6	3.4

Generally, skewness of the relevance of qualifications to position (RQP), relevance of major fields of study to position (RMFSP), relevance of faculties/schools to position (RFSP), leadership skills to position (RLSP), management skills to position (RMSP), relevance of internal public relations to position (RIPRP), relevance of office ICT skills to position (ROISP), and relevance of administrative skills to position (RASP) of the various respondents was negative (Table 5). The negative skewness is a measure of the degree of asymmetry of data around its mean. The negative skewness indicates lower return on investment and that both the mean and the median are less than the mode of the data set. The negative skewness often exhibits a longer or flatter tail on the left side of the distribution. Findings on kurtosis indicate how the outliers are distributed across the distribution in comparison to a normal distribution. Considering relative kurtosis for interpretation of current findings, internal public relations (−0.19), and office ICT skills (−0.59) which exhibited negative kurtosis values revealed platykurtic distribution, whereas the remaining parameters with positive values more than zero had leptokurtic distribution. The implications of these findings are that an employer is more comfortable with a platykurtic distribution of return as it indicates stable returns and lower risk of sudden shock of outliers, whereas leptokurtic distribution means chances of higher return, but with higher risk. For the tertiary education institution employer, fair utilization of the organizational recruitment practices, priorities and policies relating to relevance of job match (educational, skill, and subject match) to employees' current jobs or positions contribute to better job satisfaction, higher staff retention, and lower staff turnover intention (Na et al., 2024). Compromising the recruitment practices, priorities and policies affects job security, commitment and performance. Kurtosis is widely useful in the field of risk management and portfolio management, where it indicates if there is any chance of extreme values of returns (positive and negative) beyond the ±3 standard deviation of the mean (99.5% confidence interval).

Table 5. Descriptive statistics of the perception of respondents on relevance of qualifications (RQP), major fields of study (RMFSP), faculties/schools (RFSP), leadership skills (RLSP), management skills (RMSP), internal public relations (RIPRP), office ICT skills (ROISP), and administrative skills (RAP) to their position (N = 263).

Parameter	Mean	SD	Skewness	SE	Kurtosis	SE	Remarks
RQP	3.65	0.76	−1.84	0.15	1.67	0.30	Very relevant
RMFSP	3.60	0.81	−1.66	0.15	1.34	0.30	Very relevant
RFSP	3.59	0.78	−1.47	0.15	0.28	0.30	Very relevant
RLSP	3.56	0.85	−1.56	0.15	0.94	0.30	Very relevant
RMSP	3.60	0.78	−1.53	0.15	0.39	0.30	Very relevant
RIPRP	3.55	0.81	−1.32	0.15	−0.19	0.30	Very relevant
ROISP	3.48	0.87	−1.14	0.15	−0.59	0.30	Moderately relevant
RAP	3.59	0.80	−1.47	0.15	0.19	0.30	Very relevant

SD = Standard Deviation, SE = Standard Error.

The results also showed that the mean scores of perceptions of respondents on relevance parameters assessed ranged from 3.48 (ROISP) to 3.65 (RQP). Of the eight relevance subjects assessed, relevance of office ICT skills to workers' positions was rated moderately relevant, while the remaining items were very relevant to their positions. The standard deviation values for all the items ranged between 0.76 (RQP) and 0.87 (ROISP), which indicate that the respondents are not widely apart in their views (**Table 5**). These findings support the views of Fika et al. (2016) and Ngauja & Norman (2025), who opined that the process of scouting round for qualified applicants/candidates to fill up vacant positions in an organization could be done by appropriate advertisement for staff vacancies before recruitment without compromising selection criteria quality.

Table 6 shows a p value of 0.0001 for the perception of respondents on the relevance of all measured parameters to their positions, which is less than the alpha level of 0.05. The significant differences in the mean scores of the respondents regarding their perception of the relevance of qualifications, major fields of study, faculties/schools, internal public relations, leadership skills, management skills, office ICT skills, and administrative skills to their positions indicate the usefulness of the measured parameters for staff recruitment, turnover intention, retention, and job satisfaction. Results suggest that the match between skills and job requirements might influence job satisfaction and, consequently, staff turnover and retention. Staff turnover refers to the act of leaving the current job and moving to another workplace (Gu & Kim, 2020). Presently, the phenomenon of turnover among job seekers due to job mismatches is common, and these individuals often consider turnover a method to secure their desired job (Gu & Kim, 2020). Staff turnover intentions are generally influenced by demographic, personal, job-related, organizational, and structural factors (Gu et al., 2011). Accordingly, the better the match between the administrative staff's job match (educational, skill, and

subject match) and their job, the more significantly turnover intention decreases and job satisfaction and staff retention increase (Na et al., 2024). Findings of the present study are consistent with Na et al. (2024), Gu & Kim (2020), and Jeon & Nam (2023), who found that the better the match between a graduate's major fields of study and their job, the more significantly turnover intention decreases and job satisfaction increases. The main reasons for turnover include low salaries, inadequate job match, and uncertainty about future opportunities within the organization (Na et al., 2024).

Table 6. T-test statistics of the perception of respondents on the relevance of qualifications (RQP), relevance of major fields of study (RMFSP), relevance of faculties/schools (RFSP), relevance of leadership skills (RLSP), relevance of management skills (RMSP), internal public relations (RIPRP), relevance of office ICT skills (ROISP), and relevance of administrative skills (RAP) to their position (N = 263).

Parameter	T	Sig. (2-tailed)	Mean	95% Confidence Interval	
				Lower	Upper
RQP	77.92	0.0001	3.65	3.562	3.746
RMFS	71.46	0.0001	3.60	3.496	3.694
RFSP	74.41	0.0001	3.59	3.497	3.687
RLSYP	68.08	0.0001	3.56	3.460	3.666
RMSP	74.60	0.0001	3.60	3.509	3.700
RIPRP	70.34	0.0001	3.55	3.449	3.647
ROISP	64.61	0.0001	3.48	3.377	3.589
RAP	72.34	0.0001	3.59	3.492	3.688

Table 7 shows that the p values of 0.0001 (HTC), 0.014 (BSc), 0.0001 (MA), 0.0001 (ACCA), 0.017 (MBA), 0.011 (MPA), 0.0001 (CPA), 0.0001 (CIMA), 0.0001 (ICSA), and 0.001 (PhD) are less than the alpha level of 0.05. These values indicate that there are significant differences in the mean scores of the respondents for the measured qualification parameters. Therefore, the null hypothesis was rejected for these parameters, while for the remaining qualification parameters (OND, HND, BA, BED, MSc, MPhil, MED, and Others specify) we accept the null hypothesis since their p values are greater than the alpha level of 0.05. The value-added skill set of candidates seeking a job determines their employability in the marketplace, such as the university. Findings agree with the view that the employability of an individual is linked to acquiring skills and attributes that prepare him/her for success later in life (Stoffberg et al., 2023). These include communication skills, numeracy, information technology, problem-solving, and teamwork, all of which will be useful in various job positions (Cole & Tibby, 2013). Moreover, Sanders & De Grip (2004) opined that learning capacity is considered part of an employee's employability.

Table 7. ANOVA Summary on perception of respondents with regard qualifications (N = 263).

Parameter		Sum of Squares	Df	Mean Square	F	Sig.
HTCTC	Between Groups	7.182	3	2.394	18.77	0.0001
	Within Groups	32.910	258	0.128		
	Total	40.092	261			
OND	Between Groups	0.408	3	0.136	1.86	0.136
	Within Groups	18.915	259	0.073		
	Total	19.323	262			
HND	Between Groups	0.967	3	0.322	2.15	0.095
	Within Groups	38.904	259	0.150		
	Total	39.871	262			
BA	Between Groups	0.657	3	0.219	2.26	0.082
	Within Groups	25.145	259	0.097		
	Total	25.802	262			
BED	Between Groups	0.071	3	0.024	0.26	0.852
	Within Groups	23.358	259	0.090		
	Total	23.430	262			
BSc	Between Groups	2.524	3	0.841	3.61	0.014
	Within Groups	60.351	259	0.233		
	Total	62.875	262			
MSc	Between Groups	0.950	3	0.317	1.27	0.284
	Within Groups	64.456	259	0.249		
	Total	65.407	262			
MA	Between Groups	7.520	3	2.507	23.95	0.0001
	Within Groups	27.104	259	0.105		
	Total	34.624	262			
MPhil	Between Groups	0.555	3	0.185	2.35	0.073
	Within Groups	20.433	259	0.079		
	Total	20.989	262			
MED	Between Groups	0.479	3	0.160	1.80	0.147
	Within Groups	22.951	259	0.089		
	Total	23.430	262			
ACCA	Between Groups	0.462	3	0.154	7.39	0.0001
	Within Groups	5.401	259	0.021		
	Total	5.863	262			

Continued

MBA	Between Groups	0.440	3	0.147	3.45	0.017
	Within Groups	11.012	259	0.043		
	Total	11.452	262			
MPA	Between Groups	0.440	3	0.147	3.76	0.011
	Within Groups	10.100	259	0.039		
	Total	10.540	262			
CPA	Between Groups	0.496	3	0.165	85.68	0.0001
	Within Groups	0.500	259	0.002		
	Total	0.996	262			
CIMA	Between Groups	0.496	3	0.165	85.68	0.0001
	Within Groups	0.500	259	0.002		
	Total	0.996	262			
ICSA	Between Groups	12.405	3	4.135	237.99	0.0001
	Within Groups	4.500	259	0.017		
	Total	16.905	262			
PhD DED	Between Groups	2.665	3	0.888	5.48	0.001
	Within Groups	41.981	259	0.162		
	Total	44.646	262			
Others specify	Between Groups	0.856	3	0.285	1.42	0.236
	Within Groups	51.881	259	0.200		
	Total	52.738	262			

Table 8 shows that the *p* values of 0.0001 (Linguistics), 0.0001 (Home Economics), 0.001 (HKSE), 0.012 (Education Extension), 0.04 (Accounting), 0.0001 (Social Work), Engineering (0.0001), Physics (0.001), Statistics/Mathematics (0.049), and Others (0.047) are less than the alpha level of 0.05. These values indicate that there are significant differences in the mean scores of the respondents for the measured major fields of study. Therefore, the null hypothesis was rejected for these parameters, while for the remaining major fields of study parameters (Management, Administration, Agriculture Education, Economics, Health Education, Literature, Banking Finance, Sociology, WMEB, WSF, Communication Media, Agriculture, Business, HECD, and Medical Studies) we accept the null hypothesis since their *p* values are greater than the alpha level of 0.05.

Table 8. ANOVA Summary on perception of respondents with regard to major fields of study (N = 263).

Parameter		Sum of Squares	Df	Mean Square	F	Sig.
Management	Between Groups	0.433	3	0.144	0.73	0.534
	Within Groups	50.865	258	0.197		
	Total	51.298	261			

Continued

Administration	Between Groups	1.170	3	0.390	2.01	0.113
	Within Groups	50.128	258	0.194		
	Total	51.298	261			
Linguistics	Between Groups	15.856	3	5.285	461.20	0.0001
	Within Groups	2.957	258	0.011		
	Total	18.813	261			
Ag Education	Between Groups	0.019	3	0.006	0.19	0.905
	Within Groups	8.672	258	0.034		
	Total	8.691	261			
Economics	Between Groups	0.063	3	0.021	0.71	0.547
	Within Groups	7.692	258	0.030		
	Total	7.756	261			
H Economics	Between Groups	35.775	3	11.925	1553.26	0.0001
	Within Groups	1.981	258	0.008		
	Total	37.756	261			
HKSE	Between Groups	0.232	3	0.077	5.39	0.001
	Within Groups	3.707	258	0.014		
	Total	3.939	261			
Health Edu	Between Groups	0.018	3	0.006	0.13	0.944
	Within Groups	12.337	258	0.048		
	Total	12.355	261			
Literature	Between Groups	0.036	3	0.012	0.53	0.664
	Within Groups	5.827	258	0.023		
	Total	5.863	261			
Edu Ext	Between Groups	1.674	3	0.558	3.71	0.012
	Within Groups	38.784	258	0.150		
	Total	40.458	261			
Accounting	Between Groups	0.843	3	0.281	2.82	0.04
	Within Groups	25.722	258	0.100		
	Total	26.565	261			
Banking Fin	Between Groups	0.167	3	0.056	1.18	0.317
	Within Groups	12.188	258	0.047		
	Total	12.355	261			

Continued

Sociology	Between Groups	0.049	3	0.016	0.62	0.604
	Within Groups	6.764	258	0.026		
	Total	6.813	261			
Social Work	Between Groups	0.983	3	0.328	17.32	0.0001
	Within Groups	4.880	258	0.019		
	Total	5.863	261			
WMEB	Between Groups	0.040	3	0.013	0.88	0.453
	Within Groups	3.899	258	0.015		
	Total	3.939	261			
WSF	Between Groups	0.001	3	0.000	0.09	0.968
	Within Groups	0.995	258	0.004		
	Total	0.996	261			
CMedia	Between Groups	0.025	3	0.008	0.44	0.727
	Within Groups	4.880	258	0.019		
	Total	4.905	261			
Agriculture	Between Groups	0.125	3	0.042	0.72	0.54
	Within Groups	14.898	258	0.058		
	Total	15.023	261			
Business	Between Groups	0.003	3	0.001	0.06	0.982
	Within Groups	3.936	258	0.015		
	Total	3.939	261			
HECD	Between Groups	0.001	3	0.000	0.09	0.968
	Within Groups	0.995	258	0.004		
	Total	0.996	261			
Med Studies	Between Groups	0.120	3	0.040	0.99	0.398
	Within Groups	10.418	258	0.040		
	Total	10.538	261			
Engineering	Between Groups	24.536	3	8.179	161.24	0.0001
	Within Groups	13.087	258	0.051		
	Total	37.622	261			
ICTC	Between Groups	0.100	3	0.033	0.83	0.48
	Within Groups	10.438	258	0.040		
	Total	10.538	261			

Continued

Energy Studies	Between Groups	0.000	3	0.000	.	
	Within Groups	0.000	258	0.000		
	Total	0.000	261			
Physics	Between Groups	0.232	3	0.077	5.39	0.001
	Within Groups	3.707	258	0.014		
	Total	3.939	261			
Stat/Maths	Between Groups	0.204	3	0.068	2.65	0.049
	Within Groups	6.609	258	0.026		
	Total	6.813	261			
Others	Between Groups	0.852	3	0.284	2.69	0.047
	Within Groups	27.240	258	0.106		
	Total	28.092	261			

Ag Education = agriculture education; H Economics = home economics; HKSE = human kinetics physical education; Health Edu = health education; Edu Ext = education and/or extension; Banking Fin = banking and finance; WMEB = wildlife management ecotourism biodiversity; WSF = wood science forestry; CMedia = communication and media; HECD = home economics and community development; Med Studies = medical studies; ICTC = information communication technologies computers; Stat/Maths = statistics/mathematics.

Table 9 shows that the *p* values of 0.0001 (DMJ), 0.041 (APS), 0.0001 (Analytical), 0.0001 (TLS), and 0.0001 (OLS) are less than the alpha level of 0.05. These values indicate that there are significant differences in the mean scores of the respondents for the measured leadership skills. Therefore, the null hypothesis was rejected for these parameters. Results indicate that qualifications and fields of study vary among individuals, and these aspects are important for the job market. As such, for workers to succeed in the labor market, employability efforts should focus on training and preparing them to contribute to society. It involves the acquisition of "a set of knowledge, skills and personal traits that make workers more likely to contribute positively to the economy" (Mashigo, 2014). The extent to which workers possess these skills and attributes contributes to their employability (Mashigo, 2014) and job performance (Stoffberg et al., 2023; Ngauja & Norman, 2025).

Table 9. ANOVA Summary on perception of respondents with regard to leadership skills (N = 263).

Parameter		Sum of Squares	Df	Mean Square	F	Sig.
DMJ	Between Groups	7.462	4	1.865	15.78	0.0001
	Within Groups	30.493	258	0.118		
	Total	37.954	262			

Continued

APS	Between Groups	0.730	4	0.182	2.53	0.041
	Within Groups	18.593	258	0.072		
	Total	19.323	262			
Analytical	Between Groups	6.984	4	1.746	9.25	0.0001
	Within Groups	48.681	258	0.189		
	Total	55.665	262			
TLS	Between Groups	5.878	4	1.470	14.63	0.0001
	Within Groups	25.916	258	0.100		
	Total	31.795	262			
OLS	Between Groups	2.868	4	0.717	5.96	0.0001
	Within Groups	31.048	258	0.120		
	Total	33.916	262			

DMJ = decision-making judgment; APS = administrative problem-solving; OLS = organizational leadership skills; TLS = team leadership skills.

Table 10 shows that the *p* value of 0.0001 for the management skills parameters (coordinating, organizing, supervising, evaluating, controlling, and communicating) is less than the alpha level of 0.05. These values indicate that there are significant differences in the mean scores of the respondents for the measured management skills parameters. Therefore, the null hypothesis was rejected for these parameters. Moreover, findings suggest the significance of implementing the measured parameters to build a good organizational culture. Organizational culture, defined by shared values, beliefs, and practices within an institution (Isensee et al., 2020; Zeb et al., 2021), is a critical factor influencing employee attitudes and behaviors (Akpa et al., 2021; Cherian & Vilas, 2020). A positive organizational culture that encourages collaboration, risk-taking, and continuous improvement can significantly boost innovation (Barjak & Heimsch, 2023; Ma et al., 2023) by creating an environment conducive to creativity (Ogbeibu et al., 2021; Wiroonrath et al., 2024). Conversely, a hostile or toxic organizational culture can suppress innovation and lower employee morale (Saban, 2024), leading to high turnover rates (Ofei et al., 2023) and decreased commitment (Mannix-McNamara et al., 2021). This study suggests that a solid and supportive organizational culture directly impacts innovation and organizational commitment. Organizations can enhance their ability to innovate and build a more committed workforce by fostering a culture that encourages open communication and values employee contributions.

Table 11 shows that the *p* values of 0.0001 (Col relationship), 0.005 (RWOS), 0.0001 (MS colleagues), and 0.0001 (Ability RWP) are less than the alpha level of 0.05. These values indicate that there are significant differences in the mean scores of the respondents for the measured internal public relations. Therefore, the null hypothesis was rejected for these parameters.

Table 10. ANOVA Summary on the perception of respondents with regards to management skills (N = 263).

Parameter		Sum of Squares	Df	Mean Square	F	Sig.
Coordinating	Between Groups	2.784	2	1.392	19.02	0.0001
	Within Groups	19.026	260	0.073		
	Total	21.810	262			
Organizing	Between Groups	1.394	2	0.697	12.49	0.0001
	Within Groups	14.507	260	0.056		
	Total	15.901	262			
Supervising	Between Groups	3.591	2	1.795	13.58	0.0001
	Within Groups	34.363	260	0.132		
	Total	37.954	262			
Evaluating	Between Groups	5.120	2	2.560	17.89	0.0001
	Within Groups	37.199	260	0.143		
	Total	42.319	262			
Controlling	Between Groups	8.271	2	4.136	34.72	0.0001
	Within Groups	30.969	260	0.119		
	Total	39.240	262			
Communicating	Between Groups	0.470	2	0.235	7.43	0.001
	Within Groups	8.222	260	0.032		
	Total	8.692	262			

Table 11. ANOVA Summary on perception of respondents with regard to internal public relations (N = 263).

Parameter		Sum of Squares	Df	Mean Square	F	Sig.
ColRelationship	Between Groups	5.868	2	2.934	16.36	0.0001
	Within Groups	46.270	258	0.179		
	Total	52.138	260			
RWOS	Between Groups	0.669	2	0.334	5.36	0.005
	Within Groups	16.090	258	0.062		
	Total	16.759	260			
MSColleagues	Between Groups	3.400	2	1.700	18.95	0.0001
	Within Groups	23.152	258	0.090		
	Total	26.552	260			
Ability RWP	Between Groups	0.569	2	0.285	4.53	0.01
	Within Groups	16.189	258	0.063		
	Total	16.759	260			

ColRelationship = collegial relationship; RWOS = relating well to other staff; MSColleagues = motivational skills for colleagues; Ability RWP = ability to relate well to the public.

Table 12 shows that the p values of 0.0001 (CFSJob) and 0.0001 (INTERNALEXTC) are less than the alpha level of 0.05. These values indicate that there are significant differences in the mean scores of the respondents for the measured office ICT skills. Therefore, the null hypothesis was rejected for these parameters, while for the remaining major fields of study parameters (Office CS and others specify), we accept the null hypothesis since their p values are greater than the alpha level of 0.05.

Table 12. ANOVA Summary on perception of respondents with regard to office ICT skills (N = 263).

Parameter		Sum of Squares	Df	Mean Square	F	Sig.
CFSJob	Between Groups	2.170	3	0.723	14.42	0.0001
	Within Groups	12.845	256	0.050		
	Total	15.015	259			
INTERNALEXTC	Between Groups	3.860	3	1.287	10.99	0.0001
	Within Groups	29.986	256	0.117		
	Total	33.846	259			
OfficeCS	Between Groups	1.341	3	0.447	1.80	0.148
	Within Groups	63.655	256	0.245		
	Total	64.9962	259			
OthersB	Between Groups	0.09202	3	0.03067	1.02493	0.382
	Within Groups	7.66182	256	0.02993		
	Total	7.75385	259			

CFSJob = computer skills for job; INTERNALEXTC = internal and external correspondences; OfficeCS = office clerical skills; OthersB = others, specify.

Table 13 shows that the p value of 0.0002 (senior administrative), which is less than the alpha level of 0.05, indicates a significant difference in the mean scores of the respondents for the measured senior administrative staff position. Therefore, the null hypothesis was rejected for this parameter, while for the remaining administrative staff positions parameters (junior administrative staff, senior supporting administrative staff, and others specify), we accept the null hypothesis since their p values are greater than the alpha level of 0.05.

Table 13. ANOVA Summary on the perception of respondents with regard to the degree of relevance to administrative staff positions (N = 263).

Parameter		Sum of Squares	Df	Mean Square	F	Sig.
JNRA	Between Groups	3.234	2	1.617	0.47	0.625
	Within Groups	263.753	77	3.425		
	Total	266.988	79			

Continued

SSNRA	Between Groups	18.245	2	9.123	2.77	0.068
	Within Groups	283.373	86	3.295		
	Total	301.618	88			
SNRA	Between Groups	34.740	2	17.370	8.83	0.0002
	Within Groups	377.875	192	1.968		
	Total	412.615	194			

JNRA = junior supporting administrator; SNRSA = senior supporting administrator; SNRA = senior administrator.

The results of the present study posit that non-technical positions may not affect the level of performance of the junior staff compared to the technical positions of the senior administrative staff. Findings are in agreement with those of previous researchers in the discipline. For example, Ng & Feldman (2009) suggested that higher levels of education positively influence the performance of core tasks, creativity, and constructive behavior in employees. Ariss & Timmins (1989) argued that the type and level of educational qualification held by staff in non-technical positions have no effect on their level of performance (Ng & Feldman, 2009). Findings are also in concurrence with the view that Task Performance Behavior (TPB) is demonstrated when an individual completes tasks relevant to the key performance areas stated in his or her job description (Sonnentag et al., 2010). However, Stoffberg et al. (2023) found no significant correlation between staff performance indicators and their qualification levels. This emphasizes the significance of recruiting staff who are most likely to impact organizational objectives positively.

Table 14 presents the academic administrators' perception of the current number of staff, numbers of staff recruited, and promoted per gender across five academic years. Generally, male staff had a higher current number of staff, number of staff recruited, and number of staff promoted than female staff across academic years in Njala University, except in 2019/2020, where the number of female staff recruited (30) was higher than that of males (26). The current number of male staff and the total current number of staff consistently increased from the 2018/2019 to the 2021/2022 academic years, but slightly decreased in the 2022/2023 academic year. The highest total number of staff recruited was during the 2022/2023 academic year, while no staff were recruited during the 2018/2019 academic year. The highest total number of staff promoted was during the 2019/2020 academic year, while the lowest, four staff, were promoted during the 2018/2019 academic year. At the Freetown Polytechnique (FP), data were only available on the current number of staff and the number of staff recruited for the 2022/2023 academic year. Findings indicate a lack of an efficient database and archiving culture at FP and other tertiary institutions that lacked data for all the academic years studied. Similarly, the male current number of staff and male number of staff recruited at FP were higher than those of female staff during the 2022/2023 academic year.

Table 14. Academic administrators' perceived knowledge of the current number of staff, numbers of staff recruited and promoted per gender and academic year.

Parameter	Sex	Academic year					Mean
		2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	
Njala University							
Current number of staff	Male	594	620	649	691	638	638.4
	Female	165	169	174	167	123	159.6
	Total	759	789	823	857	802	806.0
No. of staff recruited	Male	0	26	29	30	76	32.2
	Female	0	30	5	4	10	9.8
	Total	0	56	34	34	86	42.0
No. of staff promoted	Male	3	53	11	24	6	19.4
	Female	1	13	1	8	0	4.6
	Total	4	66	12	32	6	24.0
Freetown Polytechnique							
Current number of staff	Male	NA	NA	NA	NA	138	
	Female	NA	NA	NA	NA	32	
	Total	NA	NA	NA	NA	170	
No. of staff recruited	Male	NA	NA	NA	NA	5	
	Female	NA	NA	NA	NA	4	
	Total	NA	NA	NA	NA	9	
No. of staff promoted	Male	NA	NA	NA	NA	NA	
	Female	NA	NA	NA	NA	NA	
	Total	NA	NA	NA	NA	NA	

NA = Not Available.

Generally, the stepwise regression of academic staff parameters indicated that total staff loss negatively influences the current number of staff, whereas the number of staff recruited positively influences the current number of staff more than the number of staff promoted (Figure 2). Findings indicate that staff loss reduces the skill set of tertiary institutions, whereas recruitment of qualified staff and promotion on a merit basis improve the staff cadre, which will have implications for increased job satisfaction, commitment, delivery, and retention.

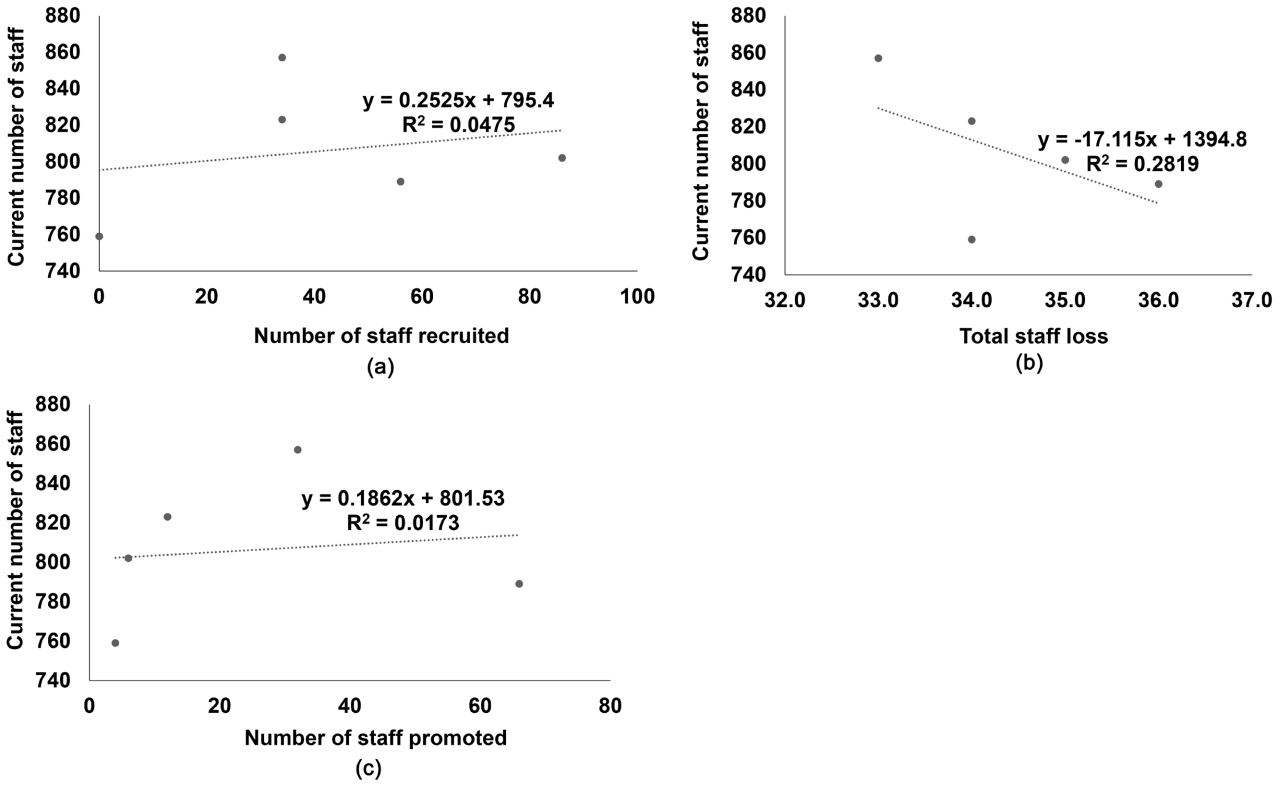

Figure 2. Relationships between (a) current number of staff and number of staff recruited, (b) current number of staff and number of staff promoted, and (c) current number of staff and total staff loss at Njala University assessed across five academic years.

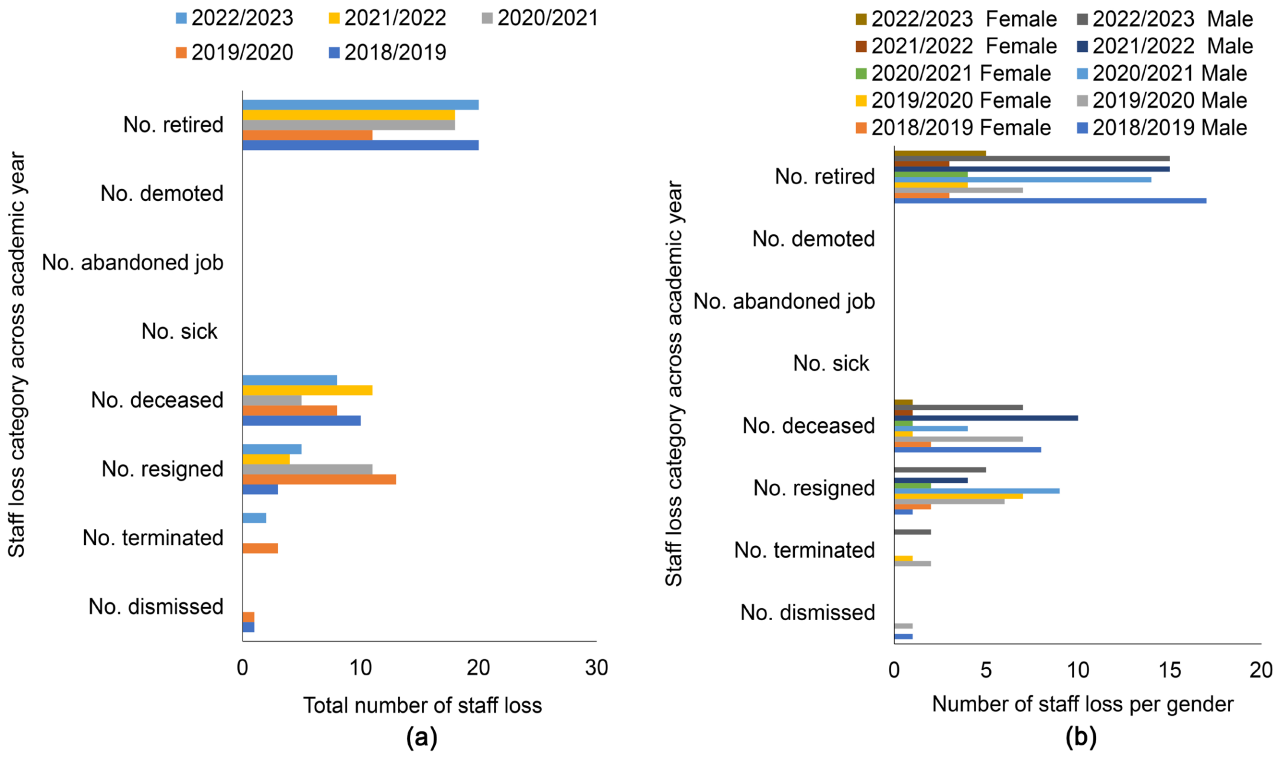

Figure 3. Academic Administrators' perceived knowledge of staff loss category, total number of staff losses, and number of staff losses per gender at Njala University assessed across five academic years.

Generally, retirement exhibited the highest staff loss at Njala University across the studied academic years, except in the 2019/2020 academic year, when the number of resignations was the highest, with 13 staff resigning compared to 11 staff retiring (Figure 3(a)). The total number of staff lost due to retirement was highest (20 staff) in the 2018/2019 and 2022/2023 academic years, whereas the 2019/2020 academic year had the lowest, with 11 staff retired. The gender of staff influences staff loss. The numbers of staff retired, deceased, terminated, and dismissed were higher for male than for female staff across all sampled academic years (Figure 3(b)). However, for the number of resignations, the female staff was higher than the male during the 2018/2019 and 2019/2020 academic years. Across all academic years, none of the staff lost their jobs due to sickness, job abandonment, or demotion.

4. Conclusion

This study establishes the relevance of job match (educational, skill, and subject match) to the job performance of academic administrators in varying positions and pay classes (grades) in the tertiary institutions of Sierra Leone. The pay grade issues are relevant findings that could be exploited by the Wages and Compensation Commission (WCC) of Sierra Leone for the implementation of fair pay class policies across tertiary education institutions in the country. The study also demonstrates that a tertiary educational institution employer is more comfortable with a platykurtic distribution of return, as it indicates stable returns and a lower risk of sudden shock that could be exploited for an improved work service culture. The relevance of qualifications, major fields of study, faculties/schools, leadership skills, management skills, internal public relations, and administrative skills to their positions are very relevant, whereas office ICT skill is moderately relevant. The results suggest that improving the developmental, maintenance, and skills utilization process forms part of the core elements of the policy package necessary to support sustainable long-term growth and employment creation. Findings also suggest that academic administrative staff members with higher levels of educational qualifications may result in higher-performing teams, on the grounds that staff with higher levels of educational qualifications are more likely to exceed the minimum requirements of their jobs. Tertiary educational institutions that strive for high levels of performance may be persuaded by this research study to require minimum educational qualifications (such as an undergraduate degree, for example, depending on the nature of the job) for all academic administrative positions. Meanwhile, future studies involving comparison of job performance among employees at the same level may provide a more conclusive outcome. Further studies may investigate whether a Senior Secretary with a school-leaving (matric) qualification only, for instance, performs at an equal, lower, or better level to one with a master's degree.

Acknowledgements

The authors are grateful to the staff and students of the Department of Teacher

Education, School of Education, Njala University, Bo Campus, Bo, Sierra Leone.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Akpa, V. O., Asikhia, O. U., & Nneji, N. E. (2021). Organizational Culture and Organizational Performance: A Review of Literature. *International Journal of Advances in Engineering and Management, 3,* 361-372.

Allais, S. (2010). *The Implementation and Impact of National Qualifications Frameworks: Report of a Study in 16 Countries*. Skills and Employability Department, ILO.

Ariss, S. S., & Timmins, S. A. (1989). Employee Education and Job Performance: Does Education Matter? *Public Personnel Management, 18,* 1-9. https://doi.org/10.1177/009102608901800101

Barjak, F., & Heimsch, F. (2023). Understanding the Relationship between Organizational Culture and Inbound Open Innovation. *European Journal of Innovation Management, 26,* 773-797. https://doi.org/10.1108/ejim-03-2021-0139

Cherian, J., & Vilas, G. (2020). Do Leadership Styles Impact Organizational Performance in the UAE Context? A Study. *International Journal of Mechanical Engineering and Technology, 11,* 23-32.

Cole, D., & Tibby, M. (2013). *Defining and Developing Your Approach to Employability* (p. 22). The Higher Education Academy. https://s3.eu-west-2.amazonaws.com/assets.creode.advancehe-document-manager/documents/hea/private/resources/employability_framework_1568037213.pdf

Fika, B. I., Ibi, B. M., & Abdulrahman, A. (2016). Staff Utilization and Staff Commitment in Borno State Colleges of Education, Nigeria. *Journal of Education and Practice, 7,* 68-74.

Gu, J. H., & Na, W. H., Song, C. K. (2011). A Study on Factors Affecting Turnover Decision of Vocational Counselors. *Journal of Special Education and Rehabilitation Science, 50,* 351-375.

Gu, S. W., & Kim, B. J. (2020). The Effects of College Education and Job Match on Activities to Change Jobs of College Graduates. *Journal of Economics and Finance Education, 29,* 173-198.

ILO (2006). *Guidelines for Development of Regional Model Competency Standards (RMCS)*. ILO.

Isensee, C., Teuteberg, F., Griese, K.-M., & Topi, C. (2020). The Relationship between Organizational Culture, Sustainability, and Digitalization in SMEs: A Systematic Review. *Journal of Cleaner Production, 275,* Article ID: 122944. https://doi.org/10.1016/j.jclepro.2020.122944

Jeon, Y. J., & Nam, T. W. (2023). A Study on the Effect of Job Matching and Job Satisfaction on Job Turnover Intention: Analysis of the Moderated Mediating Effect of the Welfare Benefit. *The Journal of Social Science, 30,* 7-30. https://doi.org/10.46415/jss.2023.12.30.4.7

Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement, 30*, 607-610. https://doi.org/10.1177/001316447003000308

Ma, X., Rui, Z., & Zhong, G. (2023). How Large Entrepreneurial-Oriented Companies

Breed Innovation: The Roles of Interdepartmental Collaboration and Organizational Culture. *Chinese Management Studies, 17,* 64-88. https://doi.org/10.1108/cms-06-2021-0247

Mannix-McNamara, P., Hickey, N., MacCurtain, S., & Blom, N. (2021). The Dark Side of School Culture. *Societies, 11,* Article No. 87. https://doi.org/10.3390/soc11030087

Mashigo, A. C. L. (2014). *Factors Influencing Work Readiness of Graduates: An Exploratory Study* (178 p.). Master of Commerce Thesis (Industrial Psychology), Stellenbosch University. https://scholar.sun.ac.za/server/api/core/bitstreams/70991e7e-c75c-4437-8262-30a9a12f8689/content

Na, T. K., Jung, I. Y., & Han, S. (2024). The Effect of Major, Education, and Skill Match on Job Satisfaction and Turnover Intention among Culinary Arts Graduates. *Tourism and Hospitality, 5,* 874-886. https://doi.org/10.3390/tourhosp5040050

Ng, T. W. H., & Feldman, D. C. (2009). How Broadly Does Education Contribute to Job Performance? *Personnel Psychology, 62,* 89-134. https://doi.org/10.1111/j.1744-6570.2008.01130.x

Ngauja, P. K., & Norman, P. E. (2025). Influence of Staff Recruitment and Staff Retention Strategies on Job Performance in Selected Tertiary Education Institutions in Sierra Leone. *European Modern Studies Journal, 9,* 215-224. https://doi.org/10.59573/emsj.9(1).2025.18

OECD (2012). *Better Skills. Better Jobs. Better Lives. A Strategic Approach to Skills Policies*. OECD Publishing. http://dx.doi.org/10.1787/9789264177338-en

Ofei, A. M. A., Poku, C. A., Paarima, Y., Barnes, T., & Kwashie, A. A. (2023). Toxic Leadership Behaviour of Nurse Managers and Turnover Intentions: The Mediating Role of Job Satisfaction. *BMC Nursing, 22,* Article No. 374. https://doi.org/10.1186/s12912-023-01539-8

Ogbeibu, S., Pereira, V., Burgess, J., Gaskin, J., Emelifeonwu, J., Tarba, S. Y., & Arslan, A. (2021). Responsible Innovation in Organisations—Unpacking the Effects of Leader Trust-worthiness and Organizational Culture on Employee Creativity. *Asia Pacific Journal of Management, 41,* 947-977. https://doi.org/10.1007/s10490-021-09784-8

Saban, J. (2024). *Toxic Management—How to Discover, Prevent and Cure Negative Impacts to Productivity of Individuals, Teams and Organizations*. Technische Universitat Wien.

Sanders, J., & de Grip, A. (2004). Training, Task Flexibility and the Employability of Low-Skilled Workers. *International Journal of Manpower, 25,* 73-89. https://doi.org/10.1108/01437720410525009

Sonnentag, S., Volmer, J., & Spychala, A. (2010). *Job Performance* (Vol. 1, pp. 427-447). Sage.

Stoffberg, Y., Ferreira, N., & Twum-Darko, M. (2023). The Relevance of Educational Qualifications to Job Performance among Academic Administrators at a University. *International Journal of Higher Education, 12,* 70-82. https://doi.org/10.5430/ijhe.v12n1p70

Thorn, W., & Schleicher, A. (2013). Qualifications, Skills, and Workforce Effectiveness: The Relevance of the OECD's Survey of Adult Skills to Asia. In R. Maclean, S. Jagannathan, & J. Sarvi (Eds.), *Skills Development for Inclusive and Sustainable Growth in Developing Asia-Pacific. Technical and Vocational Education and Training: Issues, Concerns and Prospects* (pp. 135-154). Springer. https://doi.org/10.1007/978-94-007-5937-4_8

Wiroonrath, S., Phanniphong, K., Somnuk, S., & Na-Nan, K. (2024). Impact of Leader Support on Open Innovation: The Mediating Role of Organizational Culture, Intellectual

Property, and Collaboration. *Journal of Open Innovation: Technology, Market, and Complexity, 10,* Article ID: 100333. https://doi.org/10.1016/j.joitmc.2024.100333

World Bank, & ILO (2011). *Draft Report on Options for Designing and Implementing an NVQF for India*. ILO.

Zeb, A., Akbar, F., Hussain, K., Safi, A., Rabnawaz, M., & Zeb, F. (2021). The Competing Value Framework Model of Organizational Culture, Innovation and Performance. *Business Process Management Journal, 27,* 658-683. https://doi.org/10.1108/bpmj-11-2019-0464