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PSYCHOLOGICAL SUPPORT AND LEARNER OUTCOMES AMONG LEARNERS WITH HEARING IMPAIRMENT IN INCLUSIVE SCHOOLS IN BAULENI, ZAMBIA

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ABSTRACT

Background: Learners with hearing impairment may be physically included in mainstream school settings while remaining excluded from communication, counselling and supportive relationships. This study examined the availability and perceived effectiveness of psychological support and its association with learner outcomes in selected inclusive schools in Bauleni, Lusaka.

Methods: A convergent mixed-methods case-study design was used. Fifty learners and 12 teachers completed questionnaires. Individual semi-structured interviews involved six of the same teachers, three guidance teachers or counsellors, and ten parents or guardians. Learner recruitment followed a census of the confirmed accessible population. Adult participants were selected purposively. Quantitative data were analysed using descriptive statistics, Pearson correlation and exploratory simple regression; interview data were analysed thematically, and both strands were integrated during interpretation.

Results: Psychological support was moderately available. Parent encouragement and teacher checking were rated more positively than communication-accessible counselling. Psychological support was positively associated with academic participation ($r = 0.69$, $p < .001$), emotional wellbeing ($r = 0.73$, $p < .001$), resilience ($r = 0.66$, $p < .001$) and self-esteem ($r = 0.69$, $p < .001$). Interview findings showed that encouragement, accessible communication, peer acceptance and parent-school collaboration supported confidence and participation, whereas limited staff, sign-language proficiency, private space, resources and referral pathways reduced support quality.

Conclusion: Effective psychological support should be implemented as a communication-accessible, school-wide and family-linked system rather than as counselling alone. The cross-sectional, unadjusted findings indicate associations and should not be interpreted causally.

Keywords: Psychological Support; Hearing Impairment; Inclusive Education; Academic Participation; Emotional Wellbeing; Zambia

1 INTRODUCTION

Inclusive education is intended to provide equitable access, participation and belonging for learners with disabilities (Genovesi et al., 2022; UNICEF, 2023). For learners who are deaf or hard of hearing, however, placement in a mainstream or inclusive classroom does not by itself guarantee access to instruction, peer relationships or psychosocial support. Communication barriers, stigma, bullying and limited specialist resources can restrict participation and expose learners to emotional distress even when enrolment has been achieved (Bouldin et al., 2021; Global Education Monitoring Report Team, 2020; World Health Organization, 2021).

Psychological support in schools includes formal counselling as well as accessible listening, teacher encouragement, peer protection, family collaboration, safeguarding and referral. These elements are interdependent. A counselling service may formally exist but remain inaccessible when the counsellor cannot communicate directly with the learner, privacy is limited, or learners fear stigma. Evidence from Zambia has similarly identified gaps in sign-language proficiency, teacher preparation, learning resources and inclusive practice (Chibuye et al., 2023; Kumatongo et al., 2021; Mumba et al., 2022; Ndhlovu & Matafwali, 2020).

The study was informed by an integrated framework drawing on Bronfenbrenner's ecological systems theory, social and emotional learning, and Vygotsky's sociocultural theory. The ecological perspective directs attention to interacting school, family, peer and service environments. Social and emotional learning provides a lens for wellbeing, resilience, self-esteem and relational participation. Vygotsky's theory highlights communication, guided interaction and classroom support as conditions for learning. From this framework, reported psychological support was treated as the independent variable, while academic participation, emotional wellbeing, resilience and self-esteem were treated as learner outcomes. Contextual factors were used interpretively and were not statistically tested as mediators.

Local evidence centred specifically on psychological support for learners with hearing impairment in Bauleni remains limited. The study therefore sought to: (1) assess the availability and implementation challenges of psychological support; (2) determine the relationship between psychological support and academic participation and perceived performance; and (3) examine the relationship between psychological support and emotional wellbeing, resilience and self-esteem while considering the roles of teachers, counsellors, parents and peers.

2 METHODS

2.1 Design and setting

A convergent mixed-methods case-study design was used in selected inclusive schools in Bauleni, Lusaka, Zambia. Quantitative and qualitative data were collected during the same fieldwork phase, analysed separately, and merged during interpretation. The quantitative strand was a cross-sectional questionnaire survey. The qualitative strand used individual semi-structured interviews; no focus-group discussions were conducted. The case-study approach enabled investigation of school-specific communication and support conditions, while convergence allowed numerical patterns to be interpreted alongside participants' accounts (Creswell & Creswell, 2023; Creswell & Plano Clark, 2023).

2.2 Participants and sampling

School-level scoping confirmed an accessible population of 50 eligible learners with hearing impairment. Yamane's formula at a 5% margin of error produced n = 50/[1 + 50(0.05)^2] = 44.4, rounded to 45. The target was increased to 50 to allow for possible non-response. Because the confirmed accessible population was exactly 50, all eligible and consenting learners were invited through a census approach. Learners were organised by school and grade to ensure coverage across the selected sites. Adults were selected purposively because they had direct experience of providing or observing psychological support.

Table 1: Participant groups and data-collection participation

Participant group	Questionnaire	Individual interview	Sampling
Learners with hearing impairment	50	-	Census of accessible population
Teachers	12	6 of the same 12	Purposive
Guidance teachers/counsellors	-	3	Purposive
Parents/guardians	-	10	Purposive

The six interviewed teachers were a subset of the 12 teacher questionnaire respondents and were not counted twice. The unique participant composition was therefore 50 learners, 12 teachers, three guidance teachers or counsellors, and ten parents or guardians.

2.3 Measures and data collection

Learners completed a 10-item researcher-developed questionnaire using a five-point response format from 1 (strongly disagree) to 5 (strongly agree). Items addressed access to support, communication with providers, teacher checking, inclusion, peer respect, help-seeking, concentration, schoolwork completion, stress management and parental encouragement. Teachers completed an eight-item questionnaire concerning counselling, communication access, inclusive teaching, peer and parent support, staffing, perceived benefits and resources. Individual interview guides explored support practices, communication barriers, family collaboration, staffing, resources and recommended improvements.

The questionnaire was designed for a small specialised population with varied reading and communication needs. Items could be explained through sign language or visual support without leading the response. Internal consistency was acceptable for psychological support (alpha = 0.81), academic participation (alpha = 0.76), emotional wellbeing (alpha = 0.77), and the full learner questionnaire (alpha = 0.91). Separate validated multi-item scales and reliability coefficients were not available for resilience and self-esteem; those findings were treated as exploratory indicators rather than diagnostic classifications. No clinical cutoff points were applied.

2.4 Data analysis

Quantitative analysis proceeded from descriptive statistics to bivariate Pearson correlations and exploratory simple linear regression. Pearson coefficients assessed the direction and strength of the unadjusted association between psychological support and each learner outcome. The regression specified psychological support as the sole independent variable and a combined learner-outcome score as the dependent variable. Potential covariates, including age, gender, grade, level of hearing impairment, school, family circumstances and communication access, were not included; consequently, the model was unadjusted.

Interview data were analysed using thematic analysis through repeated reading, initial coding, grouping related codes, developing themes and interpreting those themes against the objectives (Braun & Clarke, 2021). Content analysis and grounded-theory procedures were not used. After separate analysis, quantitative patterns and qualitative themes were compared and merged to identify convergence and explanation.

2.5 Ethical considerations

Ethical clearance was obtained from the Chreso University Research Ethics Committee, followed by permission from the relevant education and school authorities. Participation was voluntary. Parents or guardians provided consent for minors, learners provided assent, and adult participants consented directly. Participant codes protected identity. Interviews were conducted privately and communication support was arranged where required.

3 RESULTS

3.1 Participant characteristics and availability of support

The learner sample included 27 females (54.0%) and 23 males (46.0%), aged 10-18 years. Fourteen learners (28.0%) were aged 10-13, 24 (48.0%) were aged 14-16, and 12 (24.0%) were aged 17-18. Reported hearing-impairment levels were mild for eight learners (16.0%), moderate for 20 (40.0%), severe for 17 (34.0%), and unknown for five (10.0%).

Psychological support was moderately available and was experienced mainly through ordinary relationships and school practices. Parental encouragement and teacher checking of understanding were among the more positively rated forms of support. Communication-accessible counselling was comparatively weaker. Thus, the existence of a guidance or counselling function did not necessarily mean that learners could communicate privately and independently with the provider.

3.2 Associations between support and learner outcomes

All outcome-specific associations were positive and statistically significant. Learners reporting greater psychological support also tended to report stronger academic participation, emotional wellbeing, resilience and self-esteem. Emotional wellbeing had the largest outcome-specific coefficient. These results indicate covariation within the sample and do not demonstrate that psychological support caused improvement.

The exploratory simple regression used the combined learner-outcome score as the dependent variable and psychological support as the only predictor. The retained output produced R-squared = 0.57, B = 0.76, t = 7.97 and p < .001. Approximately 57% of the observed variance in the combined score was statistically associated with support in this unadjusted sample model. This percentage represents model fit, not the proportion of outcomes caused by support. Full standard errors, confidence intervals, the F statistic, adjusted R-squared and diagnostic information were not available and were not reconstructed.

Table 2: Pearson correlations between psychological support and learner outcomes (N = 50)

Outcome	Pearson r	p-value	Interpretation
Academic participation	0.69	< .001	Positive, moderate-to-strong
Emotional wellbeing	0.73	< .001	Positive, strong
Resilience	0.66	< .001	Positive, moderate-to-strong
Self-esteem	0.69	< .001	Positive, moderate-to-strong
Combined learner outcome	0.75	< .001	Positive, strong

3.3 Qualitative themes

Table 3: Themes explaining the accessibility and effectiveness of psychological support

Theme	Integrated meaning
Support through everyday relationships	Teachers, counsellors and parents described reassurance, listening, checking understanding and referral as routine forms of support.
Communication access determined effectiveness	Writing, gestures, pictures and sign language supported communication, but reliance on intermediaries could reduce privacy and disclosure.
Teacher encouragement and peer acceptance	Respectful classroom interaction and inclusive group work supported confidence and participation; teasing and impatience restricted them.
Parent-school collaboration	Early communication about withdrawal, attendance or incomplete work enabled coordinated support at home and school.
Limited staff, training and resources	Shortages of trained personnel, private space, visual materials, time and referral options made support inconsistent.

The two strands converged. Higher ratings for teacher checking and family encouragement were reflected in accounts describing these relationships as sources of confidence and persistence. Lower ratings for communication-accessible counselling were explained by limited sign-language proficiency, dependence on intermediaries and inadequate privacy. Resource constraints reported in questionnaires were consistent with interview accounts of workload, limited materials and weak referral pathways.

4 DISCUSSION

The findings indicate that psychological support was available but unevenly accessible. Support was most visible through teachers, guidance personnel, peers and parents rather than through a specialised counselling system. This pattern reinforces the distinction between formal provision and practical access: a service becomes meaningful only when learners know how to reach it, can communicate in their preferred mode, trust the provider and can disclose concerns privately. Zambian studies documenting limitations in sign-language competence, materials and teacher preparation provide a consistent context for these findings (Chibuye et al., 2023; Kumatongo & Muzata, 2021; Mumba et al., 2022).

The positive association with academic participation suggests that psychological and educational experiences are closely connected. Learners who feel safe asking for help, receive accessible explanations and experience inclusive group work may be better positioned to concentrate, complete tasks and participate. This interpretation aligns with social and emotional learning research linking supportive educational environments with academic and psychosocial

outcomes. Nevertheless, the study measured perceived participation and performance rather than verified examination records, and the cross-sectional design cannot establish temporal order.

The associations with emotional wellbeing, resilience and self-esteem are plausible in light of evidence that communication barriers, exclusion and bullying increase psychosocial vulnerability among deaf and hard-of-hearing young people (Bouldin et al., 2021; Khalid et al., 2025; Terlektsi et al., 2020). In the present study, encouragement and accessible communication appeared to strengthen belonging and help-seeking. However, resilience and self-esteem were not measured using separately validated multi-item scales. The corresponding coefficients should therefore be viewed as exploratory evidence within a broader emotional-personal domain.

The integrated findings support an ecological understanding of learner support. Teachers shape daily communication and inclusion; guidance personnel provide listening, safeguarding and referral; parents reinforce coping and identify behavioural changes; and peers can either strengthen or undermine belonging. This distribution of responsibility means that counselling alone cannot resolve systemic barriers. Accessible communication, teacher practice, peer protection, family collaboration, private space and functional referral arrangements must operate together.

The study's conceptual framework was useful for integration but should not be mistaken for a tested causal model. Teacher support, parent involvement, peer acceptance, communication access and school capacity were theoretically and qualitatively important contextual factors. They were not entered as mediators, moderators or covariates. Future studies should use sufficiently large samples, validated accessible outcomes and prespecified multivariable models to test adjusted associations and potential mechanisms.

4.1 Implications for policy and practice

Schools should establish a clearly communicated, communication-accessible support pathway for learners with hearing impairment. At least two trained focal persons would reduce dependence on one overloaded guidance teacher. Confidential space, sign-language or visual communication, safeguarding procedures and referral information should be incorporated into the pathway.

Inclusive classroom support plans should require teacher checking of understanding, visual explanation, sufficient response time, inclusive group-work routines and early follow-up when attendance or task completion changes. Schools should also implement regular wellbeing check-ins, anti-bullying safeguards, structured peer-support activities and termly collaboration among guidance staff, teachers, parents and learners where appropriate.

District and national education authorities should prioritise continuing professional development in sign language, disability-responsive counselling, safeguarding and inclusive pedagogy. Training should be accompanied by protected guidance time, visual and assistive resources, private support spaces where feasible, and stronger links to specialised referral services.

4.2 Limitations

The study involved a small, specialised sample from selected schools in one locality, limiting generalisability. Measures were researcher-developed and self-reported. Academic performance was represented through participation and perceived schoolwork rather than verified records. Resilience and self-esteem were not supported by separate validated multi-item scales or standalone reliability estimates. The regression used a combined outcome, did not adjust for potential confounders and was based on incomplete retained model output. Adult demographic information was limited. Communication differences, social desirability and common-method variance may have influenced responses. The results therefore describe unadjusted associations and participant experiences, not causal or long-term effects.

5 CONCLUSION

Psychological support for learners with hearing impairment in the selected Bauleni schools was moderately available but uneven in accessibility and quality. Greater reported support was associated with stronger academic participation, emotional wellbeing, resilience and self-esteem. Individual interviews explained these patterns by highlighting teacher encouragement, communication access, peer acceptance and parent-school collaboration, alongside persistent shortages of trained personnel, private space, resources and referral options. Effective support should be understood as a school-wide and family-linked system that enables learners to communicate, participate, belong and seek help with dignity. More rigorous longitudinal and multivariable research is required before causal conclusions can be drawn.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

The author declares no competing interests.

Statement of ethical approval

Ethical clearance was obtained from the Chreso University Research Ethics Committee.

Statement of informed consent

Relevant education and school permissions, adult consent, parent or guardian consent, and learner assent were obtained before participation.

Data availability

The study data contain information from minors and a small, identifiable school community. Access should therefore be considered by the author and relevant ethics authority subject to confidentiality and consent requirements.

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