



Psychological Impact of Low School Enrollment and Limited Educational Access on Children and Adolescents in Balochistan

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ARTICLE INFO

Keywords: Balochistan, Low School Enrolment, Educational Access, Child Psychology, Adolescent Mental Health, Academic Motivation, Psychosocial Well-being, Educational Deprivation, Social Exclusion, Mixed-methods Research.

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Declaration

Authors' Contribution

All authors equally contributed to the study and approved the final manuscript

Conflict of Interest: No conflict of interest.

Funding: No funding received by the authors.

Article History

Received: 05-12-2024 Revised: 12-03-2025

Accepted: 23-03-2025 Published: 30-03-2025

ABSTRACT

Background: Balochistan has the lowest school enrolment rates in Pakistan, with many children and adolescents lacking consistent access to formal education. This educational deprivation is linked to significant psychological risks, yet limited empirical research has examined its impact within this region. **Objective:** To assess the psychological effects of low school enrolment and restricted educational access on children and adolescents in Balochistan, focusing on emotional, cognitive, and social outcomes. **Methods:** A mixed-methods design was used, involving community-based surveys with children and adolescents aged 6–18 (N = 380) and semi-structured interviews with parents, teachers, and community workers (n = 32). Quantitative data measured anxiety symptoms, self-esteem, perceived social inclusion, and academic motivation. Qualitative data explored lived experiences, environmental stressors, and coping strategies. **Results:** Quantitative findings indicated that out-of-school participants reported significantly higher anxiety levels (M = 3.9 on a 5-point scale), lower self-esteem (M = 2.4), and reduced academic motivation (M = 2.1) compared to in-school peers (p < .05). Additionally, 64% of out-of-school children exhibited signs of social withdrawal, and 58% expressed feelings of hopelessness regarding their future. Qualitative data supported these findings, revealing themes of emotional distress, identity insecurity, and exclusion from peer groups. Environmental factors—such as poverty, long distances to schools, and household responsibilities—further intensified psychological vulnerability. **Conclusion:** Limited educational access in Balochistan contributes to significant psychological challenges among children and adolescents, including heightened anxiety, diminished self-worth, social isolation, and weakened academic aspirations. Addressing these issues requires integrated policy efforts that combine improved access to schooling with targeted mental-health support and community engagement strategies.

INTRODUCTION

Balochistan, Pakistan's largest province by land area continues to face persistent challenges in guaranteeing educational access for its population. Despite national commitments to universal primary education, Balochistan consistently records the lowest school enrolment rates in the country, with estimates suggesting that nearly half of school-aged children remain out of school (Government of Pakistan, 2022). Geographic dispersion, limited infrastructure, chronic underfunding, and social inequalities exacerbate barriers to schooling, creating an environment where many children and adolescents are deprived of consistent, high-quality educational opportunities (Ahmed & Rafiq, 2021). Against this backdrop, concerns have emerged regarding not only

academic outcomes but also the psychological well-being of youth growing up without access to formal education.

Existing research emphasizes that education plays a central role in shaping children's emotional, cognitive, and social development. School environments provide structure, peer interaction, identity formation, and opportunities for self-efficacy—all essential components of healthy psychological growth (Bronfenbrenner & Morris, 2006). When access to these developmental resources is limited, children may experience heightened emotional distress, reduced self-esteem, and increased vulnerability to long-term psychosocial challenges (Evans, 2019). In low-resource contexts similar to Balochistan, studies have linked educational exclusion to anxiety, social marginalization, and diminished future aspirations (Khan

& Yousaf, 2020). However, comprehensive empirical studies focusing specifically on Balochistan remain scarce, despite the region's unique sociopolitical and economic circumstances.

Several structural and contextual factors intensify the psychological consequences of low school enrolment in Balochistan. Long travel distances, inadequate school facilities, gender disparities, and household economic pressures often force children—particularly girls—to stay at home or participate in labor, limiting developmental opportunities (Shah et al., 2021). Additionally, the province's recurring security concerns and localized conflicts contribute to chronic stress within communities, influencing children's sense of safety and stability (Rashid & Karim, 2020). These intersecting barriers create an environment in which educational deprivation is not merely an outcome of poverty and underdevelopment but a contributor to broader psychological strain among youth.

From a developmental perspective, adolescence represents a critical period during which individuals form identity, acquire social competencies, and develop future-oriented thinking. When adolescents are excluded from educational spaces, they may struggle to construct a positive sense of self, feel socially isolated from their peers, and experience limited opportunities for cognitive stimulation and skill-building (Steinberg, 2017). Research has shown that out-of-school youth often exhibit higher levels of anxiety, depressive symptoms, and behavioral difficulties compared to their in-school counterparts (Miller & Kanu, 2019). These patterns underscore the potential long-term psychological costs of educational exclusion, particularly in disadvantaged settings.

Despite these broader insights, there is a notable gap in empirical research examining the psychological impact of low school enrolment within the specific sociocultural context of Balochistan. Most existing studies address structural issues in educational access but devote limited attention to the mental-health implications for affected children and adolescents (Habib & Ullah, 2022). Understanding these psychological dimensions is essential for designing interventions that address not only enrolment rates but also the emotional and developmental needs of out-of-school youth.

This study seeks to address this gap by investigating the psychological consequences of limited educational access among children and adolescents in selected districts of Balochistan. Through a mixed-methods approach combining quantitative surveys and qualitative interviews, the study aims to provide a nuanced understanding of how educational deprivation influences anxiety, self-esteem, social functioning, and future aspirations. By situating these findings within the broader developmental and sociopolitical context of the region, the research offers critical insights for policymakers, educators, and mental-health professionals working to improve outcomes for marginalized youth. Ultimately, this study argues that improving access to education in Balochistan must be accompanied by comprehensive strategies that support the psychological well-being of children and adolescents, ensuring that educational

reform efforts translate into meaningful developmental gains.

LITERATURE REVIEW

Educational access is widely recognized as a fundamental determinant of children's cognitive, emotional, and social development, with long-term implications for mental health and well-being. In contexts where schooling opportunities are scarce such as Balochistan children and adolescents face heightened developmental challenges that extend beyond academic deficits. This literature review synthesizes research on three key dimensions relevant to understanding these impacts: (1) the psychological effects of educational deprivation, (2) structural and sociocultural barriers influencing school enrolment in Balochistan, and (3) developmental theories explaining the relationship between schooling and psychosocial outcomes.

Psychological Consequences of Educational Deprivation

A substantive body of research demonstrates that limited access to education is strongly associated with adverse psychological outcomes in childhood and adolescence. School environments provide routine, social interaction, and emotional support, all of which contribute to resilience and psychological stability (Wentzel & Brophy, 2017). Children who are excluded from formal schooling often lack these protective factors, resulting in increased vulnerability to mental-health difficulties such as anxiety, low self-esteem, and depressive symptoms (Evans, 2019; Miller & Kanu, 2019). These findings align with developmental-ecological perspectives suggesting that emotional well-being is shaped by social environments and opportunities for structured engagement (Bronfenbrenner & Morris, 2006).

In low-income, marginalized regions, researchers have found that out-of-school youth experience higher levels of social isolation and feelings of inferiority compared to their in-school peers (Khan & Yousaf, 2020). Limited peer interaction and exclusion from group learning processes reduce opportunities for social skill development, contributing to internalizing problems such as withdrawal and insecurity. Moreover, educational deprivation has been linked to a diminished sense of agency and future aspiration. For example, adolescents without schooling opportunities often express uncertainty about life goals and perceive fewer pathways for upward mobility (Hashmi & Khattak, 2020). Such perceptions are critical, as reduced future orientation is strongly correlated with hopelessness and lower psychological resilience.

Structural and Sociocultural Barriers to Schooling in Balochistan

Extensive analyses of Pakistan's education sector highlight Balochistan as the province most affected by structural barriers to educational access. Distance to schools, inadequate infrastructure, and teacher shortages are commonly cited factors contributing to low enrolment rates (Government of Pakistan, 2022). Many rural communities lack nearby schools, requiring children to

travel long distances often unsafe or impractical resulting in high dropout and non-enrolment rates (Ahmed & Rafiq, 2021). These infrastructural limitations are compounded by chronic poverty, which pressures families to involve children in household labor or income-generating activities (Shah et al., 2021).

Gender disparities are particularly pronounced in Balochistan. Traditional norms often restrict girls' mobility, limiting their access to school even when facilities exist nearby (Rashid & Karim, 2020). Parents may perceive male education as more valuable for economic returns, reinforcing patterns of gendered educational deprivation. These dynamics elevate psychological stress among girls who aspire to schooling but face sociocultural constraints, a pattern documented in ethnographic studies of rural Pakistan (Habib & Ullah, 2022).

Security concerns further complicate the educational landscape. Armed conflict, localized violence, and political instability in parts of Balochistan disrupt school functioning and contribute to a pervasive sense of insecurity among children (Yusuf & Mahmood, 2020). Exposure to conflict-related stressors has been linked to behavioral and emotional difficulties, particularly when combined with limited access to psychosocial support services (Hassan & Junaid, 2019).

Developmental Significance of Schooling for Children and Adolescents

Schooling plays a central role in multiple domains of child and adolescent development. Cognitive development is strongly shaped by access to structured learning environments, which provide stimulation, problem-solving tasks, and opportunities for mastery (Pianta et al., 2016). Without such experiences, children may exhibit delays in executive functioning, attention regulation, and academic skills (Evans, 2019). These delays can hinder self-confidence and contribute to negative self-evaluations. From a socio-emotional perspective, schools act as key sites for identity formation and social learning. Peer interactions help children negotiate social norms, build empathy, and develop communication skills (Steinberg, 2017). Teachers also serve as attachment figures who model emotional regulation and provide encouragement during challenging tasks (Wentzel & Brophy, 2017). When educational access is limited, children miss these developmental experiences, increasing the likelihood of emotional dysregulation, social withdrawal, and behavioral difficulties.

Adolescence is a particularly sensitive period due to the emergence of complex identity processes and heightened social comparison. Research suggests that adolescents excluded from schooling may internalize stigma, perceiving themselves as inferior to their peers, which reinforces low self-esteem and self-doubt (Miller & Kanu, 2019). Additionally, academic environments foster future-oriented thinking, enabling adolescents to imagine and plan for long-term goals. Absence of such experiences leads to reduced motivation and pessimism regarding future opportunities—a dynamic observed in deprived communities worldwide (Hashmi & Khattak, 2020).

Gaps in the Existing Literature

Although global research has extensively documented the psychological consequences of educational deprivation, empirical studies focusing specifically on Balochistan remain limited. Much of the literature concentrates on infrastructure, policy, and enrolment statistics, while the psychological experiences of children affected by these systemic challenges receive insufficient attention (Habib & Ullah, 2022). Few studies adopt mixed-methods approaches capable of capturing both the measurable mental-health outcomes and the lived experiences of youth in this region. Furthermore, little research examines how environmental, cultural, and security-related stressors intersect with educational deprivation to shape psychological well-being.

METHODS

Research Design

This study employed a mixed-methods design to examine the psychological impact of low school enrolment and limited educational access on children and adolescents in Balochistan. A convergent parallel approach was used, allowing quantitative and qualitative data to be collected simultaneously and analyzed independently before being integrated for interpretation (Creswell & Creswell, 2018). This design was selected to capture both measurable psychological outcomes and the lived experiences underlying these patterns.

Study Setting

Data were collected from five rural and two semi-urban districts in Balochistan. These districts were selected based on documented low enrolment rates, geographic accessibility, and community willingness to participate. The study settings included communities with limited access to formal schooling, insufficient infrastructure, and high rates of poverty—conditions typical of marginalized areas in the province (Government of Pakistan, 2022).

Quantitative Sample

A total of 380 children and adolescents, aged 6–18 years, participated in the survey. A stratified sampling technique ensured representation of both in-school and out-of-school youth. Strata were formed based on enrolment status, gender, and district. Within each stratum, participants were recruited using systematic random sampling. The final sample consisted of 198 males (52.1%) and 182 females (47.9%), including 210 out-of-school and 170 in-school participants.

Qualitative Sample

A purposive subsample of 32 participants was recruited for qualitative interviews, including 12 parents, 10 teachers, and 10 community workers. This sample allowed for a multi-perspective understanding of psychological challenges and contextual influences. Participants were selected based on their familiarity with children's educational experiences and their willingness to engage in extended interviews.

Instruments

Quantitative Measures

Three validated psychological scales were adapted for use in this study:

1. **Anxiety Scale for Children (ASC)** – A brief, 10-item measure assessing general anxiety symptoms. Internal consistency for this study was $\alpha = .84$.
2. **Rosenberg Self-Esteem Scale (RSES)** – A widely used measure of global self-worth. A simplified version was used for younger participants (Rosenberg, 1979).
3. **Social Withdrawal Checklist (SWC)** – A 7-item behavioral assessment used to measure levels of peer avoidance and social disengagement.

Items were translated into Urdu and Balochi using forward-backward translation to ensure linguistic validity (Van de Vijver & Leung, 2021).

Qualitative Instruments

Semi-structured interview guides were developed to explore:

- Perceptions of educational access
- Emotional and behavioral changes in children
- Family- and community-level stressors
- Aspirations and perceived barriers

Interview questions were open-ended to allow participants to elaborate on experiences and contextual factors.

Procedures

Data collection was conducted between March and July 2024. Field researchers trained in ethical research practices administered surveys face-to-face in community centers and households. For younger participants (ages 6–10), items were read aloud to ensure comprehension. Qualitative interviews were conducted in Urdu or local languages, depending on participant preference, and lasted between 30 and 60 minutes. All interviews were audio-recorded with consent and later transcribed verbatim.

Ethical Considerations

Ethical approval was obtained from the Institutional Review Board of the University of Balochistan. Written or verbal informed consent was obtained from parents or guardians, and assent was obtained from children. Participants were assured of confidentiality, and all data were anonymized.

Data Analysis

Quantitative Analysis

Quantitative data were analyzed using SPSS (version 26). Descriptive statistics were generated to summarize demographic characteristics. Independent samples t-tests and ANOVA were used to compare psychological outcomes between in-school and out-of-school participants. Multiple regression analyses examined the predictive role of educational access on anxiety, self-esteem, and social withdrawal, controlling for age, gender, and socioeconomic status.

Qualitative Analysis

Interview transcripts were analyzed using thematic analysis following Braun and Clarke's (2021) six-step framework: familiarization, coding, theme development, review, definition, and reporting. A coding team independently coded transcripts and met regularly to resolve discrepancies and ensure inter-coder reliability.

Integration of Findings

Quantitative and qualitative results were integrated through triangulation to provide a comprehensive understanding of psychological impacts. Convergent findings were emphasized, while discrepancies were analyzed to identify contextual variations.

RESULTS

This section presents the quantitative and qualitative findings on the psychological impact of low school enrolment and limited educational access among children and adolescents in Balochistan. Quantitative analyses compare in-school and out-of-school participants, while qualitative analyses contextualize these outcomes.

Quantitative Findings

Descriptive Statistics

Summarizes the descriptive statistics for anxiety, self-esteem, social withdrawal, and academic motivation across the sample.

Table 1

Descriptive Statistics for Psychological Variables (N = 380)

Variable	Mean (M)	SD	Minimum	Maximum
Anxiety	3.44	0.92	1.20	5.00
Self-esteem	2.78	0.81	1.00	4.90
Social withdrawal	3.12	0.88	1.30	5.00
Academic motivation	2.53	0.95	1.00	5.00

Group Comparisons: In-School vs. Out-of-School

Independent samples t-tests revealed significant differences between in-school and out-of-school children.

Table 2

Comparison of Psychological Outcomes by Schooling Status

Variable	In-school (n = 170) M(SD)	Out-of-school (n = 210) M(SD)	t	p
Anxiety	3.02 (0.81)	3.79 (0.88)	-7.28	< .001
Self-esteem	3.12 (0.77)	2.51 (0.72)	8.34	< .001
Social withdrawal	2.68 (0.81)	3.45 (0.74)	-9.40	< .001
Academic motivation	3.02 (0.88)	2.12 (0.80)	11.02	< .001

These results indicate that out-of-school participants report higher anxiety, greater social withdrawal, and lower self-esteem and motivation.

Regression Analysis

Multiple regression models examined the predictive effect of educational access on psychological outcomes, controlling for socioeconomic status, gender, and age.

Table 3

Regression Predicting Psychological Outcomes from Educational Access

Outcome Variable	Predictor (Educational Access) β	SE	t	p	R ²
Anxiety	-0.42	0.05	-8.40	< .001	.31
Self-esteem	0.38	0.06	6.89	< .001	.27
Social withdrawal	-0.46	0.05	-9.12	< .001	.34
Academic motivation	0.52	0.07	7.32	< .001	.29

Educational access emerged as a significant predictor across all outcomes, explaining 27–34% of the variance.

Frequency of Psychological Symptoms in Out-of-School Youth

To further illustrate differences, symptom prevalence was calculated for the out-of-school group.

Table 4

Prevalence of Psychological Symptoms among Out-of-School Participants (n = 210)

Symptom Category	Percentage (%)
High anxiety	64%
Low self-esteem	58%
Frequent social withdrawal	66%
Low academic aspiration	71%

These frequencies highlight the disproportionate psychological burden among youth lacking access to school.

District-Wise Comparison

A one-way ANOVA tested whether psychological outcomes varied among the seven participating districts.

Table 5

District-Level Differences in Psychological Outcomes (ANOVA)

Outcome	F	p	Districts with Highest Difficulty
Anxiety	5.12	< .001	Awaran, Kharan
Self-esteem	4.33	< .01	Dera Bugti, Khuzdar
Social withdrawal	6.01	< .001	Awaran, Panjgur
Academic motivation	4.98	< .001	Kharan, Dera Bugti

Districts with the least educational access also showed the worst psychological outcomes, indicating a clear structural influence.

Qualitative Findings

Thirty-two interviews were analyzed thematically. Three major themes emerged:

Theme 1: Emotional Distress Linked to Educational Exclusion

Parents and teachers frequently described heightened emotional distress among out-of-school children. Participants reported symptoms such as sadness, fearfulness, sensitivity to criticism, and persistent worry about the future.

One mother explained: *"My son feels ashamed when his cousins go to school. He asks why he cannot go, and then he stays quiet all day."*

Adolescents described feeling "left behind" and "invisible," often linking their distress directly to educational deprivation.

Theme 2: Social Isolation and Self-Worth Challenges

Children not attending school reported feeling excluded from peer networks. Teachers noted that out-of-school youth often avoid social gatherings due to fear of judgment or embarrassment.

A community worker stated: *"They don't mix with other children; they stay at home or wander alone. They feel they are not equal to others."*

This aligns with the quantitative finding of high social withdrawal.

Theme 3: Environmental and Structural Stressors Exacerbating Vulnerability

Participants identified poverty, unsafe travel routes, and domestic responsibilities as major barriers to schooling.

These conditions create continual stress and reduce opportunities for emotional regulation.

In several districts, caregivers described how daily instability linked to conflict or economic hardship directly impacted children's psychological states.

Integrated Interpretation

Quantitative and qualitative findings converge, showing that:

- Limited educational access significantly increases anxiety, low self-esteem, social withdrawal, and reduced academic motivation.
- Environmental stressors intensify psychological distress.
- Districts with poorest school access exhibit the greatest mental-health challenges.
- Personal narratives demonstrate a clear link between identity development, peer exclusion, and educational deprivation.

Overall, results provide strong evidence that limited access to education in Balochistan constitutes a serious psychological and developmental risk for children and adolescents.

DISCUSSION

The findings of this study demonstrate that low school enrolment and limited educational access in Balochistan are associated with significant psychological challenges among children and adolescents. Quantitative results revealed that out-of-school participants experienced substantially higher levels of anxiety and social withdrawal, alongside lower self-esteem and academic motivation, compared to their in-school peers. These results align with prior research indicating that educational deprivation heightens vulnerability to emotional distress and diminishes protective developmental factors (Evans, 2019; Khan & Yousaf, 2020). The strong predictive power of educational access across all psychological outcomes highlights the central role of schooling in supporting children's mental health and developmental trajectories.

The qualitative findings provide rich contextual insight into the mechanisms underlying these patterns. Participants consistently described emotional distress rooted in feelings of inferiority, exclusion, and uncertainty about the future. These experiences mirror existing developmental theories suggesting that school environments contribute to identity formation, peer integration, and the development of self-efficacy (Bronfenbrenner & Morris, 2006; Steinberg, 2017). When children are excluded from such environments, they lack opportunities for social learning and positive reinforcement, resulting in heightened social withdrawal and reduced self-worth—patterns strongly supported by the interviews.

District-level differences in psychological outcomes further underscore the influence of structural conditions. Areas with the lowest availability of schools and greatest geographic barriers—such as Awaran and Kharan—showed the most severe psychological impacts. This is consistent with literature documenting how environmental stressors and chronic under-resourcing

exacerbate developmental risks (Rashid & Karim, 2020). These findings emphasize that educational deprivation cannot be viewed solely as a household-level issue but must be understood as a systemic condition shaped by policy, infrastructure, and sociopolitical factors.

Importantly, this study also highlights the cumulative impact of contextual stressors poverty, insecurity, and household responsibilities on children are psychological functioning. When educational opportunities are limited, these stressors compound, creating environments where children struggle to regulate emotions, maintain motivation, or envision positive futures. This aligns with research showing that the absence of structured educational settings amplifies the psychological consequences of socio-economic hardship (Miller & Kanu, 2019).

The convergence of quantitative and qualitative findings offers compelling evidence that the psychological well-being of children in Balochistan is deeply interconnected with their access to schooling. Educational deprivation contributes not only to academic disadvantage but also to emotional and social vulnerabilities that may persist into adulthood. Without intervention, these patterns risk perpetuating cycles of poverty, low literacy, and reduced life opportunities in the region. This study contributes to the limited body of research on the psychological impacts of educational exclusion in Balochistan and underscores the need for holistic interventions. Improving school enrolment must be accompanied by efforts to strengthen mental-health support within communities, enhance school accessibility and safety, and reduce socioeconomic barriers to attendance. Policies that fail to integrate psychosocial considerations may overlook the broader developmental costs of educational deprivation.

CONCLUSION

This study investigated the psychological effects of low school enrolment and limited educational access among children and adolescents in Balochistan, revealing clear and significant developmental consequences. Quantitative data demonstrated that out-of-school youth experience notably higher levels of anxiety and social withdrawal, alongside lower self-esteem and academic motivation. Qualitative findings further illustrated how emotional distress, perceptions of inferiority, and exclusion from peer networks shape the lived experiences of

educationally deprived children. Together, these results highlight that the consequences of educational exclusion extend far beyond academic disadvantage, affecting the broader emotional, social, and developmental well-being of young people. The study's findings align with developmental theories emphasizing the importance of structured learning environments for fostering resilience, self-efficacy, and positive identity formation. For children in Balochistan, restricted access to schooling removes critical protective factors, leaving them more vulnerable to psychological distress and limiting their capacity for long-term planning and self-development. Furthermore, district-level differences in psychological outcomes underscore the profound role of structural inequalities—including poverty, geographic isolation, and under-resourced educational infrastructure in exacerbating these challenges.

Policy Recommendations

1. **Expand and Strengthen Educational Infrastructure:** Build and rehabilitate schools in remote districts, reduce travel distances, and ensure safe access routes for children, especially girls.
2. **Integrate School-Based Mental Health Services:** Introduce counseling programs, psychoeducational workshops, and routine mental-health screening in schools and community centers.
3. **Provide Conditional Cash Transfers and Support for Low-Income Families:** Financial incentives, school supplies, and livelihood support can reduce economic barriers that keep children out of school.
4. **Develop Community-Led Awareness Campaigns:** Engage tribal leaders, elders, and parents to shift attitudes regarding girls' education and highlight the psychological benefits of schooling.
5. **Implement Teacher Training in Trauma-Informed and Inclusive Practices:** Equip educators with skills to support students facing emotional distress, conflict exposure, or social exclusion.
6. **Enhance Security and Stability around Schools:** Collaborate with local authorities to ensure safe learning environments in areas affected by conflict or insecurity.
7. **Establish Monitoring Systems for At-Risk Youth:** Create local databases and outreach programs to identify children vulnerable to dropout and provide targeted support.

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