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Improving Middle School Transition through Low-Cost Behavioural Interventions: Lessons from the Chiniot Study

Evidence from the DARE Research Consortium

Policy Brief









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ABOUT
This policy brief was produced by the DARE Research Consortium. It summarises the findings from a full report (forthcoming) detailing research conducted as part of the DARE-RC portfolio, and was authored by the researchers of that report. This brief forms a part of a series to provide actionable evidence to policymakers in Pakistan to improve education.

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PUBLICATION DATE
October, 2026

DESIGN & EDITING
Sam Wilson, Amina Batool (Wyeside Education)

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DARE's 44 research studies and scoping papers offer critical insights on inclusion, teaching and learning, governance, data, accountability, and system resilience.

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AT A GLANCE DARE RESEARCH CONSORTIUM · POLICY BRIEF SUMMARY

Improving Middle School Transition through Low-Cost Behavioural Interventions: Lessons from the Chiniot Study

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Methodology

- **Diagnostics:** administrative data analysis (PIE, ASER, PSLM) with gender-disaggregated hierarchical modelling and tehsil-level hotspot analysis, plus COM-B behavioural diagnostics in Chiniot.
- **Impact evaluation:** a longitudinal, control-based design tracking 430 Grade 5 students and parents over six months following a phone/SMS/pamphlet/open-day intervention.

Key Figures

40% of students drop out at the Grade 5–6 transition nationally

51% dropout rate in Sindh – the highest of any province

30% girls' dropout rate in Chiniot, the pilot district

1.34M PKR total cost of the pilot intervention

430 Grade 5 students and parents tracked over six months

200 students reached through digital outreach

Findings

1
Grade 5–6 is the biggest dropout bottleneck
An estimated 40% of students leave school between Grade 5 and 6 nationally, with sharp provincial variation from 22% in Punjab to 51% in Sindh.

2
Transition gaps persist even where schools exist
Even in Chiniot, where public middle schools are relatively accessible, many students do not continue – pointing to demand-side, not just supply-side, barriers.

3
Gendered drivers shape transition decisions
Boys' transitions are more closely linked to school availability; girls' transitions depend more on food insecurity, safety, and household constraints.

4
Household-level behavioural barriers are critical
Using the COM-B framework, many parents value education but lack the capability, opportunity, or confidence to navigate enrolment processes.

5
The Chiniot intervention improved enrolment, especially for girls
Households receiving the intervention were significantly more likely to enrol their children in Grade 6, with particularly strong gains for girls.

6
Phone-based outreach was the most effective channel
Phone calls were consistently more effective than written materials in rural and mixed-literacy settings, helping parents act on intentions.

Policy Implications

- **School departments need to make parents aware of school locations, enrolment procedures, and incentives such as zewar-e-taleem.**
- **Generic enrolment drives should be replaced with gender-responsive strategies that address girls' specific barriers.**
- **School MIS systems can support targeted, personalised communication if parent contact data is kept regularly updated.**
- **Behavioural nudges complement, rather than replace, investment in infrastructure and removing structural barriers.**

Recommendations

IMMEDIATE
Test & Strengthen the Basics
- Update government parent-contact databases for accurate outreach.
- Prioritise phone-call based outreach over pamphlets or SMS.
- Track Grade 5–6 transition as a core system indicator.

SHORT-TERM
Make It Gender-Responsive
- Adopt transition strategies that explicitly differentiate by gender.
- Coordinate with social protection programmes like zewar-e-taleem.

MEDIUM-TERM
Scale & Institutionalise
- Embed behavioural nudges into district and tehsil education offices.
- Treat transition as a distinct policy objective with its own targets.
- Normalise embedded experimentation to refine what works.

Key Messages

The biggest dropout point in Pakistan's education system is the transition between primary and middle school (Grades 5–6), where 40% of children leave school. This dropout rate varies sharply by province, gender, and age.

A low-cost (PKR 1.34 million total), scalable intervention was tested in District Chiniot, Punjab. Tailored behavioural communication – phone calls, SMS, pamphlets, and school open days – was found to meaningfully improve middle school transition outcomes, especially for girls.

Children fail to transition even where middle schools are physically present, reflecting demand-side barriers like information gaps. Parents are often unaware of school locations, enrolment procedures, or financial incentives (like zewar-e-taleem), but simple and credible communication from school departments can close this awareness gap.

What works best, and most immediately, is phone-based outreach, especially in rural and low-literacy areas. Education departments are recommended to regularly update parental records so they can prioritise phone-based outreach.

Transition barriers are gender-specific. Boys' transitions are shaped by school availability, while girls' transitions are sensitive to food insecurity, safety concerns, and household pressures.

Grade 5–6 transition rates should be tracked as a separate system indicator and treated as a distinct policy objective with its own targets and budgets, rather than folded within general enrolment goals.







Introduction

Despite near-universal primary school enrolment in many parts of Pakistan, the transition from primary to middle school (Grade 5–6) represents a major dropout bottleneck. While roughly 75 percent of students nationwide do not complete ten years of schooling, evidence suggests that dropout rates peak at the point of primary completion: an estimated 40 percent of students leave school between Grade 5 and 6.[1] Data from the Pakistan Institute of Education (2022–23) reveal substantial provincial variation, with dropout rates of 22 percent in Punjab, 36 percent in Khyber Pakhtunkhwa (KP), 37 percent in Balochistan, and 51 percent in Sindh. Gender patterns also differ across contexts: in Punjab and Sindh, boys are more likely than girls to drop out at Grade 5, while the reverse is true in KP and Balochistan.[2] However, as students progress through adolescence, the disadvantage shifts decisively towards girls: nationally, secondary-level dropout rates (Grade 6–10) stand at 59 percent for girls, compared to 49 percent for boys.[3]

40%

NATIONAL DROPOUT RATE

Of students leaving school between Grade 5 and 6

> ***These gaps persist even where middle schools are physically accessible, underscoring that barriers to continuation extend beyond infrastructure.***

This policy brief draws on the Middle School Transition Study, conducted under the DARE Research Consortium (DARE-RC). The study tested a low-cost, scalable intervention designed to improve transition from Grade 5 to Grade 6 in District Chiniot, Punjab, where dropout rates at this stage reach approximately 30 percent for girls and 23 percent for boys.[4] The intervention aimed to strengthen parents' capacity to enrol their children in middle school through targeted behavioural communication, including phone calls, SMS messages, printed materials, and school open days. Using a mixed-methods, longitudinal, control-based design, the study found statistically significant improvements in Grade 5–6 transition rates across all students, with particularly strong effects for girls.

What's New and Why It Matters

This study is amongst the first in Pakistan to combine national spatial analysis, gender-disaggregated multilevel modelling, and behavioural diagnostics with a quasi-experimental embedded intervention test, targeting transition from Grade 5 to Grade 6. The findings show that while behavioural nudges are not a substitute for investments in infrastructure, poverty reduction, or improving accessibility, they are a powerful tool that education systems can deploy to improve transition, particularly for girls.

Findings from this study are consistent with other recent evidence from Punjab which shows that government-led SMS and voice message campaigns improved girls' enrolment,[5] and with wider evidence from the Girls' Education Challenge (GEC), which shows that girls' progression to post-primary education is shaped not only by the availability of schools, concerns about safety and mobility, and prevailing social norms but also by household-level information gaps.[6] While previous evidence has documented the multiple barriers that limit girls' progression to middle school, this study provides new experimental evidence on how targeted behavioural communication can address these constraints at scale.

Study Methodology

The study employed a rigorous research design across four stages.

Administrative data analysis: The study analysed public school data from the Pakistan Institute of Education (PIE), combined with learning outcomes (ASER) and household indicators (PSLM), to map where transitions from Grade 5 to Grade 6 are weakest. Gender-disaggregated hierarchical linear modelling was used to understand the predictors of transition, and tehsil-level hotspot analysis identified priority locations across four provinces.

Behavioural diagnostics: In Chiniot District, school observations, surveys and qualitative interviews with parents were used to analyse the factors underlying enrolment through the capability, opportunity, motivation (COM-B) framework.

Intervention design: Findings from the COM-B analysis informed the design of the Middle School Transition Intervention – a low-cost intervention to improve awareness about middle school location and enrolment, delivered through phone calls, SMS/WhatsApp messages, pamphlets, and school open days.

Impact evaluation: A longitudinal, experimental design tracked 430 Grade 5 students and their parents over six months, combining surveys and key informant interviews to assess differences in enrolment, awareness, and parental engagement between intervention and control groups.

Key Findings

In areas with strong middle school availability, median literacy and socioeconomic indicators, the Middle School Transition Intervention was effective at improving enrolment rates. Households receiving the intervention were significantly more likely to enrol their children in Grade 6, with especially strong gains for girls. Phone-based outreach was consistently more effective than written materials in rural and mixed literacy settings, helping parents translate intention into action by providing timely reminders and clear guidance.

1 Transition gaps persist even where schools exist

The research showed that limited supply of middle schools is not the only reason children fail to transition. National transition averages mask sharp tehsil-level and gender-based disparities. Even in Chiniot District, where public middle schools are relatively accessible, many students do not continue to Grade 6. This finding challenges the assumption that building more schools alone will solve transition gaps, and points instead to demand-side, household-level, and administrative barriers that prevent families from acting on available options.

2 Gendered drivers shape transition decisions

The study demonstrated that boys and girls face different constraints at the point of transition. Learning outcomes and access to information, reflected through mobile phone ownership, support transitions for both genders. However, food insecurity sharply reduces the likelihood of transition for girls, and unsafe school environments further discourage their enrolment. Boys' transitions are more closely linked to middle school availability, while girls' transitions depend more on safety, mobility, and household constraints.

3 Household-level behavioural barriers are critical

Beyond structural constraints, the study showed that behavioural and procedural barriers strongly influence enrolment decisions. Using the COM-B framework, the research finds that many parents value education but lack the capability to navigate enrolment processes, the opportunity to manage costs and transport, or the confidence to engage with schools. Limited understanding of deadlines, documentation requirements, and school procedures often prevents timely enrolment, particularly among low-literacy households.

Table 1

Intervention costs for the Middle School Transition Intervention, as of January 2025

Activity	Cost (PKR)
Digital Outreach (7 phone calls and 6 SMS messages to 200 students)	1,311,452
Pamphlets (200 students)	20,000
Open Day Events (8 middle schools)	12,000
Total cost	**1,343,452**

[1] Naz, S., & Syed Ahmad, S. B. (2026). Factors leading to dropping out from the perspectives of Pakistani female students from a rural area. *International Journal of Engineering, Management and Humanities,* 7(1), 54–63; and UNICEF (2020). Generation Unlimited: Investing in Pakistan's Young People.

[2] Authors' calculations based on PIE data (2022–2023).

[3] Naz, S., & Syed Ahmad, S. B. (2026), as above.

[4] Authors' calculations based on PIE data (2022–2023). District Chiniot was selected to test the intervention based on persisting dropouts despite relatively strong middle school availability, alongside median average household income and literacy rates.

Policy Implications

School departments need to make parents aware of the education options available to their children, including school locations, enrolment procedures, and incentives such as Punjab's zewar-e-taleem. Most parents are not aware of these, but timely, clear, and credible guidance can help. Provincial education departments can integrate simple communication tools into existing school management and monitoring systems, without significant additional cost.

School MIS systems can support targeted communication with parents, if managed and deployed effectively. Existing systems, such as Punjab's School Information System (SIS), can support personalised communication if parent contact data is regularly updated and verified. Local education administrations are crucial for implementation, but such an intervention would best be initiated by the provincial School Education Department.

Enrolment drives focused on meeting middle school targets must be replaced with targeted approaches that address gendered barriers to continuity. Girls' transitions are particularly sensitive to food insecurity, transport and safety concerns, which are not adequately addressed by gender-neutral policies. Greater coordination between education, social protection, and local government systems can help – for example, linking transition support with school safety measures and targeted household assistance.

Behavioural solutions work in the right settings, and complement – not replace – investments in institutional development. Behavioural nudges are most effective for households already close to enrolling but

> ***Behavioural nudges should not be viewed as substitutes for broader reforms, but as scalable tools that can amplify the impact of investments in school quality, safety, and access.***

facing informational or motivational barriers, while the most disadvantaged families continue to be constrained by poverty, distance, and infrastructure gaps.

Recommendations

Immediate

Test the scalability of the Middle School Transition Intervention by testing personalised digital information nudges in other districts, targeting hotspots where low transition persists despite relatively strong school availability, household income and literacy.

- **Update government database:** Parent contact data in the government's database needs to be updated regularly to ensure smooth and accurate outreach – contact numbers in school SIS systems are often outdated or inaccurate.
- **Prioritise phone-call based outreach:** Direct phone communication is more effective than pamphlets or SMS in low-literacy contexts. Education departments should adopt simple, personalised call scripts in local languages providing enrolment information, required documents, deadlines, and contact details for queries.
- **Track transition rates as a core system indicator:** Monitoring systems should include Grade 5 to Grade 6 transition rates at school and tehsil level, disaggregated by gender, to identify hotspots and deploy targeted support instead of relying on province-wide averages.

Short-Term

- **Adopt gender-responsive transition strategies:** Given the distinct barriers faced by girls, provincial policies should explicitly differentiate transition support by gender, prioritising safety measures, school environment improvements, and targeted outreach rather than uniform enrolment campaigns.
- **Strengthen coordination with social protection programmes:** Since food insecurity significantly reduces girls' transitions, education departments should coordinate with social protection and welfare programmes to align enrolment support with household-level assistance, such as zewar-e-taleem in Punjab.

Medium-Term

- **Scale behavioural nudges within education administration:** Behaviourally informed outreach should be embedded into district and tehsil-level education offices, including standardising communication materials and training officials in behavioural design principles.
- National and provincial education strategies should treat middle school transition as a distinct policy objective, with dedicated targets, budgets, and accountability mechanisms.
- **Build evidence-based policy through embedded experimentation:** Education systems should normalise testing and learning by embedding low-cost experiments within programmes to refine what works for different populations.

Conclusion

This research provides timely and policy-relevant evidence on one of the most persistent but under-addressed challenges in Pakistan's education system: the transition from primary to middle school. By showing that many children fail to progress even where schools exist, the findings challenge prevailing assumptions and highlight the limits of supply-focused solutions alone. The study demonstrates that household-level behavioural and informational barriers, particularly for girls, play a decisive role in shaping enrolment outcomes and can be addressed through relatively simple, low-cost system changes.

For education policymakers, these insights offer practical ways to strengthen the impact of existing investments without waiting for large-scale infrastructure expansion:

1. School departments must make parents aware of school locations, enrolment procedures, and existing supports such as zewar-e-taleem.
2. School MIS systems can support personalised communication with families if used and managed proactively.
3. Generic enrolment drives must be replaced with targeted approaches designed to address the specific barriers faced by girls and boys.
4. Behavioural solutions work in the ‘right’ settings and are not a substitute for investments in infrastructure and removing structural barriers to continuing education.

For More Information

This policy brief is based on findings from the report titled: *DARE-RC Middle School Transition Study* (Report Date: 20 November 2025). The research team comprised Dr Zainab Latif (Principal Investigator), Umar Nadeem (Co-PI), Mejzgaan Orakzai (Project Manager) and Khadija Hammad, Research Associate.

More information about the DARE-RC Project available at: https://darerc.org/

The DARE-RC project is funded by UK International Development from the UK government. Its implementation is led by Oxford Policy Management in partnership with its consortium partners.

[5] Koen Geven et al., *Nudging at Scale: Evidence from a Government Text Messaging Campaign during School Shutdowns in Punjab, Pakistan*, Policy Research Working Paper 11286 (World Bank, January 2026).
[6] Girls' Education Challenge. (n.d.). *Learning brief compendium* (v5).

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