Gender Differences in Urdu (Language) Reading: Evidence from the USAID Funded Pakistan Reading Project (PRP) for Early Grade Students

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Abstract

This study aims to explore gender-based differences in reading achievement among elementary students in selected PRP schools in Azad Jammu and Kashmir (AJ&K), Pakistan. Based on descriptive experimental design, data were collected from a stratified random sample of 120 girls and 120 boys in grade II in PRP schools in Muzaffarabad. A reading achievement test was adapted from PRP assessment tools – nine questions addressing lower to higher-order reading skills – was administered. The results were analyzed using PRP's categorization system specifically developed for Urdu reading assessment of grade II. The study finds no statistically significant gender differences in lower to higher-order reading skills achievement, with boys marginally outperforming girls. Contrary to global trends, gender was not found to be a significant variable in reading achievement in this context. Both genders showed low performance in comprehension, highlighting substantial gaps in the implementation of the PRP initiative. These findings have critical implications for education policy and practice in Pakistan, emphasizing the need for targeted interventions to enhance the effectiveness of foreign-funded educational programs like PRP to address persistent challenges in reading comprehension.

***Keywords*:** Gender Differences, Reading Achievement, Reading Comprehension, Pakistan Reading Project (PRP), Early Grade Reading

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Introduction

Gender-based comparisons in educational achievements in various disciplines are widely studied in educational research, making it as a significant mode of analysis in diverse fields (Logan & Johnston, 2010). Among these, reading achievement has been extensively studied globally, focusing on various factors such as reading choices, frequency, attitudes, competency beliefs, and skill levels (Coles & Hall, 2002). Research on reading achievement often draws from national and international large-scale datasets. Thus offers significant insights into gender differences across multiple countries (Balducci, 2023; Reilly, Neumann, & Andrews, 2019).

Most research studies in international contexts consistently reveal girls outperform boys in reading comprehension scores (Brantmeier, 2004; Chiu & McBride-Chang, 2006). However, few studies challenge this narrative, finding no significant gender-based differences (Fahim & Barjesteh, 2012; Sotoudenama & Asadian, 2011), suggesting that contextual factors may play critical role in these outcomes.

In Pakistan, like other developing countries, connections between gender and learning have gained attention only in recent years. Reading achievement is emerging as a key area, particularly in the context of large-scale educational interventions. For instance, studies funded by the Pakistan Reading Project (PRP) through USAID identified a gender disparity in reading skills at the elementary level, with boys outperforming girls (PRP, 2017). Similarly, findings from the Annual Status of Education Report (ASER, 2019) indicated that boys perform 8% better than girls in reading skills at the elementary level. These trends justified the implementation of large-scale initiatives like PRP, which aimed to enhance reading proficiency among elementary students.

The PRP was a seven-year USAID-funded reading improvement initiative for grades 1 and 2 students across Pakistan. The project supported provincial and regional education departments, claiming to reach approximately 1.3 million students through this initiative. Its interventions focused on the improvements in teacher education, instructional quality, policy reforms, and community engagement through improving Urdu reading skills in PRP-supported classrooms.

This study thus aims to contribute to the ongoing discourse on gender differences in reading achievement by examining students from selected PRP elementary schools in Muzaffarabad, Azad Jammu and Kashmir (AJ&K). Specifically, it investigates the comparative reading achievements of boys and girls after one year of receiving PRP interventions. The selected classrooms received a complete range of PRP-developed resources, instructional plans, and teacher training. By

exploring the impact of PRP interventions on gender-based reading outcomes, this small scale study seeks to address gaps in the existing literature to inform future education policy and program design in local context.

Literature Review

An extensive body of research identifies gender as an important context of learning and developing reading skill (Logan and Johnston, 2009; Wang and Guthrie, 2004; Taboada et al., 2009; Coles and Hall, 2002; Mullis et al., 2007). Gender as a classification unit of children is a very broad and simplistic way of considering differences in individual reading skills. Research in developed countries highlights significant differences in reading and cognitive abilities between boys and girls; where typically girls outperform boys in reading skills. On the other hand, academic research in countries such as Pakistan often indicate boys outperforming girls due to various cultural, regional, and contextual factors

Earlier studies, such as Millard (1997), define gender as a social characteristic of people referring to males and females. This identity leads to differences in intellectual activities. According to him, gender could be a better predictor of the learning skills of a learner. In addition, he explains that reading is closely associated with males or females from a very early age. For example, a survey by Millard (1997) revealed that according to the children, their mothers read more than their fathers, and as a result, they played a vital role in teaching them how to become good readers. A study by Dwyer (1974) explored this phenomenon significantly earlier in his findings by referring to reading as more of feminine activity. Meece et al. (2006) contrasted this reading phenomenon to subjects like maths and science, typically linked more with males. His study identified that girls ranked higher in reading, while boys performed better in mathematics, science, and sports. Maccoby and Jacklin (1974) also revealed in their study that there was no difference in students' reading ability below the age of 11 years. Gender differences in reading were identified after age 11, where girls scored higher than boys. In contrast, Byrnes & Wasik (2009) described girls as more fluent in reading than boys, irrespective of their age range.

A significant difference in attitudes towards reading has been found in both genders at the elementary school level. The Elementary Reading Attitude Survey (1995) found that girls have more favorable attitudes towards reading than boys at all levels in elementary schools, including recreational and academic reading. Gambrell and Marinak (2010) explored a positive attitude of boys in the initial years, but that started to decline in grade 4. They also identified that girls enjoyed reading significantly more than boys. However, differences were

found in the choice of books. Girls liked to read adventure books, and boys liked to read comic and humorous books. The study concluded that the attitudes toward reading helped them improve their reading skills.

Studies identify motivation and reading frequency closely related to the reading comprehension of learners (Coles and Hall 2002; Mullis et al. 2007). The difference between boys and girls is often reflected in self-reported reading frequency, and girls report reading more than boys (Coles and Hall, 2002; Mullis et al., 2007). The correlation between reading frequency and reading comprehension can often be found in the self-reporting measurement of reading frequency (Mullis et al., 2007). Furthermore, Alexander, Emisle, and Dugger (1993) found that children's interests and attention span affected their performance in reading and math. Boys were reported to have less attention span than girls in reading tasks, which affected their performance more than girls in reading assessments.

There is little evidence of a gender difference in vocabulary and verbal ability during childhood and adulthood. However, Wallentin (2009) found that males had slightly better verbal abilities when the number of participants weighed the effects of studies included in the meta-analysis. Logan and Johnston (2009) tested selected groups of learners for sub-skills of reading and found no gender differences in children's ability to use letter-sound rules to decode unfamiliar words or in early decoding skills.

Recent research also aligns with the findings of earlier research on the subject – where females outperform males in verbal and language abilities, but there is considerable variation exists in results from sample to sample (Reilly, Neumann, & Andrews, 2019). For example, a longitudinal study by Reilly et al. (2019) examined three decades of U.S. student achievement in reading and writing from the National Assessment of Educational Progress to determine the magnitude of gender differences. The findings revealed a developmental progression, with initially minor gender differences in Grade 4 growing more pronounced as students advanced through school. By Grade 12, gender differences were small-to-medium for reading ($d = 0.32$) and medium for writing ($d = 0.55$), with these patterns remaining consistent over time.

Another study by Rianto (2021) explored gender differences in metacognitive strategy usage among Indonesian EFL students concerning online reading abilities and English proficiency. The study identified significant gender differences in problem-solving and support strategy usage, with the female students scoring better than the males. However, no gender difference was identified for self-assessed online reading ability and online English proficiency.

In addition to these studies, research examines the relationship between gender differences in reading skill and gender equality

indicators on a national level (Balducci, 2023). This research suggests that there may be a link between gender equality and gender differences in reading skill.

Research from developing countries also supports the finding that there are gender differences in reading skill. For example, Espinoza and Strasser (2020) examined factors influencing reading motivation among Chilean secondary students. The study found that after controlling for language arts achievement, female students showed higher levels of reading motivation in self-concept and value.

Researchers and organizations have recently focused on reading achievements in Pakistan. A small body of research identifies a gap in gender reading skills in Pakistan (Lydn, 2007; Malik et al., 2014). The Annual Status of Education Report (ASER, 2019) reported that 82% of grade 3 students could not read a story in Urdu with comprehension. The report also identifies the gender gap in learning for boys and girls; boys outperformed girls (age 5-16 overall) in literacy.

Low enrolment for girls in schools in Pakistan is one of the most important contributing factors towards low reading ability among girls. The gender equality index (GPI) of Pakistan's primary school enrolment is 0.85, indicating a favorable trend for boys. In South Asia and the Middle East, the GPI is 0.9, reflecting a disparity again favoring boys though it is less than what exists in Pakistan. The estimates are that of Pakistan's 6.7 million unschooled children, the majority (62%) are girls (Malik et al., 2015). These large numbers identify the importance of studying gender patterns of literacy achievement in Pakistan.

Theoretical Framework - Gender Differences in Cognitive and Reading Skills Development

This study is grounded in theories highlighting gender as a critical factor in learning outcomes. Maccoby and Jacklin (1974) and Meece et al. (2006) studies argue that the differences in cognitive abilities in both genders owe to both biological and social factors. Also, gender schema theory (Bem, 1981) suggests that social perceptions and norms shape children's attitudes towards subjects such as reading or numeracy. Girls are encouraged to engage in literacy related activities, thus leading to stronger performance in reading; boys, on the other hand, are often steered towards math and physical activities, reducing their engagement in reading.

Gender and reading achievements play differently across varied contexts, influenced by metacognitive strategy usage by both genders and societal perceptions of gender equality. In Pakistan, where access to education is essentially defined by gender and contextual barriers – thus making gender an essential lens in the implementation

and impact of reading reforms. Wallentin (2009) notes that small-scale studies often report significant gender differences, while larger studies show minimal differences. Thus, this small-scale study aims to examine the role of gender in reading achievement at small scale to gain context-specific insights to inform future education reforms.

Objectives

The objective of this study is to compare the gender-based reading achievement of grade II students in PRP-selected schools of Muzaffarabad AJ&K.

Research Questions

The current research is conducted to explore the following research question:

How does gender affect the reading achievement in PRP elementary school students of Muzaffarabad?

Methodology

The study used a descriptive, experimental design to investigate gender-based differences in reading achievement in the selected elementary schools of AJ&K.

An Urdu reading test consisting of 9 questions assessing lower to higher-order reading skills was adapted and administered to a sample of 240 girls and boys of grade II in Pakistan Reading Project (PRP) selected schools of Muzaffarabad, Pakistan. Using the PRP tool as an achievement test aims to measure sub-skills of reading taught in the PRP classrooms to improve the reading of elementary school students and assess their overall skill in reading with the intervention of reading reforms in Pakistan.

Participant

Two hundred and forty students from forty PRP schools from Muzaffarabad were selected as participants through stratified sampling. The participants were divided into two strata of girls and boys. One hundred and twenty girls and one hundred twenty boys in grade II took the Urdu reading test to compare the achievements of selected sample of students in Urdu reading skills.

Research Design and Procedure

As mentioned, this study used an experimental, descriptive approach and compared the reading achievements of Grade II students in selected PRP schools from the Muzaffarabad District AJ&K. A reading achievement test was used as a data collection tool. As data-gathering devices, tests are among the most suitable educational research tools, as they provide the data for most experimental and descriptive studies in education (Marx et al., 2004).

Sampling Procedure

The study sampled 240 Grade II students, evenly divided into 120 boys and 120 girls, from 40 PRP-selected schools in Muzaffarabad District. A stratified random sampling approach was employed to ensure balanced representation of both genders. The population was divided into two strata boys and girls with each stratum comprising 120 participants. From each school, six students (three boys and three girls) were randomly selected to ensure diversity across socio-economic and academic backgrounds. Permissions and consents for the study were obtained from the Muzaffarabad District Education Officers (male and female).

Achievement Test

Achievement tests measure individual learning through performance assessment on defined parameters. Most tests used in schools are achievement tests. They are particularly helpful in determining individual or group status in academic learning. Achievement test scores are used to place, advance, or retain students at specific grade levels.

Instrument

After closely examining the nature and objectives of the study, the achievement test was adapted from PRP tools being closely aligned with the taught reading skills over the year and used for data collection. The reading test comprised of nine questions of 100 marks and was adapted from the assessment tools of PRP.

Description of the Reading Skills Administered for the Study

A reading test of 9 questions with 100 marks was adapted from PRP assessment tools to assess grade II students' reading skills. Given is the detail of the adapted achievement test:

Question 1 was letters recognition of Urdu language alphabets. Twenty letters were included carrying 20 marks for successful recognition.

Question 2 involved phonic ability and had 20 sounds pronounced in Urdu; each sound carried one mark.

Question 3 addressed phonemic awareness, where the students were asked to identify the word with a different starting sound out of 3 words pronounced for the students of Urdu language and consisted of 5 items with five marks.

Question 4, students had to read out 10 Urdu syllables with long vowels for ten marks.

Question 5, the students were asked to read ten words in the Urdu language with long vowels; each word carried one mark.

Question 6 used 10 words of Urdu language with short vowels. Ten items were included with ten marks.

Question 7 tested the ten most frequently used words in Urdu for ten marks.

Question 8 involved passage reading from the textbook of grade II with ten sentences, each carrying one mark.

Question 9 was comprehension testing and consisted of 5 open and close-ended questions based on a passage given in question 8 and carried ten marks.

Administration of Data Collection Tool

After seeking permission from the Muzaffarabad District Education Officers (male and female), and with the consent of concerned students' parents, six grade II students were selected randomly from each PRP school, and the reading test was administered to 120 girls and 120 boys students in 40 schools. The test was administered face-to-face with one student at a time. A student copy of the reading test was handed over to the student. The students were asked nine questions in total to answer. The researchers marked the right or wrong answers on the scoring sheet.

Results

The results of the reading tests were interpreted according to the current categorization system adopted by PRP for Urdu reading

skills for grade II (PRP, 2015). The grading system was as presented below:

1.	Students who could not read	(00 marks)
2.	Beginner readers	(01-20 marks)
3.	Struggling readers	(21-40 marks)
4.	Average readers	(41-60 marks)
5.	Good readers	(61-80 marks)
6.	Excellent readers	(81-100 marks)

Table 1

Results of Urdu Reading Test in grade II district Muzaffarabad

S#	Categories	Score Range	No. of students			Percentage		
			Girls	Boys	Total	Girls%	Boys%	Total%
1	Students who could not read	00	01	02	3	0.42	0.83	1.25
2	Beginner readers	01-20	13	16	29	5.42	6.66	12.08
3	Struggling readers	21-40	20	08	28	8.34	3.33	11.67
4	Average readers	41-60	22	13	35	9.16	5.42	14.58
5	Good readers	61-80	31	38	69	12.92	15.83	28.75
6	Excellent readers	81-100	33	43	76	13.75	17.92	31.67
	Total		120	120	240	50%	50%	100%

Table 1 reveals that boys performed slightly better than girls; however, no significant difference was found in any category.

Among all 240 participant students, only three secured zero marks and were in the category of those who could not read anything from the given test, which is 1.25% of the sample. Gender-wise, one girl and two boys could not read at all, which is 0.42% and 0.83%, respectively.

12.08% of the students, with a frequency of 29 were identified as beginners. These were the students who scored 01-20 marks on the test were placed in this category. 13 were girls with a percentage of 5.42%, and 16 were boys with a percentage of 6.66%, in the category of beginner readers.

Struggling readers were 28 out of 240, making 11.67% of the total students. The range of secured marks for this category was 21-40 marks. Girls were 8.34% and 20 in number, while 3.33% of boys and 08 were categorized as struggling readers.

The range of secured marks for average readers was 41-60, and 35 students with a percentage of 14.58 were in this category. 9.16

% were girls, and 5.42% were boys, with a frequency of 22 and 13 for girls and boys, respectively.

Those students who scored from 61-80 were categorized as good readers; 69 students scored in this category which is 28.75% of the total participants. Thirty-one girls with 12.92%, and 38 boys with 15.83% were categorized as good readers.

The remaining 76 students were excellent readers, which is 31.67% of the total test participants. Marks range for this category was 81-100 marks. Thirty-three girls and 43 boys were excellent readers. The percentage of girls was 13.75 and 17.92% for boys.

Table 2

Results based on the gender of the reading test

S#	Questions	Marks	Mean Score		SD	
			Girls	Boys	Girls	Boys
1	Letter recognition	20	18.41	18.08	3.12	4.33
2	Phonics	20	9.86	10.81	7.17	7.43
3	Phonemic awareness	05	1.48	1.89	1.79	1.87
4	Syllables with long vowels	10	7.75	7.55	3.22	3.73
5	Syllables with short vowels	10	6.03	6.75	3.92	3.95
6	Words with short vowels	10	5.18	6.01	4.04	3.99
7	Frequently used words	10	5.10	5.88	3.88	4.01
8	Paragraph reading	10	4.50	5.64	4.46	4.68
9	Comprehension Questions	05	1.78	2.10	1.98	2.06

Table 2 compares girls' and boys' achievements in the Urdu reading test in grade II.

The mean score for girls was 18.41 and 18.08 for boys in Q1 (letter recognition), which carried 20 marks. In Q2 (phonics question) with 20 marks, boys performed slightly better than girls with the mean score of 10.81 and 9.86, respectively. Boys' performed better in Q3 (phonemic awareness questions) with five marks; boys obtained a mean of 1.89 over 1.48 of girls. Girls' performed slightly better than boys in Q4 (reading syllables) with long vowels, which carried ten marks; girls secured a mean score of 7.75, while the mean score of boys was 7.55. With ten marks in Q5 (syllables with short vowels), girls scored less than boys with a mean score of 6.03 compared to the mean score of boys, which is 6.75. Q6 (words with short vowels) carried ten marks. Boys again performed slightly better than girls. The mean score is 5.18 and 6.01 for girls and boys, correspondingly. Q7 was about reading frequently used words in Urdu at the grade II level,

which carried ten marks. The mean score of boys was 5.88 compared to the girls' mean score of 5.10. The mean score of Q8 (paragraph reading) is 4.5 and 5.64 for girls and boys, respectively. The final part of the test was comprehension questions about a paragraph in question 8, which carried five marks. Both girls and boys performed poorly on this task, with little difference in the mean score. Boys achieved a mean score of 2.10 compared to the 1.78 mean score of girls.

Central tendency measures (Mean and Standard Deviation) were used for the Urdu reading test, which reveals the present reading abilities of the students of grade II. The data also compared current reading skills for both genders in grade II in the PRP-selected school of Muzaffarabad, AJ&K.

Discussion

This study aimed to assess the gender differences in the reading skills of grade II students in selected schools of district Muzaffarabad. The study results indicate minor differences in the reading skills of boys and girls. Girls performed better than boys in letter recognition and reading syllables with long vowels, while boys performed slightly better in phonics, phonemic awareness, reading syllables with long and short vowels, reading words with short vowels, reading frequently used words, paragraph reading, and comprehension questions. However, no significant difference was found in the overall reading skills of boys and girls.

These findings are consistent with previous research by Byrnes and Wasik (2009) and Maccoby and Jacklin (1974), who found that gender differences in reading skills were insignificant before age 11. However, these results contrast with some studies in Pakistan that have identified gender gaps in reading skills (Lydn, 2007; Malik et al., 2014). Furthermore, the results are not in line with reported patterns of research in other parts of the world, where girls often outperform boys. Small-scale studies have reported significant gender differences while more extensive studies have reported no differences (Wallentin, 2009).

Results indicate that both genders were familiar with reading sub-skills, but there is still a long way to achieve proficiency. The students performed well in letter recognition and syllables reading with long vowels, but their performance was average in phonics, syllables with short vowels, words with short vowels, frequently used words, and paragraph reading. The deficiencies were most marked in phonemic awareness and comprehension, which are critical components of reading. These findings are consistent with Logan and Johnston's (2009) study, which found no gender differences in children's ability to use letter-sound rules to decode unfamiliar words or in early decoding skills.

The low scores in comprehension for both genders suggest gaps in teaching reading, despite the availability of updated methodology and resources through the USAID-funded reading project in the PRP classroom. The learning gap persists, calling for targeted reforms at early grade levels. Also, these results ask for a critical evaluation of the project's professed achievements and the implementation of PRP teaching reading strategies by external actors. Further research may address this crucial gap to improve reading skills and comprehension for both genders.

Conclusion

The study found no significant difference in reading achievements of both genders at the Grade II level. Both girls and boys found to be deficient in higher-order Urdu reading skills. The students' abilities in phonics usage, phonemic awareness, and comprehension were poor, indicating a significant gap in the implementation of the project thus justifying the need for future studies to explore this gap.

Recommendation

Based on the study's findings discussed above several recommendations can be made to improve early year students' proficiency in Urdu reading. First, higher-order reading skills are important to address - phonics, phonemic awareness, and comprehension were considerably poor among both genders. Targeted interventions should address these foundational skills through regular practice and focused lessons inside classroom in early years. Phonics and phonemic awareness exercises may be integrated into early year Urdu curriculum to build students' decoding abilities. Comprehension strategies such as summarizing, questioning, and making inferences should be introduced to improve their text comprehension. Additionally, teacher training and resource development should be aligned with reading reforms to enhance the effective implementation of reading interventions – as the gap identified in the study suggests that the current approach may not be sufficient. Finally, further studies are needed to identify the causes of these deficiencies; to identify the effective teaching methods for developing reading skills in early year readers, and to ensure that the curriculum needs to be better aligned with students' needs and capacities.

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