

POLICY BRIEF

BEYOND THE GENDER GAP: IMPROVING EDUCATION FOR ALL BY MINDING THE DIFFERENCES

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SUMMARY

This policy brief compares eighth-grade average TIMSS science scores for males and females in Bahrain, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates (UAE), focusing on the magnitude of the gender gap and trends over time. Females significantly outperformed males in every country and assessment year. Despite some successful efforts to close the gender gap in the region, there was a widening of the gap in some countries. This document offers a number of policy options to both narrow the gap and to improve overall student achievement.

Introduction and Approach

Gulf Cooperation Council (GCC) countries witnessed a consistent decrease in gender inequality in educational attainment and health and survival rates in the last decade.¹ In addition, GCC countries have rated much higher than their Arab counterparts on the overall state of education in terms of traditional measures such as basic skills, literacy of STEM education, and pre-school preparation.² These improvements are the result of continuous educational investment and reforms, as GCC countries aspire to become leading examples of development in the Arab region and worldwide.

Despite these advances, which have resulted in consistent increases in scores in international assessments in most GCC countries, overall student performance in Trends in International Mathematics and Science Study (TIMSS) is still below the average of top performing countries. An additional concern is the paradox of males' lower educational achievement occurring in tandem with females' lower economic participation.³ Several studies indicate that female participation in the workforce produces

tangible positive outcomes in productivity and economic growth in developed and developing countries.⁴ It is also known that less educated men not only contribute less to society, but also have stricter views on gender roles⁵ and may resist and resent women in leadership positions.⁶ Therefore, it is imperative to improve the educational performance of all students to be on par with that of top-performing countries while assessing and monitoring gender-gap trends and taking the necessary steps to reduce these gaps.

This brief compares overall eighth-grade average TIMSS science scores⁷ for males and females in Bahrain, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates (UAE), focusing on the magnitude of the gender gap and trends over time. It presents a snapshot of the gender differences in educational attainment in the region and highlights patterns to be investigated and acted upon by policy makers.

 Findings

Figure 1 demonstrates overall TIMSS eighth-grade science scores for males and females over different assessment years. Three out of five GCC countries have improved their performance over time, namely, Bahrain, Oman, and the UAE. In all countries, females significantly outperformed males.⁸ However, male and female performance contributed differently to overall country scores in the last assessment year (2015). Although male and female scores increased in Bahrain, only male scores increased significantly. In the UAE, only female scores increased significantly. In Oman, both genders had significant score increases, but male improvement was higher than that of females. In Kuwait and Saudi Arabia, male decline in science scores was more accentuated than that of females.

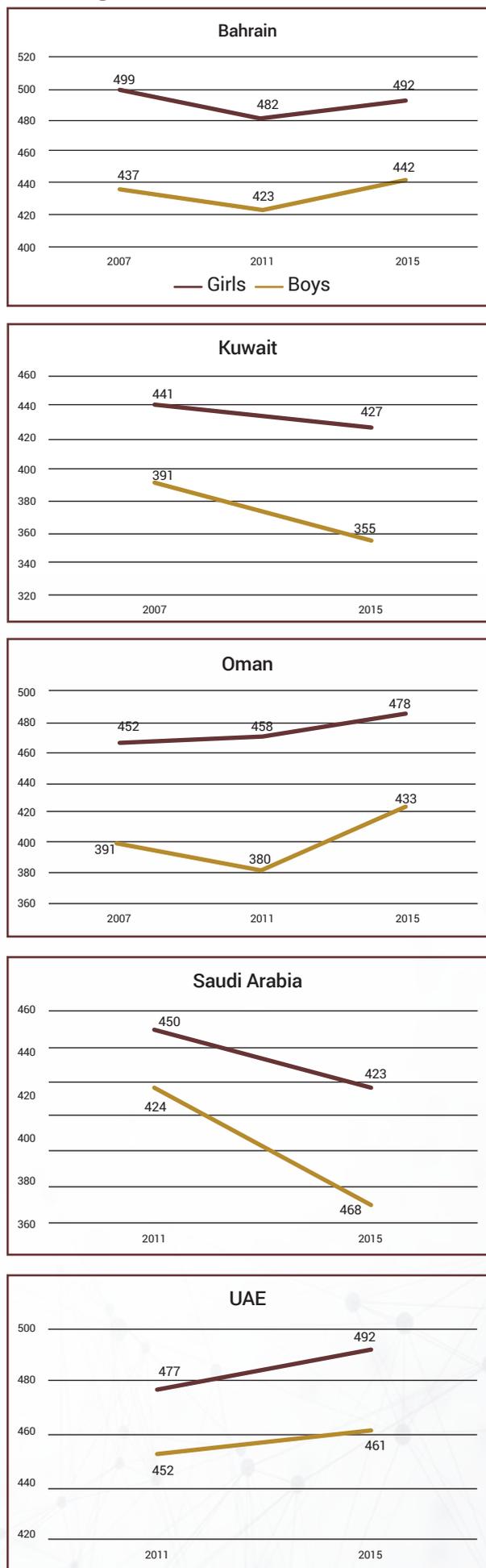
Key Findings (Figure 1): Overall Male and Female Performance 2015-2011

- Females significantly outperformed males in every country and assessment year.
- In 2015, the highest scores among females in GCC countries were observed in Bahrain (492) and the UAE (492). Among males in the region, the UAE obtained the highest scores (461).
- The smallest gender differences in scores were observed in the UAE (31 points).
- The highest gender differences were present in Kuwait and Saudi Arabia (72 and 55 points, respectively).
- In Kuwait (2015-2007) and Saudi Arabia (2015-2011), overall scores decreased significantly. Decreases in performance were much higher among males.

Figure 2 demonstrates trends in the size of the gender gap over time. Each bar represents point-differences between males' and females' science scores in corresponding assessment years. Although four out of five countries show either a tendency toward decreasing the gender gap (Bahrain and Oman) or showing non-significant changes (the UAE), Kuwait and Saudi Arabia have witnessed significant growth in gender gap. In fact, the gender gap in Saudi Arabia has doubled between 2011 and 2015. In Kuwait, it increased 44% between 2007 and 2015.

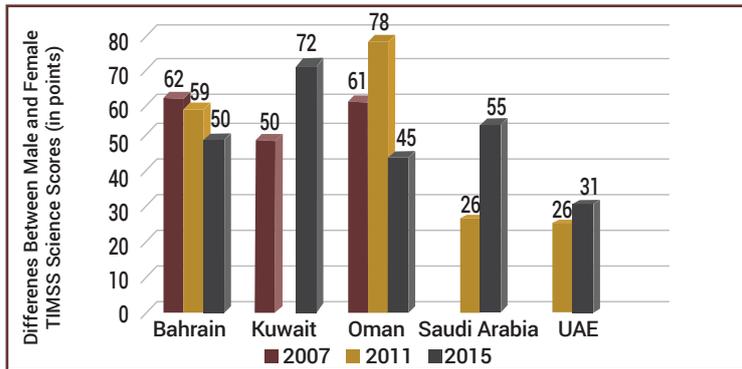
Those comparisons are useful to inform countries about the need to maintain or replace existing practices and educational policies, especially if there are clear differences between structural and pedagogical strategies in single-sex schools in each country.

Figure 1: Male and Female TIMSS Science Scores Among Eighth-Graders in Five GCC countries



* Scale interval is 20 points for each country, but the part of the scale shown differs according to each country's average achievement.
 ** Kuwait data reflects private school results only.
 *** Saudi Arabia participated in TIMSS 2003 and 2007. However, the data is not comparable to TIMSS 2011 and 2015 due to improvements in translation of the assessment instruments.

Figure 2: Changes in Gender Gap Among Eighth-Graders in GCC Countries

**Key Findings (Figure 2): Trends in Gender Gap 2015-2011**

- The gender gap in favor of females has increased significantly in Kuwait and Saudi Arabia.
- Although the graphs show a decrease in gender gap in Bahrain and Oman, only in Oman was the decrease significant from 2015-2011.
- The UAE presented a small increase in gender gap from 2015-2011. However, that change was not significant.

Conclusion and Recommendations

GCC countries should improve their education systems for both females and males to achieve their national goals and reach a par with high-performing countries. The fact that females outperform males in five countries and all assessment years suggests that country- and gender-specific policy interventions might be in order.

A first step toward developing relevant policies might be to acknowledge differences between male and female learning styles and the two groups' motivations in regard to educational attainment. There is evidence from neuroscience and classroom practice supporting the theory that males and females learn differently.⁹ Based on that evidence, kinesthetic spatially oriented learning experiences must be introduced in classrooms by adequately trained teachers. Those changes are likely to benefit males and females similarly¹⁰; but they will specifically address male students' difficulties with long periods of sitting and verbal-emotive activities in the classroom. The fact that single-sex government schools are the norm in GCC countries, might actually facilitate the implementation of targeted male-oriented methodologies.

In addition, policies must address measures related to student's non-cognitive abilities. Studies in economics¹¹ suggest that non-cognitive abilities have direct and sizable effects on schooling. Students' degree of confidence in their abilities, their interest in an activity, and their expectations for success lead to improved academic outcomes, especially for low-attaining students.¹²

Therefore, it is recommended that educational policies foster student motivation and confidence through specific measures that will improve education for all and specifically assist in decreasing the gender gap:

- Highlight the direct application of education to real-life necessities and skills that do not fall under gender stereotypical lines.
- Provide extra-curricular activities for all addressing the specific interests of male and female students (e.g. sports, civic education, arts).
- Improve utilization of ICT and social media in the classroom to capture the attention and interest of students.
- Create systematic follow-up systems within schools to ensure students' attendance. There is evidence to suggest that in some countries, males are absent more often than females. Teachers, supervisors, or principals might visit a student in his home, and talk to parents to encourage the student to stay in school.
- Increase student confidence in science and math by utilizing specific methodologies:
 - a) interaction (collaboration and participatory exchanges);
 - b) hands-on guided activities and lab experiments;
 - c) application (drawing connections between school science and the outside world); and
 - d) investigation (autonomous student inquiries).¹³
- Ensure that adequate resources and facilities are present in males' and females' schools.

As presented above, The selected GCC countries possess distinct characteristics when it comes to the gender gap, which might require different kinds of intervention. Nevertheless, it might be useful to establish a mechanism through which countries exchange information and practices that have proved successful in the region and elsewhere. For example, the UAE is experimenting with assigning female principals to boys' schools. In Ras Al Khaimah, a woman has been appointed to direct an all-male school. Anecdotal evidence suggests the measure has been successful in improving school environment and students' performance. Similarly, Oman has implemented a series of teacher training policies that might have improved the qualification of male teachers.

The experience of Western countries in dealing with the reverse gender gap might also be relevant to GCC countries. In Australia, a national program, Success for Boys, focused on working with teaching professionals to identify how boys engage in schooling factors that help or hinder their motivation, learning, and achievement.¹⁴

Government grants were provided to schools to promote professional development in boys' education and incorporation of that knowledge into the curriculum. In sum, by exchanging information, each GCC country will be able to select best practices for its specific context, improve overall student performance, and decrease the gender gap to achieve national educational objectives. In sum, by exchanging information, each GCC country will be able to select best practices for its specific context, improve overall student performance, and decrease the gender gap to achieve national educational objectives.

References and Notes

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(7) Although GCC countries participate in 4th and 8th grades TIMSS assessments in science and math, the analyses presented here focus on TIMSS science scores among 8th graders because they represent the largest gender gaps in those countries.

(8) Significance level set at .05, which indicates %95 certainty that the results truly represent the population of 8th grade students.

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