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Research Series: Learning from International Assessments to Promote Quality Education in the GCC

RESEARCH PAPER

Regional Center for Educational Planning

Tomasz Gajderowicz - Maciej Jakubowski - Stefano Pagliarani
Soha Osman Shami - Susan Kippels

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Exploring Patterns in Teachers' Job Satisfaction in the Gulf Cooperation Council Countries

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Disclaimer

This research paper was commissioned by the Regional Center for Educational Planning (RCEP) - UNESCO in Sharjah, United Arab Emirates. The study falls under RCEP's second strategic objective, which is to "produce and disseminate knowledge in support of education policies to enable planning of educational systems." The views, findings, and opinions expressed in this paper are those of the authors and should not be attributed to RCEP.

1. Introduction

This report explores the differences in teachers' characteristics between and within the Gulf Cooperation Council (GCC) countries (including gender, experience, qualification, and well-being) through an analysis of international assessment results. Data examined comes from the Teaching and Learning International Survey (TALIS) 2018, Trends in International Mathematics and Science Study (TIMSS) 2019, and Progress in International Reading Literacy Study (PIRLS) 2016. The analysis specifically explores teacher demographics, classroom time use, professional development, job satisfaction, and other aspects of the profession. Among the GCC countries, only Saudi Arabia and the United Arab Emirates participated in the TALIS 2018 survey. Therefore, we supplement this dataset with PIRLS and TIMSS results related to teacher education, professional development, years of experience in teaching, instructional activities, and classroom strategies.

The first section of the report reviews the literature on the relationship between teacher satisfaction and student learning outcomes. This includes literature on the influence of instructional quality, class management, and job satisfaction on students' academic achievement. According to existing studies, teachers represent an essential determinant in terms of the educational outcomes for students (Iqbal et al., 2016). In the second part of this report, we compare teachers' experience, education level, and job satisfaction among the GCC countries, accounting for differences across and within the countries and two different grade levels. Moreover, we model job satisfaction to assess how it correlates with other teacher characteristics. The final section proposes policy recommendations for increasing teacher satisfaction and improving teachers' working conditions in the GCC countries.

2. Literature review

A key educational challenge in the GCC countries is students' lack of preparation to meet the needs of the labor market, as evidenced by the gap between graduates' competencies and labor market demand (Al-Ruwaihi, 2017). This gap is in part due to the market shift toward providing goods and services in a globalized economy (Al-Ruwaihi, 2017). Teachers' qualifications and characteristics play a significant role in preparing students to meet future needs of the labor market.

Teachers are one of the most critical resources in an educational system and usually the costliest, with teacher salaries and related costs rising to more than half of a country's educational budget on average (Molina, 2022). Quality teacher training and evaluation are key to an effective educational system and high student achievement, which later translates into favorable social and economic outcomes as students reach adulthood (Hanushek, 2011; Kim & Sun, 2021). Effective teachers demonstrate strong qualifications (Anderson, 2020; Rivkin et al., 2005; Rockoff, 2004) and experience (Darling-Hammond, 2000b, 2006, 2014).

While much research finds a positive relationship between teachers' qualifications and experience and student outcomes (Gerritsen et al., 2017; Kini & Podolsky, 2016), others find no association (Toropova et al., 2019). Research that does suggest a positive relationship estimates that teachers' qualifications and characteristics contribute to between 20% and 40% of the variance in student achievement, indicating that teachers play a key role in student learning outcomes (Ehrenberg & Brewer, 1994; Gerritsen et al., 2017; Rockoff, 2004; Rockoff & Speroni, 2010). WhileCherng et al. (2022) find that about half of classroom variance in achievements can be attributed to teachers, only small parts of this variance can be linked with observed teachers' characteristics (Bau & Das, 2020; Rivkin et al., 2005). This suggests that the relationship between teacher characteristics and student academic achievement may vary across contexts and depend on other factors.

2.1 Gender and teaching

Spittle et al. (2009) show that women have a higher intrinsic motivation to become teachers than men. There are many possible reasons behind this. However, one study suggests that it may be due to the fact that working with children is a role more often assigned to women than men (Fokkens-Bruinsma & Canrinus, 2014). Dickson & LeRoux (2012) show that in the GCC, there are more women than men in the teaching profession, and thus additional efforts to promote men's participation could be useful. A study on teachers from the United Arab Emirates found female teachers to be less willing to participate in school decision-making processes, which can, in turn, have a negative effect on their job satisfaction (Al Nuaimi et al., 2015). However, a study done in Northern Israel shows that, in general, female teachers are likely to be more self-confident in teaching than male teachers (Grinshtain & Addi-Raccah, 2020).

2.2 Teacher qualifications

The impact of a teacher's qualifications on students' results, namely obtained degrees, credentials, certifications, and coursework is extensively researched (Cherng et al., 2022; Toropova et al., 2019). Teachers' formal qualifications and degrees are seen to boost student achievement only when they are directly related to the subject taught; otherwise, the results are often insignificant (Goldhaber & Brewer, 2000, 2001; Wayne & Youngs, 2003). For example, Toropova et al. (2019) find that achievements in mathematics are higher for students whose teachers completed more mathematical coursework as part of their degrees.

The quality of the coursework and preparatory programs undertaken by teachers is also important. Unsurprisingly, high-quality programs increase teacher effects more than low-quality programs (Anderson, 2020; Wayne & Youngs, 2003). Moreover, higher teacher cognitive skills and admission scores may matter. Students learn more from teachers who achieved higher scores in college, licensure examinations, and admission and qualification tests (Seidel & Shavelson, 2007; Wayne & Youngs, 2003). However, these results should be interpreted with caution, as other studies have found no association between teacher skills and admission scores (e.g., Buddin & Zamarro, 2009). The difference in results can be attributed to varying teacher in-classroom practices. (Cherng et al., 2022).

2.3 Instructional Quality

Instructional quality is a key element of teacher effectiveness, composed of many factors, including the teacher's personality, attitude toward teaching, motivation, teaching strategies, classroom management, and use of tools (DeWulf et al., 2021; Klieme et al., 2009; Scherer & Gustafsson, 2015; Toropova et al., 2019). Instructional quality is usually measured by evaluations assessing how teachers influence students' outcomes (Kim & Sun, 2021). Providing adequate evaluations and feedback may allow teachers to assess the effectiveness of their teaching practices and change them accordingly (Guarino et al., 2015).

Research suggests that cognitive activation in students is key to effective teaching, preferably when combined with a favorable disciplinary climate and little teacher-directed classwork (Caro et al., 2016; Scherer & Gustafsson, 2015). This kind of teaching seems to favor more advanced information processing, like summarization and controlling the learning process, which is beneficial for student achievement (Lindholm & Ternberg, 2019; Muszyński & Jakubowski, 2015). Emphasizing a teacher-directed approach, where the teacher stands in front of the class and presents information with the passive participation of students, is found to have negative effects on student achievement (Caro et al., 2016).

Instructional clarity also positively relates to student achievement (Scherer & Gustafsson, 2015). In researching instructional quality in Arabic-speaking countries, Kim et al. (2019), find a focus on analytical and problem-solving skills, cooperation, the use of interactive activities, and complex cognition in technology-rich settings to be associated with increased student educational performance.

2.4 Teacher experience

Experience is another key factor that influences educational outcomes, and on which teachers build and develop their techniques for conducting classes. **Teacher** experience is positively correlated with clearer instruction and classroom management (Rice, 2003). There is also evidence that teacher effectiveness increases with experience when teachers are well prepared for the job, carefully selected, and mentored during their careers (Kini & Podolsky, 2016).

The relationship between teaching experience and student achievement is not linear. Clotfelter et al. (2010) find that there are diminishing results of a teacher's experience on student achievements, with effects declining after the first five years. Other studies observe a rise in students' performance corresponding to up to 19 years of teaching experience and a decline afterward (Chingos & Peterson, 2011; Papay & Kraft, 2016; Toropova et al., 2019). The relationship between teacher experience and student outcomes is initially positive when the first years of teaching are spent in a supportive, collaborative, and stable work environment, for example, teaching in the same grade, school, or region, to reach the full potential of the teaching experience (Kini & Podolsky, 2016; Ladd & Sorensen, 2017). Additionally, Kini and Podolsky (2016), Gerritsen et al. (2017), and Ladd and Sorensen (2017) find that teacher experience is not only positively associated with student achievement, but it is also correlated with non-academic improvements, such as lower school absences.

However, some research has highlighted negative aspects of significant teaching experience, especially the high levels of self-confidence that come with it. Overconfidence in their own teaching ability can lead teachers to dismiss students' behavioral or educational challenges as linked to external factors rather than the teachers' own performance (Andreou & Rapti, 2010; Cooper et al., 2004). As a consequence, some teachers do not properly address the learning difficulties faced by their students, which leads to poorer student educational outcomes.

2.5 Classroom management, class size, and teacher effectiveness

Classroom management is a key concern for teachers (Goyette et al., 2000; Evertson & Weinstein, 2006). Student outcomes improve alongside discipline, mutual trust, a supportive environment, and student engagement (Kapur, 2018; Klieme et al., 2009; Lauermann & ten Hagen, 2021; Lipowsky et al., 2009; Scherer & Gustafsson, 2015; Toropova et al., 2019). Effective classroom management is related to the teacher's skills and can be acquired through working experience; Kayıkçı (2009) finds that higher-skilled teachers are more likely to prevent disciplinary incidents.

A teacher's ability to effectively manage a classroom may also depend on class size. Mueller (2013) demonstrates that more experienced teachers can substantially improve students' achievements in smaller classes (reduced from 22 to 15 pupils). While class size is assumed to be related to teaching effectiveness and students' cognitive and non-cognitive outcomes (Nye et al., 1999, 2000, 2001), some studies have pointed out small or even null effects of reduced class sizes (Shen & Konstantopoulos, 2021). Some researchers (e.g., Altinok & Kingdon, 2012; Datta & Kingdon, 2021) argue that the positive effects of smaller class sizes are only relevant to developing countries.

Tables 1 and 2 depict the pupil-teacher ratio in Gulf countries compared to the Middle East and North Africa (MENA) or Organisation for Economic Co-operation and Development (OECD) members. The results show that average class sizes in the GCC region are much smaller than in the benchmarking countries.

Table 1. Pupil-teacher ratio in primary schools.

Country/Region	1990	2000	2011	2014	2015	2016	2017	2018
Bahrain	20.9	-	12.1	11.7	11.7	12.1	12.2	11.9
Kuwait	18.4	13.8	8.6	8.8	8.9	8.9	8.9	8.9
Oman	27.5	25.1	-	-	-	-	10.1	9.7
Qatar	12.3	-	11.3	11.2	11.6	11.6	11.8	12.2
Saudi Arabia	-	-	11.0	10.8	10.9	11.7	12.2	13.8
United Arab Emirates	18.1	16.1	17.0	18.9	23.6	24.5	-	-
OECD members	18.9	17.5	16.0	15.9	15.7	15.4	15.3	15.3
MENA (excluding high income)	26.4	24.4	22.4	22.1	22.3	22.6	23.2	23.0
GCC average	19.4	18.3	12.0	11.8	11.4	12.3	13.3	13.8

Source: World Bank Data (https://data.worldbank.org)

Table 2. Pupil-teacher ratio in secondary schools.

Country/Region	1990	2000	2011	2014	2015	2016	2017	2018
Bahrain	15.3	-	10.4	9.9	9.9	9.8	10.1	10.2
Kuwait	12.5	10.8	-	-	7.6	-	-	-
Oman	15.3	17.9	-	-	-	-	10.0	10.2
Qatar	8.6	-	10.1	10.2	10.7	10.2	10.4	11.0
Saudi Arabia	-	-	-	-	10.3	10.5	11.1	11.5
United Arab Emirates	12.6	-	-	-	-	9.5	-	-
OECD members	14.8	14.2	13.6	13.9	13.7	13.6	13.6	13.7
MENA (excluding high income)	19.5	19.9	16.2	15.8	16.0	16.1	16.3	16.2
GCC average	12.9	14.4	10.3	10.0	9.6	10.0	10.4	10.8

Source: World Bank Data (https://data.worldbank.org)

In 2018, the average class size in the GCC was 13.8 pupils per teacher in primary schools and 10.8 in secondary schools, a smaller class size than in the broader MENA countries, which averaged 23 pupils and 16.2 pupils per teacher at the respective education levels, and in the OECD countries, which averaged 15.3 and 13.7 pupils per teacher, respectively.

2.6 Teachers' job satisfaction

Teaching is considered "society's most crucial profession" and "the profession on which all other professions depend" (Beteille & Evans, 2019). Despite this, the teaching profession is often undervalued, and not seen as having high social status, which may affect job satisfaction. Different studies argue that there are no significant differences in job satisfaction between male and female teachers, for example Rahman (2018) in the United Arab Emirates and Crossman & Harris (2006) in the United Kingdom. At the same time, in a comprehensive analysis of gender gaps in job satisfaction across different professions in Europe, Perugini & Vladisavljević (2019) present consolidated evidence of the gender-job satisfaction paradox, by which women are more satisfied than men despite working in more challenging conditions. This may also apply to the case of teachers, a profession in which female teachers are more frequently stressed and experience lower self-efficacy (Klassen & Chiu, 2010).

Job satisfaction depends on several factors, including pay. Alam and Fareed (2011) analyze the attitudes of Pakistani teachers concerning their salary and economic incentives, finding that most of the teachers surveyed to be unsatisfied with their wages. The researchers find that teachers believe that their low salary also affects the quality of their teaching. In the same study, teachers articulate the belief that they should receive incentives based on the results obtained by their students, which seems to confirm that better salaries may encourage teachers to put more effort into improving students' performance.

Between 1970 and 2010, the MENA region – including the GCC states – saw the highest share of total public spending devoted to education compared to the rest of the world (Iqbal & Kiendrebeogo, 2015), with positive impacts for the economic situation of teachers in terms of salary and working conditions. More recent estimates show that in 2020 GCC national governments spent on average 4.85% of their GDP on education, comparable to OECD members' average spending of 4.9% (World Bank data, June 2022)[1]. Teachers' salaries are higher than the average salaries in other professions in Qatar (National Statistics Office) and Saudi Arabia (International Labor Office Database). However, there are likely significant disparities in teachers' actual wages because the earnings of nationals might differ from those of expatriates. For instance, according to the General Authority for Statistics in the Kingdom of Saudi Arabia, in 2017, the average monthly salary in education for non-Saudis was almost three times lower than the salary of nationals (1698 SAR vs. 4685 SAR, equivalent to about $452 vs. $1248)[2]. The differences in wages across the region can increase migration between neighboring countries in the Middle East, particularly due to the shared language and culture (CIRS, 2015; Kapiszewski, 2006; Khalaf & Alkobaisi, 1999; Shah, 2004). Although no reliable data on wages in other countries can be found, previous reports indicate that such migration patterns among teachers were observed in the United Arab Emirates (Ridge et al., 2014).

Other non-economic factors also impact teachers' job satisfaction. For instance, teachers' satisfaction improves if students are motivated and put effort into their schoolwork (Van Houtte, 2006). Social interactions with students and colleagues can also impact teachers' job satisfaction. A supportive school community can improve teachers' occupational well-being and reduce dissatisfaction with their working conditions (Nias, 1981; Soini et al., 2010). Well-being, especially avoiding emotional exhaustion and burnout, is important for teachers to work effectively (Burić & Kim, 2020; Klusmann et al., 2021; Toropova et al., 2019). Emotionally exhausted teachers need additional support to provide quality instruction, including emotional support and cognitive activation for students and effective

1. The most recent indicator for Oman was for 2019, while the most recent estimation of the OECD average was for 2018.

2. Exchange rate as of March 10th, 2023.

classroom management(Klusmann et al., 2021). Research suggests that positive school leadership and teacher mentorship can contribute to higher job satisfaction and in-profession retention, especially for early-career teachers (Sebastian & Allensworth, 2012).

Lastly, it should be noted that the relationship between teachers' job satisfaction and students' achievements is not straightforward. Just as well-achieving students can improve teachers' job satisfaction, teacher satisfaction can also influence student outcomes. The relationship can be reciprocal. However, Iqbal et al. (2016) find that the performance of students is not significantly correlated with the well-being of teachers. Banerjee et al. (2017) find more mixed results, with a positive relationship that is small in magnitude and largely depends on the discipline of study and age of the students. Nonetheless, Banerjee et al. (2017) find that the interaction between teachers' job satisfaction and the school environment can increase student achievement.

3. Data and methodology

This report employs three different datasets to analyze the characteristics of teachers in the GCC countries: TIMSS 2019, which focuses on mathematics and science subject teachers; PIRLS 2016, which focuses on reading teachers; and TALIS 2018, which focuses on teachers' professional development, teaching practices, and work environments. TIMSS 2019 includes data from fourth and eighth grade teachers from 58 countries, including all the members of the GCC. PIRLS 2016 includes data from 40 countries on fourth grade teachers, including all the GCC members. TALIS 2018 does not include all the GCC members, but is limited to Saudi Arabia and the United Arab Emirates. Within the TALIS assessment, data is available only for lower secondary education teachers in Saudi Arabia; and primary, lower secondary, and upper secondary education teachers in the United Arab Emirates.

The selection of characteristics for analysis is dependent upon data availability and comparability of datasets. We focused on the gender of teachers, their teaching experience, and qualifications measured by their professional education background. After completing this initial analysis, we turned our attention to the teachers' level of job satisfaction by comparing means calculated from responses to questions about satisfaction with different teacher job aspects across countries. For countries participating in TALIS 2018, we also analyze the reasons for becoming a teacher using a logistic regression model. Sections 4.1 and 4.2 present the results of these analyses.

Section 4.3 presents the results of our assessment of the main drivers of job satisfaction for teachers[3]. To do this, we employed an ordered probit model. This model allowed us to analyze the impact of explanatory variables like safety, high workload, experience, education, gender, etc., on job satisfaction, determined by a categorical ranking or order of magnitude. Comparing this model with a standard ordinary least squares (OLS) model allowed for an understanding of the magnitude of each indicator that affects teachers' job satisfaction in a more linear way.

Finally, Section 5 provides policy recommendations based on the findings of the analyses presented in the previous sections.

4. Results

In this section, we present findings from the analyses of different datasets on teachers in the GCC countries. The subsections are divided based on the topic considered.

4.1 Gender, formal education, and experience

There are large differences in the gender balance of teachers across schools in the GCC countries. In most countries, the majority of fourth grade mathematics, science, and reading teachers are female (, ranging from 75.6% in Bahrain to 96.9% in Oman. In all the GCC countries, men are more frequently employed as teachers at higher grades, though women remain in the majority. One possible explanation is that the share of male teachers increases with the grade due to the gender-segregated nature of schooling, with men tending to teach in all-boys schools at higher grades. Cultural factors, as well as the convenience of the job, may also induce men to teach in higher grades more often than women (Dickson & Le Roux, 2012). Although TALIS data is only available for lower secondary schools in Saudi Arabia, the gender balance for teachers is much more equal than in other GCC countries. This result is confirmed when looking at data from TIMSS 2019.

Table 3 presents teacher gender differences for all the GCC countries based on TIMSS and PIRLS data, while Table 4 presents the results for Saudi Arabia and the United Arab Emirates based on TALIS 2018.

3. Following the evidence from the scientific literature, we considered as the main possible drivers: teacher's experience, class environment, help received by colleagues and parents, and relationship with students.

Table 3. Teachers' gender distribution in the GCC countries by grade and subject

	Bahrain			Kuwait			Oman			Qatar			S. Arabia			United Arab Emirates		
	MS4	R4	MS8	MS4	R4	MS8	MS4	R4	MS8	MS4	R4	MS8	MS4	R4	MS8	MS4	R4	MS8
M	24%	22%	42%	13%	18%	46%	3%	5%	51%	21%	20%	47%	50%	50%	48%	13%	15%	38%
F	76%	78%	58%	87%	82%	54%	97%	95%	49%	79%	80%	53%	50%	50%	52%	87%	85%	62%

Source: Own estimates based on TIMSS 2019 and PIRLS 2016. MS indicates mathematics and science teacher, R indicates reading teacher, 4 indicates 4th grade, 8 indicates 8th grade.

Table 4. The gender distribution of teachers in Saudi Arabia and the United Arab Emirates

	Saudi Arabia		United Arab Emirates	
	Lower secondary	Primary	Lower secondary	Upper secondary
Male	47.6%	12.6%	37.8%	42.9%
Female	52.4%	87.4%	62.2%	57.1%

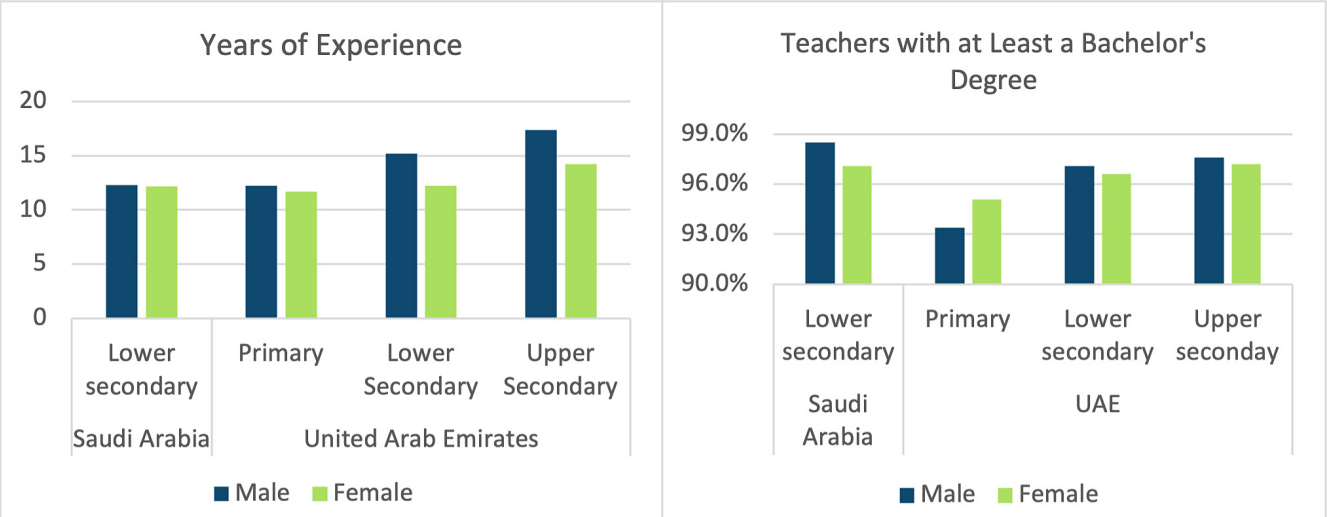
Source: Own estimates based on TALIS 2018.

The data also reveals differences between male and female teachers with regards to formal education and years of experience. Figure 1 shows the share of teachers who hold at least a bachelor's degree in Saudi Arabia and the United Arab Emirates, while Figure 2 shows the same across all GCC countries participating in TIMSS 2019. Figure 2 presents exclusively data for eighth grade teachers in mathematics and science, while Table A1 in the Appendix shows data for fourth grade teachers to provide better comparability between the grades of the different tables in this section. Teaching experience is measured in years, while the highest level of formal education is measured with the International Standard Classification of Education (ISCED) index. The ISCED is divided into eight levels that account for formal education, ranging from zero (early childhood education) to eight (doctorate or equivalent).

The estimates show that female teachers are more likely to hold a bachelor's degree than male teachers, except in Saudi Arabia. In general, having a bachelor's degree is a formal requirement for becoming a teacher. However, education majors are more popular among national females than males. Therefore at public schools in GCC states, which are regularly single sex, including at the teacher level, it is not uncommon for expatriate male teachers to teach boys (Ridge, 2014). For example, Dickson and Le Roux (2012) find that male teachers in the United Arab Emirates tend to enroll in a bachelor's degree only as a final resort.

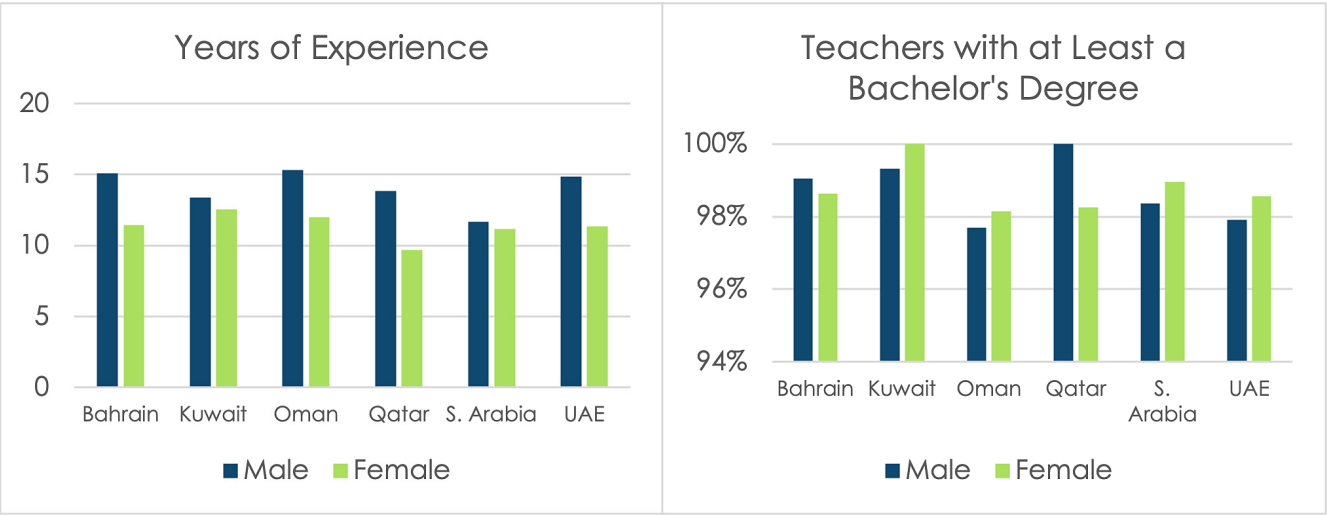
At the same time, male teachers tend to have more years of experience than female teachers. The exception is Saudi Arabia, where the experience of male and female teachers are very similar. Tables 3 and 4 also show that as the level of education increases, so do years of experience and percentage of teachers holding at least a bachelor's degree. This indicates that more experienced and trained teachers tend to be employed in higher grades. On average, Qatar and Saudi Arabia have less experienced teachers than the other countries, though the differences are not large.

Figure 1. Years of experience and level of formal education in Saudi Arabia and UAE



Source: Own estimates based on TALIS 2018

Figure 2. Years of experience and level of formal education of 8th-grade teachers in the GCC countries



Source: Own estimates based on TIMSS 2019.

4.2 Job satisfaction and teaching

In addition to gender and qualifications, we analyzed teachers' job satisfaction levels across the GCC countries to better understand how the level of satisfaction can impact teaching and student outcomes. Figure 3 presents the results for Saudi Arabia and the United Arab Emirates, with satisfaction measured on a four-level scale from "strongly disagree" to "strongly agree", where five indicates the highest level of agreement. Based on the questions administered to teachers participating in the TALIS assessment, we consider their satisfaction in relation to teaching contracts, salaries, and performance. The data shows that male teachers in Saudi Arabia and the United Arab Emirates tend to be less satisfied with their performance than their female counterparts. On the other hand, male teachers are more satisfied with their salaries and contracts in the United Arab Emirates.

Figure 3. Average Job Satisfaction in Saudi Arabia and the United Arab Emirates.

Source: Own estimates based on TALIS 2018.

Note: The estimates range from one, indicating the lowest satisfaction, to four, indicating the highest. Teachers are generally more satisfied with their performance than their salaries and contracts. This could be due to the fact that salaries and contracts represent working conditions and not one's own capacity. On average, satisfaction with the contract and the salary are below the value of 3 (which indicates a "Neutral" level of satisfaction), meaning that teachers are generally dissatisfied with contracts and salaries. Satisfaction levels of teachers in the United Arab Emirates appear to be constant across different education levels.

Table 5 presents the results for eighth grade teachers of mathematics and science in all the GCC countries. The estimates for fourth -grade teachers are presented in table A2 in the Appendix. The indicators refer to how frequently teachers feel satisfied with a particular aspect of their job, on a scale from one to four, with four indicating the lowest frequency; it can be thus interpreted as an indicator of job dissatisfaction. The indicators considered are how often one feels contentedness, meaning, enthusiasm, inspiration, and pride in their job. While there are some exceptions, female teachers are generally more satisfied than their male counterparts. This result is consistent across countries and study cycles. Nonetheless, teachers are generally satisfied since the average rates of satisfaction are all below two, which indicates a "median" level of satisfaction. Teachers of reading subjects tend to report slightly less frequency of feeling inspired and proud than their colleagues who teach mathematics and science, particularly among fourth grade teachers.

Table 5. Average job satisfaction of eighth grade mathematics and science teachers in the GCC Countries

		Bahrain	Kuwait	Oman	Qatar	S. Arabia	UAE
Contentedness	Male	1.42	1.23	1.66	1.34	1.35	1.39
	Female	1.29	1.19	1.32	1.29	1.16	1.34
Meaning	Male	1.28	1.17	1.40	1.30	1.22	1.37
	Female	1.18	1.05	1.14	1.25	1.10	1.29
Enthusiasm	Male	1.40	1.25	1.66	1.33	1.33	1.36
	Female	1.23	1.16	1.36	1.28	1.11	1.28
Inspiration	Male	1.46	1.36	1.82	1.39	1.45	1.45
	Female	1.30	1.31	1.43	1.31	1.19	1.36
Pride	Male	1.23	1.13	1.42	1.21	1.12	1.31
	Female	1.16	1.12	1.17	1.18	1.03	1.21

Source: Own estimates based on TIMSS 2019.

In addition to these indicators, TALIS asked teachers about their motives for pursuing a career in teaching. We investigated how these motives correlate with pursuing a career in teaching. While we expect most of them to be significantly correlated, the relationship's magnitude may indicate the relative importance of each motivation.

In TALIS, the options given for motivation in becoming a teacher included: having a steady career path, providing a reliable income, having a secure job, having a balanced work schedule, influencing the development of young people, benefiting the socially disadvantaged, and contributing to society. These motivations were analyzed with a logit model where teaching, valued as either being or not being the first career choice, is the dependent variable. Table 6 presents the estimates for Saudi Arabia and the United Arab Emirates. Unsurprisingly, all the estimates are positive and strongly significant; however, some show higher coefficients, indicating a stronger relationship between the motivation type and the choice to not pursue a teaching career.

For teachers in Saudi Arabia, having a steady career path, and influencing the development of younger generations correlates most with the choice of teaching. In the United Arab Emirates, the biggest motivators for becoming a teacher were having a reliable income and secure jobs.

Table 6. Logit model that estimates the motivations for choosing a teaching career

	Saudi Arabia		United Arab Emirates	
	Lower secondary	Primary	Lower Secondary	Upper Secondary
Constant	0.75***	2.00***	2.05***	2.35***
Steady career path	1.20***	0.49***	0.54***	0.71***
Reliable income	0.82**	1.11***	0.93***	0.81***
Secure job	0.47***	0.69***	1.03***	0.85***
Balanced schedule	0.75***	1.10***	0.77***	0.76***
Infl. development	1.38**	0.81***	0.77***	0.74***
Help disadvantage	0.90***	0.80***	0.70***	0.78***
Contribute	0.81***	0.54***	0.62***	0.51***
Female	0.39***	0.90***	1.02***	1.19***

Source: Own estimates based on TALIS 2018.

Note: *indicates 90% significance, **indicates 95% significance, ***indicates 99% significance.

Everything else being equal, women in the United Arab Emirates are more likely to choose teaching as their career than in Saudi Arabia. In fact, women in the United Arab Emirates are more often teachers than men, as reflected by the higher share of female teachers shown earlier in Table 3.

For the countries participating in the TALIS assessment, we assessed teachers' job satisfaction by examining their experiences within the classroom environment. In particular, we analyzed teachers' level of stress at work and their ability to manage students' discipline in the classroom. In this case, the two variables were evaluated on a scale made of five levels, where 5 indicates the worst scenario (ranging from "Not at all" to "A lot"). Table 7 presents the results.

In both countries, the estimates are below 3, which is the average for these particular indicators of job satisfaction. In Saudi Arabia and the United Arab Emirates, female teachers experience more stress at work and more trouble maintaining students' discipline in class than males. Disparity between male and female teachers' disciplinary control is particularly significant in the United Arab Emirates.

Table 7. Classroom environment by gender in Saudi Arabia and the United Arab Emirates.

		Saudi Arabia		United Arab Emirates	
		Lower Secondary	Primary	Lower Secondary	Upper Secondary
Experienced stress at work	Male	2.05	2.68	2.72	2.68
	Female	2.40	2.89	2.89	2.85
Troubles with discipline	Male	2.77	2.20	2.36	2.23
	Female	2.90	2.45	2.37	2.27

Source: Own estimates based on TALIS 2018.

4.3 Explaining job satisfaction in the GCC countries

In this section, we modeled the determinants of job satisfaction in each of the GCC countries. In the first step, we generated indicators for the dependent and independent variables. To measure teachers' job satisfaction, we aggregated the indicators presented in Table 5: the frequency of feeling contentedness, meaning, enthusiasm, pride, and inspiration. This allowed us to create a teacher-level average job satisfaction level proxy indicator which was then used as the dependent variable.

For the independent variables, we employed the same method on different estimates. Table 8 presents the variables used and how they are aggregated when applicable.

Table 8. The variables employed in the ordered probit model

Variable	Description
Teacher supports	The extent to which teachers experience understanding from colleagues, their expectations, and how much they are able to inspire.
Parental support	How often students' parents are involved and committed, what are their expectations, and how much support they provide.
Safe school	If the school is in a safe neighborhood, whether teachers feel safe, if there are security policies, if students are respectful and behave properly, if the property is respected, if there are clear rules which are enforced.
High workload	Whether there are too many students, too much material, too many work hours, how much time is needed to prepare classes and assist, if there is too much pressure, if there are changes in the curriculum and too many administrative tasks.
Challenging students	If students are absent, disruptive, uninterested, and have difficulties learning.
Teacher challenges	Whether the teacher experiences students with lack of knowledge, nutrition, and sleep.
Experience	Years of experience.
Education	ISCED Level of formal education.
Gender	Whether the teacher is male or female.

To model the relationship between job satisfaction and other teacher and school characteristics, we ran an ordered probit model since the dependent variable (job satisfaction) is built based on a categorical indicator measuring how often teachers feel a certain way about their jobs (from "almost never" to "very often"). While it is possible to substitute numerical values from one to four to compute this, an ordered probit model can account for the categories without assuming that the categories are equally distant[4].

The ordered probit model results are presented in Table 9 for eighth grade teachers and Table A3 in the Appendix for fourth grade teachers.

4. In this particular case, for instance, the difference between “Often” and “Very often” may not be the same as the one between “Often” and “Sometimes” depending on how the teacher responds. This makes the ordered probit model more fitting than the alternative ordered logit model, which assumes an equal distance between the categories (Liddell and Kruschke, 2018). In general, both models disregard the numbers assigned to each of the categories, a possible flaw of the linear regression which may affect the magnitude of the coefficients in the model.

Table 9. The ordered probit model for 8th-grade teachers

	Bahrain	Kuwait	Oman	Qatar	S. Arabia	United Arab Emirates
Teachers help	0.80***	0.36**	0.05	0.39***	0.53***	0.49***
Parents help	0.04	0.16	0.08	-0.13	-0.06	0.08
Safe school	0.78***	0.61***	0.98***	1.08***	0.63***	0.75***
High workload	-0.54***	-0.42***	-0.49***	-0.46***	-0.17	-0.40***
Challenging students	-0.42**	0.08	0.15	0.10	0.06	-0.13
Teacher challenges	-0.05	0.09	-0.20	0.16	0.01	0.04
Experience	-0.00	-0.00	0.02	0.01	0.02	0.01***
Education	0.09	-0.04	-0.03	-0.00	-0.02	-0.04
Gender (female)	0.07	0.14	0.66***	0.13	0.51***	0.14**

Source: Own estimates based on TIMSS 2018.

Note: *indicates 90% significance, **indicates 95% significance, ***indicates 99% significance.

There are some common patterns across the GCC states. In particular, regression results show that receiving help from colleagues is positively and significantly related to job satisfaction, with the exception of eighth grade teachers in Kuwait and Oman. Moreover, being in a safe school positively and significantly relates to job satisfaction; this result is consistent across all countries and in both models used. In most countries, having a high workload negatively correlates with job satisfaction in the OLS and ordered probit models, except in the cases of fourth grade teachers in Bahrain and eighth grade teachers in Saudi Arabia, where the coefficient is not significant (although still negative). There is also a negative impact of parents' help on satisfaction visible for eighth grade teachers in Qatar and fourth grade teachers in Saudi Arabia, which may indicate excessive parental control and a sense of lack of autonomy among teachers. Lastly, male teachers experience significantly lower job satisfaction on average for the fourth grade in Oman, and overall in Saudi Arabia and the United Arab Emirates. This can be explained by the evidence on the gender-job satisfaction paradox (Perugini & Vladisavljević, 2019), whereby female teachers report higher satisfaction with their job even if working in more challenging conditions.

5. Conclusion and policy recommendations

To improve teachers' outcomes and working conditions, the GCC countries may wish to consider various interventions based on this study's findings. Each country presents individual differences that may require specific consideration when designing interventions and policies. At the end of this section, four overarching recommendations are outlined.

In the case of **Saudi Arabia**, the country may benefit from targeted initiatives to address the involvement of parents in the teachers' work, given the positive impact of parental involvement on job satisfaction among fourth grade teachers. For the **United Arab Emirates**, the country may want to explore policies related to increasing male participation in the teaching profession. In **Bahrain**, female teachers may require additional attention in their training and relationship-building with their peers due to fewer years of experience. In the case of **Kuwait**, policy interventions should be targeted at reducing the factors that may prevent people from choosing teaching as a career, especially for men, to improve the existing gaps in experience and job satisfaction (Llorent-Bedmar et al., 2017).

The general recommendations aiming at increasing teachers' job satisfaction are as follow:

1. Design and implement policies to improve the safety of schools

This could be achieved by instituting school safety programs, including training teachers, principals, and school staff on class management and how to respond to disruptive situations (such as bullying or class disorder), as suggested by Steinberg et al. (2011). Moreover, schools in the GCC countries can take measures to increase overall safety by strengthening disciplinary control in schools and improving communication with the families who may intervene to reduce their children's disruptive behaviors at home. These measures have been shown to positively impact the actual and perceived safety of teachers (Gregory et al., 2012).

2. Launch initiatives designed to strengthen relationships and cooperation among teachers

Our analyses found that cooperation and support from colleagues positively influences job satisfaction. Potential measures to strengthen relationships include developing shared projects between teachers and creating mentorship programs to benefit less experienced teachers. One solution may be Professional Learning Communities, which allow teachers to learn from each other's experiences, improving their professional teaching competences (Stoll et al., 2006) and, as a result, students' educational achievements (Brown et al., 2018). The implemented measures should improve dialogue and support between teachers, which can positively affect their overall working experience and satisfaction with their job.

3. Reduce or re-balance teacher workloads

Teachers report heavy workloads as one of the biggest factors contributing to low job satisfaction across the GCC countries. Solutions to reduce and re-balance workloads are likely to be less immediate since they may require national-level approvals from ministries of education to employ more teachers, assistant teachers, or support staff. In parallel, teachers can be provided with training on work management in large classrooms, appropriate educational materials, and digital tools to reduce time spent on the preparation of classes.

4. Review the employment conditions of teachers to offer more advantageous contracts and work benefits

By recognizing teachers' valuable roles in the economy and making the profession attractive with more lucrative contracts or additional benefits, the GCC countries could attract more individuals to pursue careers in education, especially males, who are drawn to better-paid work opportunities. Additionally, differences in expatriate teacher salaries and contracts may contribute to the gender gap in students' educational achievements, as more female teachers are nationals with better salaries and job security than male teachers. Several authors studying countries in the GCC region suggest promoting the working conditions of teachers and offering incentives for teachers to increase the effectiveness and quality of their work (Ridge et al., 2014; Matherly et al., 2022). The former can be achieved by providing expatriate teachers with higher salaries and benefits reflective of their work, as well as more inclusive work environments; the latter could be designed based upon a deeper analysis of the teachers' preferences and needs.

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Appendix

Table A1. Years of experience and level of formal education (5=bachelor's degree) of 4th-grade teachers in the GCC countries

		Bahrain		Kuwait		Oman		Qatar		S. Arabia		United Arab Emirates	
		MS	R	MS	R	MS	R	MS	R	MS	R	MS	R
Experience	M	16.52	14.24	13.33	14.44	12.50	11.50	10.22	11.44	14.57	13.86	10.60	11.19
	F	9.77	10.11	10.81	10.41	11.68	11.65	10.43	9.70	11.14	15.41	11.07	10.40
Education	M	5.06	5.02	5.10	4.91	5.30	5.06	5.13	5.01	3.18	5.03	5.28	5.02
	F	5.16	5.20	4.85	5.14	5.01	4.91	5.28	5.18	3.06	4.41	5.22	5.19

Source: Own estimates based on TIMSS 2019 and PIRLS 2016.

Note: MS indicates mathematics and science, and R indicates reading. 5=bachelor's degree.

Table A2. Average job dissatisfaction of 4th-grade teachers in the GCC countries

		Bahrain		Kuwait		Oman		Qatar		S. Arabia		United Arab Emirates	
		MS	R	MS	R	MS	R	MS	R	MS	R	MS	R
Content	M	1.49	1.33	1.40	1.21	1.09	1.06	1.24	1.11	1.33	1.37	1.55	1.03
	F	1.43	1.25	1.24	1.11	1.27	1.17	1.31	1.07	1.18	1.30	1.35	1.11
Meaning	M	1.23	1.17	1.12	1.06	1.36	1.06	1.29	1.07	1.23	1.28	1.49	1.09
	F	1.20	1.12	1.13	1.10	1.11	1.09	1.24	1.07	1.06	1.21	1.27	1.09
Enthusiastic	M	1.38	1.37	1.35	1.33	1.27	1.35	1.33	1.13	1.34	1.61	1.46	1.25
	F	1.34	1.28	1.20	1.18	1.29	1.23	1.26	1.12	1.14	1.33	1.29	1.20
Job inspires	M	1.50	1.98	1.56	1.88	1.36	1.71	1.33	1.56	1.41	1.69	1.60	1.54
	F	1.31	1.68	1.28	1.81	1.36	1.69	1.33	1.55	1.17	1.32	1.35	1.66
Proud	M	1.22	1.89	1.21	1.79	1.19	1.41	1.14	1.53	1.16	1.50	1.37	1.48
	F	1.19	1.53	1.12	1.67	1.12	1.45	1.21	1.44	1.04	1.30	1.19	1.54

Source: Own estimates based on TIMSS 2019 and PIRLS 2016.

Note: MS indicates Mathematics and Science, R indicates reading.

Table A3. The ordered probit model for 4th grade mathematics and science teachers

	Bahrain	Kuwait	Oman	Qatar	S. Arabia	United Arab Emirates
Teachers help	0.39**	0.70***	0.80***	0.58***	0.58***	0.54***
Parents help	0.26**	-0.21	-0.04	-0.02	0.19*	0.12**
Safe school	0.71***	0.92***	0.89***	0.78***	0.53***	0.55***
High workload	-0.13	-0.28**	-0.60***	-0.22*	-0.22*	-0.46***
Challenging students	0.28	0.17	-0.07	0.39*	0.24	-0.06
Teacher challenges	-0.20	-0.30	-0.29	-0.05	-0.34*	0.10
Experience	0.02**	-0.01	0.03***	-0.00	0.01	0.01*
Education	0.11	-0.10*	-0.23*	-0.03	-0.02	-0.02
Gender (female)	-0.06	0.33	0.31	0.13	0.30**	0.35***

Source: Own estimates based on TIMSS 2019.

Note: *indicates 90% significance, **indicates 95% significance, ***indicates 99% significance

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