

Does School Safety and Classroom Disciplinary Climate Hinder Learning?

Evidence from the MENA Region

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Abstract

School safety and classroom disciplinary climate have a direct impact on teachers' ability to teach and students' ability to learn. School safety and classroom disciplinary climates have been declining in the Middle East and North Africa region, as is demonstrated in this paper using data from the Trends in Mathematics and Science Study and the Progress in International Reading Literacy Study. The paper then moves on to untangle how disruptive learning environments can have negative impacts on student

learning outcomes. Thus, the objective of the paper is to analyze the determinants associated with disrupted learning environments, at the school and classroom levels, in the Middle East and North Africa region and to uncover the impacts these environments have on student learning outcomes. This information will provide policy makers with evidence on disrupted learning environments while offering some recommendations on how these conditions can be improved.

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Key Words: Education, classroom violence, classroom management, school safety, classroom discipline, MENA, learning outcomes, teaching practices, teacher-student relations.

Introduction

School safety and classroom disciplinary climate have a direct impact on teachers' ability to teach and students' ability to learn. The more time teachers spend on classroom management, the less they are able to direct their efforts toward the teaching and learning practices. School safety and classroom disciplinary climates have been declining in the Middle East and North Africa (MENA) region, as will be demonstrated in this paper, thus creating disruptive learning environments that have a negative impact on student learning outcomes. This rise of disrupted learning environments is alarming given the already low levels of student performance outcomes in MENA, as measured by international assessments (World Bank 2018). However, learning outcomes are not the only concern. Rather, school safety and classroom disciplinary approaches can have emotional and psychological effects on the development of students, and they may affect future individual and social well-being. Thus, given the large individual and societal costs of disrupted learning environments, investigating the causes and impacts of school safety and classroom disciplinary climate is critical.

The objective of this paper is to analyze the determinants associated with disrupted learning environments, at the school and classroom levels, in the MENA region and to uncover the impacts these environments have on student learning outcomes. This information will provide policy makers evidence on disrupted learning environments while offering some recommendations on how these conditions can be improved. This paper aims to address the two following questions:

- What does the school safety and classroom disciplinary climate look like in MENA schools and how does it differ from other regions?
- What impact does poor school safety and classroom disciplinary climate have on the performance of students in the MENA region?

Data and Approach

School safety and classroom disciplinary climates are the two components of focus in this paper. School safety is measured using the Progress in International Reading Literacy Study (PIRLS) and the Trends in Mathematics and Science Study (TIMSS) safety index, which describe the state of misbehavior and violence among students and school staff. The index is estimated by asking school principals their perspective on safety and violent incidents. The school safety index is comparable across all the PIRLS and TIMSS surveys because the items in all the years the assessment studies were utilized. This allows for comparability of the school safety index in countries that did not participate in the same years of the assessment rounds.

The school safety indexes in TIMSS and PIRLS are derived from principals being asked to rate the degree to which student misbehavior represents a serious problem in their school. The considered issues are: tardiness, absenteeism, classroom disturbance, cheating, profanity, vandalism, theft, intimidation or verbal abuse among students, physical injuries to other students, intimidation or verbal abuse of teachers or staff.

The PIRLS and TIMSS school principal surveys are well suited for capturing the occurrence of negative events at school. However, they may be subject to declaration biases for two reasons. First, the principal, as the school leader, is the ultimate person accountable for incidents, violent or not, that occur within a school. Therefore, school principals might be reluctant to admit serious deviations from the norm. Second, the principals' management style has been shown to be critical in setting a culture of discipline, guaranteeing the enforcement of rules, and providing an adequate learning environment.

Moreover, principals' support is found to be key to setting the tone for school disciplinary processes and teacher morale (Stallings and other 1981). Empirical studies also demonstrate that transformational leadership in schools is effective in improving the quality of pedagogy, school safety the disciplinary climate, and even explaining directly students' performance (Halawah, 2005; Marks and others 2003;

Robison and others 2007; Valentine and Practer, 2011).¹ These factors may make school principals reluctant to admit difficulties with fulfilling their managerial role effectively.

Additionally, it is important to note that the questionnaires used by both TIMSS and PIRLS to measure school safety do not measure leadership capabilities or style. However, results from the TIMSS and PIRLS assessments demonstrate that high occurrences of disciplinary issues (vandalism, violence and so on) beyond momentary class disturbance, as measured by principals, have adverse effects on students and teachers.²

The Program for International Student Assessment (PISA) questionnaire includes a disciplinary climate index. The index describes what is happening in the classroom, and during lessons, according to students. It is not meant to reflect what happens outside the classroom. Its main purpose is to serve as a proxy for time on task, which is a key determinant of school quality. The underlying assumption is that the less disruption the classroom witnesses, the more students can focus on learning.

Classroom disciplinary climate is measured by five simple questions in the PISA survey, which have been asked quite consistently since the first round in 2000. These questions are meant to gauge the extent to which teachers lose learning time because of disciplinary issues. These five items are used to derive a disciplinary index, using either a simple factor decomposition or a likelihood-maximizing estimator. In both approaches, the reliability of the measure is very high, as witnessed by Cronbach's alpha of 0.88 and KMO tests above 0.85 for the five variables. The disciplinary climate is also quite consistent across time for a given country as the items have remained identical in all rounds (see Appendix A for further details).

The focus comes both from the perspective of supporting future well-being and skills for children and youth to thrive in an ever-changing world, and from the perspective of lost years of schooling and the need for teachers to have the tools to manage classrooms and impart students with a valuable learning experience.

Determinants of School Safety and Classroom Disciplinary Climate in MENA

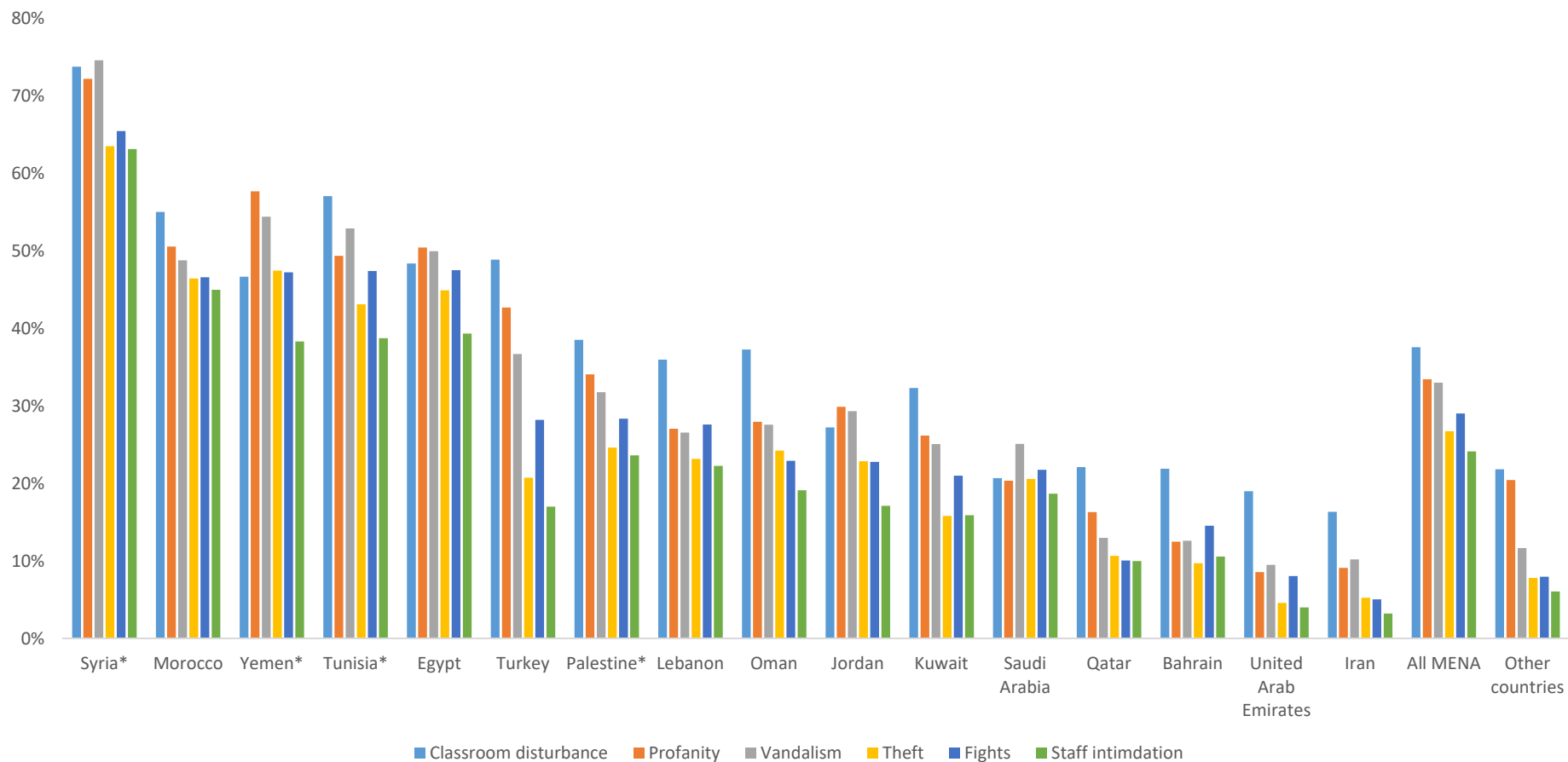
School safety and classroom disciplinary climate tend to be much lower in the MENA region. The level of school safety varies across MENA countries. However, on average, school safety tends to be more problematic in the MENA region compared to other regions by approximately 0.4 of a standard deviation. For instance, vandalism affects one in three schools in MENA, compared to 12 percent in other regions.³ In the Syrian Arab Republic, Morocco, the Republic of Yemen, Tunisia, and the Arab Republic of Egypt, more than half the schools report vandalism as a moderate or serious issue (Figure 1). Additionally, approximately 30 percent of the schools report fights between students as a serious concern and half the schools report that fights and intimidation are a moderate or serious issue in school. In comparison, fights between students and staff intimidation by students are rarely reported by school principals as moderate or serious issues outside the region, affecting on average only 8 and 6 percent of schools across all non-MENA regions, respectively. Moreover, data on the classroom disciplinary climate reveal that, on average, approximately a third of students in the PISA participating countries from the MENA region report frequent classroom disturbances, compared to 20 percent in other countries excluding MENA (Figure 2).

¹ Transformational leadership is a concept created by Burns (1978 and Bass 1985) in which a leader works in cooperation with their subordinates to identify the changes needed, to create a vision to guide the change through inspiration, and to execute the change in cooperation with the team. The meta-analysis brought forward by the authors indicates especially that students from schools where principals ensure orderly learning conditions tend to perform better.

² As teachers may be subject to higher occurrences of intimidation, threat and assault by students in schools much affected by low safety.

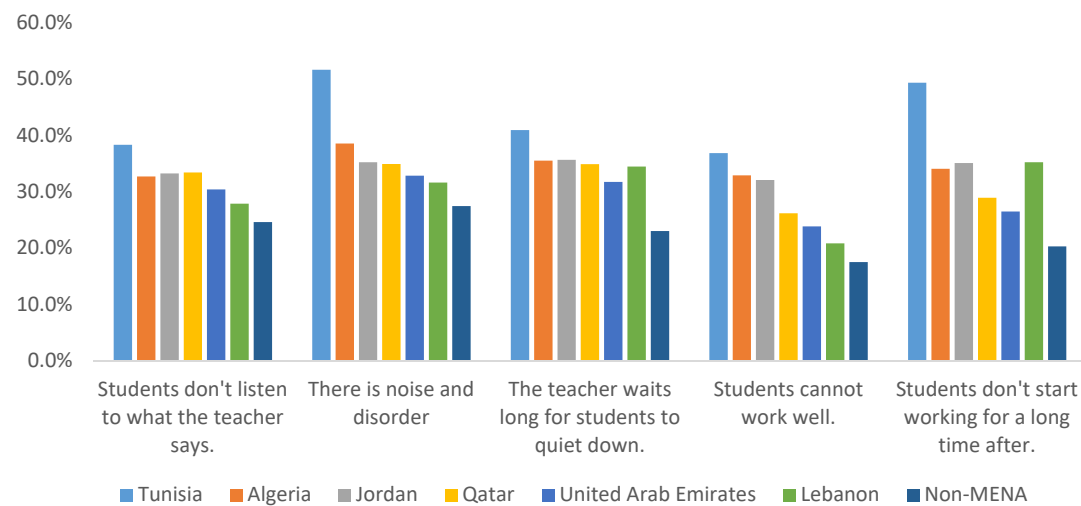
³ This includes regions covered by the TIMSS and PIRLS assessments for the years 2007 to 2015.

Figure 1. Share of Principals Reporting the Issue as a Moderate or Serious Problem in His/Her School



Source: Analysis using TIMSS 2015 and 2011 (marked with *) (4th and 8th grades)

Figure 2. Share of Students Reporting the Issue Occurs in Every Lesson or in Most Lessons, PISA 2015



Source: Analysis using PISA 2015.

School safety drops sharply in MENA countries around and following the Arab Spring by an estimated average of half a standard deviation. Countries with the lowest levels of school safety, Syria, the Republic of Yemen, Tunisia, Morocco and Egypt, experienced, or are still experiencing, the aftershocks of the 2011 Arab Spring. The situation in Egypt, for instance, is striking. In 2007, the school safety index for Egypt was high—0.25 standard deviation above the world average. Egyptian schools were among the safest, even safer than schools in Canada, which are considered to have a fairly safe learning environment.⁴ However, in TIMSS 2015, Egypt ranked among the least safe education systems, with a safety index approximately 1.25 standard deviations below the international average. These results coincide with a one standard deviation drop, over eight years, in the classroom disciplinary climate (see Appendix A, Table 6). In fact, trends in school safety indexes are quite consistent with what is observed when measuring classroom disciplinary climate. For instance, school safety indexes are mirrored in the disciplinary climate improvement patterns observed in Jordan and Qatar between 2009 and 2015 and the pattern of significant decline observed in Turkey and Tunisia (Table 1).

Table 1. Trends in the PISA Disciplinary Climate in Countries Participating in 2009, 2012 and 2015

	2009-2012	2012-2015
United Arab Emirates	-0.003	-0.034
Jordan	-0.442	0.079
Qatar	-0.321	0.231
Tunisia	-0.261	-0.052
Turkey	-0.096	-0.125
Rest of the world	-0.033	-0.037

Source: Analysis using PISA data, 2009, 2012 and 2015.

The rapid degeneration of school safety since 2011 indicates that the severity of the problem is recent. Similar patterns to that witnessed in Egypt are observed in Tunisia, Syria and the Republic of Yemen. School safety was remarkably good in Tunisia in 2007, better than average in the Republic of Yemen, and around average in Syria in 2007. Four years later, in 2011, school safety dropped sharply

⁴ The index for Canada stands at 0.2 standard deviation above the world's average.

in these three countries, reaching historically low records, between 1.2 and 1.5 standard deviations below the world's historical average. In Morocco, as well, school safety dropped dramatically between 2007 and 2011, although school safety tends to be a persistent issue in Morocco and the situation has since improved slightly.⁵ School safety also declined significantly in Lebanon (-0.4), the Islamic Republic of Iran (-0.1) and Turkey (-0.4), between 2007 and 2011, which have to varying degrees been impacted by political instability and spillover effects from neighboring countries. School safety is quite degraded in the Gulf countries, Jordan and Morocco, but trends remain steady between 2011 and 2015.

Analyzing the determinants of school safety across countries confirms that, even after considering social background, population density and socioeconomic factors, MENA schools tend to be less safe compared to other regions. Furthermore, an Oaxaca-Blinder decomposition indicates that sociodemographic factors, including educational possessions, age, gender, and urbanization levels explain around one-third of the gap in school safety between MENA and other countries.⁶

Thus, school safety is not determined by socioeconomic background of students. School safety is reduced as the share of children from affluent background decreases in a given school. On average, a school with 50 percent or more children from affluent backgrounds enjoy a safety index around 25 percent of a standard deviation higher. And while the connection between school safety and socioeconomic background is positive, it remains much weaker than the connection between students' performance and socioeconomic background. On average, socioeconomic factors and demography explain only around 10 percent of the variance in school safety, but around 51 percent of the variance between student performance in mathematics and science.

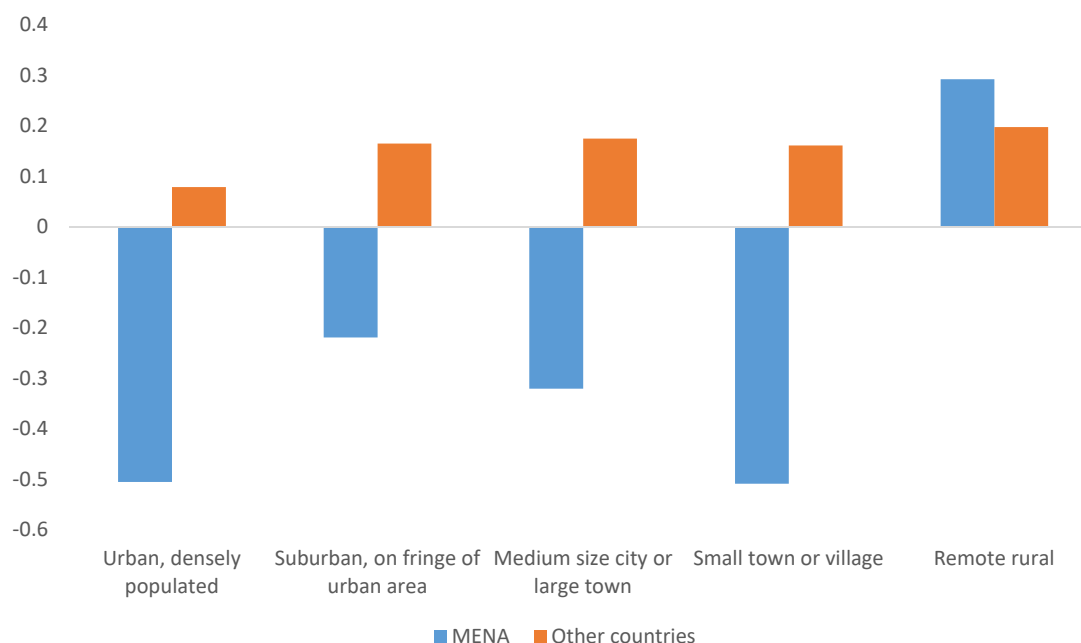
School safety and disciplinary climate however may vary with urbanization. School safety tends to be lower in urban and densely populated areas and higher in remote rural areas (Figure 3). Once country differences in urbanization level and socioeconomic status are accounted for, the relation between population density and school safety is quite continuous in MENA. All other things equal, safety tends to deteriorate as population density increases. On average, school safety tends to be around 25 percent of a standard deviation better in remote rural schools than in schools located in densely populated areas. This suggests that the level of urbanization plays a substantial role. Additionally, analysis of the classroom disciplinary climate index confirms that disciplinary climate is also on average better in rural areas than in large cities.

Gender composition of the school matters for disciplinary climate, as climate tends to deteriorate as the share of boys increases. On average, as the share of girls rises from 0 to 100 percent, the disciplinary climate measured at the school level increases by 0.25 standard deviation. The impact of gender composition on disciplinary climate is also positive.

⁵ The school safety index went down by 0.7 standard deviation.

⁶ See the appendix for details.

Figure 3. School Safety Index by Category of Urbanization among MENA and Non-MENA Countries in
Source: TIMSS 2015, 8th Grade



Note: School safety has been estimated using factor decomposition. The index is centered on 0 with a standard deviation of 1.

Teachers display more hostility in MENA countries. A measure of the hostility of teachers toward students is derived from the items illustrated in Figure 4.⁷ The figure shows that three MENA countries and Turkey have much higher shares of students reporting hostile behaviors from their teacher, with an average of 22 percent in the MENA countries and Turkey compared to 17 percent in other countries. More concerning is the fact that the gap between the MENA and non-MENA countries is larger for more serious incidents such as teachers insulting students in front of others. These results corroborate evidence found in schools in Jordan for example where 11 percent of school children report experiencing corporal punishment from teachers while 18 percent report experiencing verbal violence during the 2015/2016 academic year (UNICEF 2016).

Teacher hostility is clearly more directed toward boys in the three MENA countries for which data are available (Table 2). These findings mirror international trends which indicate a gender gap of around 0.25 of a standard deviation globally. However, in these three MENA countries, the gender gap is almost twice as large as in the rest of the world, with boys being more likely than girls to be the subject of negative comments, humiliation, insults, and harsh discipline. It is to be noted that the fact that boys and girls may be segregated in different classes does not seem to play an obvious role. In Tunisia where boys and girls are sharing classes, the gender gap is indeed higher than in the United Arab Emirates where gender segregation is still the norm.

Table 2. Gender and Teacher's Hostility index

	Boys	Girls	Gender gap
United Arab Emirates	0.12	0.55	0.43
Qatar	0.13	0.59	0.46
Tunisia	-0.03	0.47	0.50

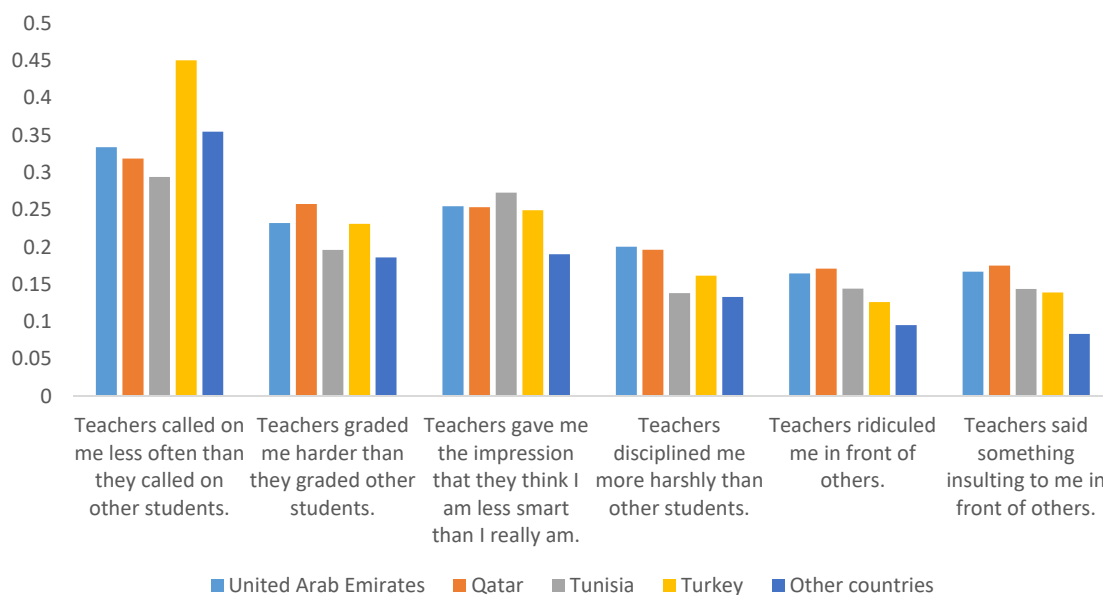
⁷ The index is reliable with a Cronbach's alpha of 0.79 and all items being relevant with satisfactory KMO tests.

Turkey	-0.01	0.37	0.38
Other countries	-0.14	0.12	0.26

Source: Analysis using PISA 2015.

Hostile practices from teachers may increase the occurrence of disorder in MENA classrooms. There is a clear statistical association between teachers' hostility and the classroom disciplinary climate. Students in classes that witness higher levels of disruption tend to report more frequent hostile behaviors from their teachers (Figure 4). The link between the hostility and disciplinary climate is strong. On average, increasing hostility by one standard deviation is associated with a decrease of the disciplinary climate by 0.5 standard deviation. The causality could, however, be in either direction, as more difficult students are likely to annoy teachers while hostile teachers may prompt the aggressiveness of their students in return.

Figure 4. Share of Students Reporting the Following Incident Occur A few Times a Month, Once a Week or More



Source: Analysis using PISA 2015

Deteriorated classroom disciplinary climate hampers student learning in many MENA countries

Deteriorated classroom disciplinary climate has a negative effect on students' performance in MENA. On average, improving the classroom disciplinary climate by one standard deviation is associated with an improvement of around 25 to 35 points in mathematics, which corresponds to around three-quarters of a year of schooling (Table 3).⁸ Even after accounting for differences in age, gender, and socioeconomic factors between students and between schools, disciplinary climate is one of the variables with the largest explanatory power for student performance. The effect of disciplinary climate on students is more easily demonstrated when considering the extent and frequency of classroom disruptions. There is indeed a robust correlation between the disciplinary climate measure derived from the PISA questionnaire and students' performance as measured by the same survey. A robust positive relationship between disciplinary climate and students' performance has been observed since the first wave of the PISA survey in 2000.

⁸ Mathematics performance tends to be less determined by socioeconomic factors and thus more sensitive to changes in pedagogy and features of the education system, which is the reason why mathematics performance rather than reading or average performance is used in this analysis.

Table 3. Marginal Impact of Social Factors and Disciplinary Climate on Mathematics Performance (PISA)

	2000	2009	2012	2015	MENA	Non-MENA
Social factors (individual)	21.6	21.6	20.5	30.0	17.1	21.6
Social factors (school)	63	59.5	57	57.5	55,2	57.9
Disciplinary climate (ind.)	4.1	5	8.9	6.4	6,4	6.3
Disciplinary climate (school)	21.6	23.2	24.8	18.5	39,4	23.1
N. Obs.	93,390	420,565	256,143	345,576	47,856	722,242
R ²	0.43	0.48	0.45	0.51	0,36	0.45

Source: Analysis using PISA 2000-2015. Country-fixed effects are included.

Reading: Pooling data for the MENA countries participating in PISA from 2000 to 2015, an increase in one standard deviation in the disciplinary climate index at the school level is associated, all other things equal, with an increase in math performance amounting to 39.4 points.

School disciplinary climate has been proven to be a major determinant of math performance in countries outside the MENA region as well. For instance, school disciplinary climate had a positive and significant impact in distinct cultural settings using PISA 2003 data in the Republic of Korea, Japan and the United States (Shin and others 2009). Evidence showed that the educational context and pedagogies in these three countries do effectively differ, as competitive-learning preference and mathematics interest were stronger predictors of performance in Korea and Japan while instrumental motivation had more explanatory power in the United States. Using TIMSS data pooled from the participating countries from the same year showed that disciplinary climate, classroom disruptions but also school violence reported by students all have a significant negative impact on math performance.

The benefits of improving disciplinary climate in a MENA school are on average about 50 percent higher than in other regions in terms of students' performance. Although the PISA sample usually contains a limited number of MENA countries, the positive effect of disciplinary climate on mathematics performance here is stronger than in schools outside the MENA region.⁹ Similar results have been found when applying a similar methodology on the TIMSS data¹⁰ (see Table 4). Improvement in the school safety indicator by 3 standard deviations roughly increases math performance by about 25 points. One explanation of the greater importance of disciplinary climate in MENA could be the far more deteriorated climate, which tends to act as a main bottleneck for learning in the region.

The positive association between classroom disciplinary climate and students' performance stems from the fact that fewer disruptions in the classroom increases the effective learning time and time-on-task. While classroom observations were not conducted for this analysis, it is presumed that a major hindrance to student performance in classrooms with high prevalence of disruption is the loss of instructional time, likely as a result of time spent on discipline management. It is unclear how much time is lost in MENA classrooms that have a high occurrence of classroom disruption. However, international evidence shows

⁹ Jordan, Tunisia Qatar, United Arab Emirates, Algeria, Lebanon.

¹⁰ Using TIMSS data, it is possible to relate school safety and students' mathematics performance. Considering gender, age, the use of the language of instruction at home, as well as educational possessions, it is possible to compute a socioeconomic index tailored to the survey. That index is averaged at the school level to take into account peer effects. As students' performance highly depends on their peers' ability, students tend to benefit from being enrolled in a class with affluent peers. A linear model explaining students' mathematics performance is estimated for MENA and non-MENA countries. The disciplinary climate is indeed measured at the individual level while the school safety index is measured at the school level. As the aggregation reduces the variance of the indicator, the variance of the disciplinary climate is indeed about 3 times as large as the variance of the school safety indicator. As one TIMSS point is grossly comparable to one PISA point, it appears that improving the school climate by 3 standard deviations – which corresponds to an increase of the disciplinary climate of one standard deviation – roughly increases math performance by about 25 points.

that limited use of instructional time is a contributor to poor student learning and high levels of student disruption can lead to teacher burnout and decreased effectiveness (Bruns and others 2015; Ptero-Lopez 2009). The majority of classroom observations have been conducted in regions outside MENA; however, a recent example from the West Bank and Gaza may illustrate the importance of teachers staying on task (box 1).

Box 1: Classroom Observations in the West Bank and Gaza

The Stallings’ classroom observation tool established a good practice benchmark of 85 percent of total class time to be used for instruction. In schools across the West Bank and Gaza, territories where students undoubtedly are faced with personal, economic and political stresses, student performance is on average high compared to other MENA countries. The Stallings observations in classrooms find that teachers are spending 90 percent of their time on instruction, 9 percent on classroom-management and only 1 percent time-off-task (Yarrow and others 2014). While this is not indicative of what could be occurring in classrooms with high levels of disciplinary issues, it is suggestive that even in contexts of conflict and fragility, effective teaching practices can ensure high quality of learning. It is also indicative, that students with a higher ability for self-regulation are better able to learn.

Table 4. Marginal Impact of School Safety on Mathematics Performance, TIMSS data 2015

	MENA countries		Other countries	
	Estimated	sd error	Estimated	sd error
Socioeconomic background (individual)	13.1	0.3	21.8	0.4
Socioeconomic background (school)	56.0	2.7	55.7	2.1
School safety	6.5	0.8	8.1	1.0
N. obs.	80,218		150,382	
R ²	0.28		0.48	

Source: Analysis using a linear regression. All coefficients are significant at the 0.1% level. Other control includes country fixed effects, average age of students, share of affluent students, urbanization level. Observations have been clustered at the school level to compute standard errors.

Reading: Pooling data for the MENA countries participating in TIMSS 2015, an increase in one standard deviation in the school safety index is associated, all other things equal, with an increase in math performance amounting to 6.5 points.

The association of classroom disciplinary climate and student performance may be linked with the disciplinary strategies teachers choose to utilize. International research suggests teachers’ disciplinary strategies have influence on student learning behaviors and attitudes (Lewis and others 2005; Roache and Lewis 2011; Shavit and Blank 2012). Classroom management while important may be further examined so that an assessment of teacher strategies to maintain student discipline, focus and motivation can be assessed. Evidence shows that students who are disciplined through more positive approaches (hinting, recognition, involvement, discussion, etc.) versus more coercive approaches (yelling, sarcasm, etc.) tend to be less disruptive and more cooperative with teachers in their class (Lewis and others 2005). This then can improve students’ responsibility toward learning and decrease the emergence of negative attitudes towards learning and teachers. This may explain why some schools are adopting new approaches, that have had positive impacts, to addressing disruptive student behavior including mindfulness programs and mediation in replacement of practices such as detention (Flook and others 2010; Smith and others 2012).

Moreover, exposure to disciplinary climate can differ within a country especially when spatial and social segregation of schools is high, e.g. in countries such as Chile or the United States (Torche and Mizala, 2012). In such settings, differences in disciplinary climate can drive a large share of social inequalities

in academic performance. For instance, research shows that differences in academic progress between African American and white students in the United States can be solely accounted for by differences in disciplinary climate (Arum and Velez 2012). In fact, in schools benefiting from a solid disciplinary climate, African American students have been progressing at the same pace as white students. Such empirical results underline not only that disciplinary climate is a major issue weighing on performance, but that fixing discipline is an efficient tool to boost student performance.

Conclusions and Recommendations

School safety and classroom disciplinary climate directly impact teacher performance and student learning outcomes. Teachers who spend more time on classroom management are less able to direct efforts toward teaching and learning processes. In MENA, classes tend to be disrupted more often than in other regions, and hostile and violent outbursts in the classroom are more frequent. This is alarming, not only because it has a direct impact on learning, but also because it is a plausible reflection of the norms and behaviors students, and teachers, find acceptable to use.

Across the MENA region, teachers are not well equipped to manage highly aggressive and hostile environments. The corporal practices of decades past still resonate with many school teachers and leaders. In many instances, corporal practices are the go-to approach for managing extreme disciplinary problems. For instance, a study conducted in Jordan in 2007 found that, of the 3,130 children surveyed, 57 percent experienced “severe” violence, defined as hitting the child with an object such as a rod, rope, or cane and biting or burning the child. Another 50 percent of the children experienced “mild” violence from teachers or school staff, defined as slapping, pinching, pulling hair, pushing or shoving and twisting arms or legs (Elayyan 2007). Some Palestinian students living in refugee camps in Lebanon were reported to refuse attending school because of the unsafe environment, the violence and unkind treatments they suffered from their teachers (Abu Sharar 2009). While one in four Lebanese students taking part in a school-based health survey in 2005 reported being physically assaulted by a teacher or school staff, and almost 56 percent of students in the Republic of Yemen, aged 12-17 reported being violently assaulted by a teacher or school staff (WHO 2007; Ba-Saddik 2013). Corporal punishment is also reinforced at home, where parents use violent forms of discipline at a higher rate compared to other regions (El Kogali and others 2015).

Teachers in the MENA region mainly receive training on subject content and pedagogical practices, much of which is still enforcing traditional approaches to learning. Training is not provided on student aggression, behavioral, or social problems, and these have now become an even more serious problem with the unfolding refugee crisis, and the increased occurrence of students dealing with trauma or post-traumatic stress. Moreover, aggression prevention programs, and student psychological and social support services are not equitably provided across and within countries. Positive relationships between teachers and students are one means for managing classroom misconduct that has yet to infiltrate teaching practices and policies across the region.

How schools, school leaders and teachers foster positive relationships with students, even when faced with extreme situations of misconduct, is a key determining factor in the ability of a student to perform better (Hamre and Pianta 2001; O’Connor, Dearing and Collins 2011). Positive relationships are more likely to foster self-esteem and to enhance the quality of relationships with peers. As students feel more secure, they are more likely to learn more easily, adopt appropriate norms and behaviors, and feel more confident in raising their own expectations. Moreover, socially disadvantaged students tend to benefit more from positive relationships, perhaps because some may be more likely to experience stress and disrespect in their family environment (Murray and others 2005; Wentzel 2002). Positive student-teacher relationships have been directly connected with high socioemotional skills (Silver and others 2005) as well as decreased behavioral difficulties (Meehan and others 2003; Rimm-Kaufman and others 2009).

Thus, education systems must support positive school learning and social environments that focus on building positive teacher-student and student-student relationships. Schools are a primary context for social development making it a natural point for the development of positive relationships and behaviors.

There are a number of policy responses that may be adopted to support improved school safety and classroom disciplinary climate. The following are recommendations for discussion and planning:

- *Review and develop policies and practices that support safe schools and positive disciplinary approaches.* Such a review would need to focus on both the individual- and school-level practices and policies. At the individual level, introducing measures for students' and teachers' socioemotional and behavioral skills would provide valuable information on where individual deficits may exist and how to direct programming to improve attitudes, behaviors, emotions and skills. Some MENA countries still have not adopted teacher standards or competencies, and those that have them may not include guidance for teachers' disciplinary approaches, and social behaviors and conduct in school. An opportunity therefore exists to take stock of what is there and to design standards, and accompanying practices such as trainings, that will support a safe school environment and disciplinary approaches. Similarly, at the school level, conducting reviews and measurements against standards for schools' physical and social environment may provide insights into where school-level factors may be enhanced.
- *Incorporate into teacher preparation programs (pre-service) modules and practicums on managing student development cycles:* Teacher preparation programs need to incorporate trainings not only on pedagogy and subject content, but they must also prep teachers so that they are better able to handle behavioral and emotional challenges students progress through during their development. This must take into account the different cycles of development, and the varied challenges students in pre-primary or primary school may face compared to students in middle or high school.
- *Use behavioral and emotional assessment outcomes to inform teaching practices.* Identify measurement tools and methodologies to evaluate behavioral and emotional competencies is a difficult task but very plausible given the growing research in this field. Utilizing measurement approaches will help educators refine teaching and learning approaches and provide data that can ultimately guide classroom practices. These types of assessment practices are not intended to be used to promote students through education levels, but rather as a means for teachers to better support students and the learning experience. Various approaches can evaluate students' socioemotional abilities, including peer-to-peer assessments, teacher observations, and self-assessment.
- *Adapt curriculum so that it incorporates lessons and skills to promote and support positive behaviors and socioemotional skills.* Create space for educators to support, facilitate, and foster the holistic development of youth through systemwide endorsement for incorporating socioemotional skills in the curricula framework and learning standards. Curriculum content should reflect national policies clearly, aiming for students' holistic development. Translating this in a manner that teachers can understand and use in their daily classroom practices is key. A clear national curriculum framework will detail the competencies required by students as it relates to each developmental stage. Countries in MENA (as they do elsewhere) might vary their approaches for integrating socioemotional skills education into their curriculum. Some prefer to take a cross-curricula approach while others opt for developing a specific subject for students' socioemotional development.
- *Provide teachers and school counselors with the tools to support child development through all its stages.* Invest in targeted training for teachers and school counselors that will provide them with the knowledge, tools, and behaviors to support students' social, emotional, and behavioral needs. Pre-service and professional development of teachers in MENA could benefit from the incorporation of modules that prepare teachers to deal with the varied stages of children's social and emotional development. Teacher trainings may also focus on important areas, such as psychosocial support, that are highly relevant in MENA's fragile countries and that introduce another gateway to building positive student-teacher relationships.
- *Promote parental and community involvement.* Encourage involvement of the wider school network, particularly from parents and caregivers. The family and community context are an important

contributor to children's socialization, emotional well-being, and behavioral responses. To ensure the sustainability of school-level interventions, it is necessary to reinforce practices at the home level.

As the MENA region evolves and responds to change, the Ministries of Education play a considerable role in preparing for the future. Using education to build on individuals' strengths and invest in their holistic growth can parlay into a resilient citizenry, poised for better life outcomes and significant achievements.

Appendix A.

Comparing Trends in School Safety: The items measuring school safety were not identical in the TIMSS 2007, 2011, and 2015 questionnaire, which may result in concerns about the reliability of the trends generated for school safety.¹¹ To check the robustness of the findings, factor decomposition was used to analyze two distinct indexes of school safety, one for 2007 and one for 2011 using all the variables available. After averaging these two new indexes by country, the trends in these indexes were assessed by country within and across the region. Results revealed that the school safety index in 2011 was lower than the school safety index of 2007 for MENA countries, while the opposite was true for countries outside the region. Computing a difference-in-difference indicates that school safety dramatically dropped in the MENA region before and after the start of the Arab Spring, regardless of the methodology chosen (*Table 5*). The average drop is about half a standard deviation.

Table 5. Comparing Trends in School Safety Between 2007 and 2011 in MENA and Elsewhere

	Safety index of 2007	Safety index of 2011	Difference
Countries outside MENA participating in 2007 and 2011	0.08	0.23	0.14
MENA countries participating in 2007 and 2011 (treatment group)	0.03	-0.34	-0.37
Difference-in-difference			-0.51

Source: Analysis using TIMSS 8th grade data, 2007 and 2011.

Table 6: Pairwise correlations of the PISA disciplinary climate by country and by wave

	2000	2003	2009	2012	2015
2003		0.7884	1		
2009		0.7767	0.813	1	
2012		0.7772	0.7916	0.7874	1
2015		0.5533	0.6377	0.7689	0.781

Source: Analysis from PISA data 2000-2015

¹¹ Eighth grade data were used consistently for the 2011 and 2015 analysis.

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