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Comparison Despite Uniqueness: A Thematic Analysis of the PISA 2022 Results for the United Arab Emirates

مقارنة رغم التفرد: تحليل موضوعي لنتائج البرنامج الدولي لتقييم الطلبة (PISA) ٢٠٢٢ في سياق دولة الإمارات العربية المتحدة

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Abstract

The United Arab Emirates (UAE) participates in the Programme for International Student Assessment (PISA) as part of a strategy to ensure educational improvement and future economic development for the country. The PISA results are presented by comparing every participating country on each test part, most often as a ranking. Different computed indices or relationships are also described within the results, mainly in comparison, and countries that exemplify the patterns or do not fit the patterns are described in the accompanying text. This research was conducted by analyzing each mention of the UAE in the four main results documents for PISA 2022 to understand how the UAE is portrayed and the contextual information provided about the country. Critical thematic analysis (Braun & Clarke, 2017) revealed the uniqueness of UAE schools, students, and PISA results. These three main themes are discussed along with my experience at the UAE PISA 2022 results announcement in December 2023. The article concludes with a discussion of the use of comparison despite the uniqueness of the UAE, the implications for using the PISA results considering the differences of the UAE, the connection to education policy, and how a focus on PISA results may constrain UAE education policy.

الملخص

تشارك دولة الإمارات العربية المتحدة في البرنامج الدولي لتقييم الطلبة (PISA) كجزء من استراتيجيتها الهادفة لتحقيق نهضة تعليمية ودفع عجلة التنمية الاقتصادية المستقبلية. تُقدّم نتائج PISA في إطار تنافسي، حيث تُصنف الدول المشاركة وفقًا لأدائها في كل محور من محاور الاختبار. وتتجاوز هذه النتائج مجرد التصنيف لتشمل تحليلاً عميقًا لمؤشرات وعلاقات إحصائية متنوعة، مسلطة الضوء على الدول التي تجسد الاتجاهات السائدة أو تنحرف عنها بشكل لافت. يستند هذا البحث إلى تحليل دقيق ومنهجي لكل إشارة وردت عن دولة الإمارات في الوثائق الرئيسية الأربع لنتائج PISA ٢٠٢٢ ، ويهدف هذا التحليل إلى استكشاف الصورة المرسومة للدولة الإمارات وفهم السياق الخاص الذي تقدم فيه المعلومات عن الدولة. وقد كشف التحليل الموضوعي النقدي، المستوحى من منهجية براون وكلارك (Braun & Clarke, ٢٠١٧) ، عن ثلاثة محاور رئيسية تبرز التفرد الإماراتي: خصوصية المدارس، تميز الطلبة، وفرادة نتائج PISA في السياق المحلي. يتعمق البحث في استكشاف هذه المحاور الثلاثة، مدمجًا فيها رؤى مستقاة من تجربتي الشخصية خلال حضوري إعلان نتائج PISA ٢٠٢٢ لدولة الإمارات في ديسمبر ٢٠٢٣. ويختتم المقال بمناقشة مستفيضة حول مدى ملاءمة استخدام المقارنات الدولية في ضوء الخصوصية وتفرد الحالة الإماراتية، والآثار المترتبة على توظيف نتائج PISA مع مراعاة السمات المميزة للنظام التعليمي الإماراتي، العلاقة الجدلية بين نتائج PISA وصياغة السياسات التعليمية، وتأثير التركيز المكثف على نتائج PISA في توجيه وتقييد مسار السياسة التعليمية في دولة الإمارات العربية المتحدة.

Keywords: *Education policy, Comparative education, Standardized testing, Programme for International Student Assessment (PISA)*

الكلمات المفتاحية: (PISA) سياسة التعليم، التعليم المقارن، الاختبارات القياسية، البرنامج الدولي لتقييم الطلبة

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1. Introduction

The United Arab Emirates (UAE), in recent years, has shifted away from its oil-dependent economy and re-oriented toward a knowledge-based economy focusing on educational deficiencies as a barrier to change with educational reform as the solution (O'Sullivan, 2016; Wiseman et al., 2014). Starting with the UAE's *Vision 2021* and continuing with the *UAE Centennial Plan 2071*, new priorities for the country, including excellent education, future-focused government, a diversified knowledge economy, and a happy and cohesive society, have guided government initiatives (UAE, 2024a). Explicitly mentioned in the *Vision 2021* and implicit in the *UAE Centennial Plan* are goals for international competitiveness in education, including high achievement on internationally benchmarked standardized tests like the Programme for International Student Assessment (PISA) operated through the Organization for Economic Cooperation and Development (OECD).

Although the OECD member countries are primarily the European Union countries, the group also includes Australia, Canada, Israel, Korea, New Zealand, Mexico, the United Kingdom, and the United States. Twenty-two other countries or regions, including the UAE, participate as *partner countries or economies*. In the UAE, PISA and internationally benchmarked standardized tests are described in government documents as allowing "a complete transformation of the current education system. It will also help decision-makers monitor the progress of our country in achieving the UAE Vision 2021 towards First-Rate Education" (UAE Ministry of Education, 2018).

The UAE has consistently ranked low, and for the 2022 test, the UAE was ranked in the bottom half of the 81 participating countries for mathematics (43rd), reading (48th), and science (47th), with scores labeled *significantly below the OECD average* for each section (OECD, 2023b). The UAE has invested heavily in PISA as the government enabled 24,600 students to participate in the 2022 PISA sample (OECD, 2023a). For the 2022 PISA administration, 690,000 15-year-olds in 81 countries participated, for an average of 8625 students per country, and the UAE was well above that, with 24,600 students in 840 schools participating (OECD, 2023a).

The message by the Ministry of Education has been focused on the importance of international standardized tests for understanding the local system with statements like

International Assessments help to:

– Assess the knowledge and skills of students and compare them globally with the huge numbers of students participating from various countries;

–Find the relationship between the student's performance and factors surrounding them, such as school home environment and social relationships;

–Measure changes in the level of student's performance over time; and

–Shed light on the education policy. (UAE Ministry of Education, 2021)

The Ministry of Education's promotion of involvement in PISA has gone beyond understanding the students and more aimed toward engaging with extensive global comparison. Parents were sent a brochure titled "International Assessments: Our participation is part of our loyalty to our country. Let

us leave a clear fingerprint on the world map" (UAE Ministry of Education, 2021). These statements about the UAE's purpose for participating in PISA demonstrate that the results are intended not only for students, but for education policymaking and for showcasing the progress of the UAE on the world stage. Participation in PISA affects the UAE education system as school officials and teachers modify their practices to improve scores (Morgan & Ibrahim, 2020). However, the results are often presented with little guidance about the next steps, leaving schools in the region unsure of how to proceed (Morgan, 2018).

The PISA reports include significant contextual information beyond the mathematics, reading, and science tests. The participants and school administrators also answer questions about the students' characteristics and perceptions of the school and teachers. Using the data from a wide variety of items and schools worldwide, the results documents include many computed indices and describe connections between other information and the PISA scores. The PISA results data is presented primarily in comparison with other participating countries and with some comparison of the country to its previous results. Notably, there is a significant lag between the administration and the results, with the 2022 results being announced in the UAE in December 2023. In addition, each cohort of students who take the PISA test is different, making comparisons even within the country difficult to gauge the progress of individual students.

Comparison is a prominent feature of PISA results data, and the effect of this comparison has been described by many, including Sellar et al. (2017), as promoting a "global education race" through comparison and rankings. The uniqueness of the UAE seems to potentially undermine the usefulness of PISA data, especially if it is presented with significant comparisons. A closer look at how the UAE is portrayed in the PISA results documents may help understand if this comparison is useful and how informative the PISA results can be for reforming the education system in the UAE.

1.1. The Context of PISA in the UAE

The UAE is an empirically fascinating country, particularly in its education system. The system includes a high expatriate population, multilingual students, a school system of government schools for Emirati students, and a separate private school system with a high diversity of students, schools, and governance. Gleaning an understanding of this complex system from PISA results has the potential to explain the low scores of the UAE and the differences between the UAE and other participating countries.

The OECD launched its international comparative test, PISA, in 2000. The test aims to assess 15-year-old students worldwide on their mathematics, reading, and science skills, with optional parts on financial literacy, creative thinking, problem-solving, well-being, and global competence (OECD, n.d.). The test is intended to assess students' skills without specific reference to their curriculum but as an indicator of future economic opportunities and needs for their adult lives (OECD, 1999). From the start, the stated purpose of PISA was to create an international context within which to understand national results, provide direction to schools and teachers, and "monitor achievement levels even when administration is devolved and schools are being run in partnership with communities" (OECD, 1999). PISA seems to have grown out

of an international trend of national governments with little direct control over schooling but a desire for those governments to "steer from a distance" (Sellar & Lingard, 2017). The UAE is an example of a system with little centralized control but intense incentive and accountability-based approaches, including widely publicized school evaluation data (Shafiq, 2011). It seems like a natural fit that the UAE has engaged significantly with the PISA test and incorporated it into its education monitoring approach.

The UAE has integrated PISA testing into its national strategy, education accountability practices, and popular discourse about educational quality in the country. In local media, there is a focus on the low scores of the UAE compared to the OECD average and demonstrations of how the UAE outperforms other countries in the region (Morgan, 2018). The Vision 2021 goal to be in the top 20 countries in the 2022 round of PISA is prevalent in news media ("PISA Results Show", 2019; UAE, 2024b). The Ministry of Education plans to use the PISA results to transform the UAE education system and as progress monitoring toward national education goals (MOE, 2024).

While not an OECD member, the UAE has invested significantly in PISA testing. From their first participation in PISA, the UAE has gone far beyond the goal sample size of 35 students from 150 different schools and instead included 350 schools labeled as "Dubai (UAE)" for the 2009 PISA test (MOE, 2010). In the years since, the sample has grown significantly. For the 2022 test, aiming for representativeness in all seven emirates and sampling to compare private schools versus government schools, the UAE sample included 24,600 students in 840 schools, estimated to represent 94% of 15-year-old students (OECD, 2023a).

Educational data is often used to make policy decisions within a country, resulting in changes to the country. Wiseman (2010) describes three main perspectives on using data: a technical–functional perspective, a sociopolitical perspective, and an institutional or organizational perspective. The first perspective is to use data to improve classroom instruction, the second is to use educational data to advance a political agenda, and the third is that policymaking based on data gradually becomes enveloped in organizational processes. Looking at the uses of policy in the UAE, Morgan and Ibrahim (2020) found significant investments by principals, teachers, and students to make changes within schools to improve PISA scores. Within schools, practice sessions for PISA were held, and students were trained to be better test-takers alongside reverse engineering the school curriculum to lead to PISA improvements. School and national announcements aimed at influencing families prompted parents to ensure student attendance at school to improve PISA scores, and school officials noted working hard to instill a sense of the importance of the tests in parents (Morgan & Ibrahim, 2020). Overall, the efforts for high test scores were found to be aimed at proving the UAE as an advanced economy, on par with Western countries, and UAE students as globally competitive (Morgan & Ibrahim, 2020).

Based on previous PISA test scores, the OECD recommended a broad range of education policy changes, including increasing early childhood education, remedial education for illiterate adults, ongoing professional development, gender parity in employment, and inclusion of special needs adults (OECD, 2015). The range of recommendations was accompanied by the claim that by raising PISA scores—up to what the OECD considers the minimum for work participation in industrialized countries—the UAE

would more than triple its gross domestic product (GDP) with a lifetime economic output of more than $3 trillion (OECD, 2015). The connection of PISA scores to more comprehensive social programs and generalizing improvements beyond 15-year-olds in the schools, then attempting to apply results to GDP increases, demonstrates the sociopolitical discussion of the data. The UAE has included such a large sample of students for PISA to be able to make school-level policy decisions based on the results, to use the country ranking as a political tool to prove the quality of schools, and to integrate the use of PISA data into the country's understanding of educational quality fitting the three perspectives on data usage noted by Wiseman (2010).

Success on PISA has been framed as an absolute necessity for the UAE. During a visit to the UAE in 2015, the Director of Education and Skills for the OECD, Andreas Schleicher, assured government and education leaders that the UAE would be among the top performers in the world if policymakers adhered to the educational reforms needed to succeed on PISA with Schleicher quoted as saying, "The benchmark for educational success is no longer merely improvement by local or national standards, but the best performing education systems internationally" (Salama, 2015). The UAE's orientation toward achieving high PISA scores and ranking has been a goal within the country, based on comparison against other countries, and reinforced by the OECD that this is the right track for the country to compete on the global stage in education, and therefore, ensure the economic growth of the country in the future.

2. Literature Review

Researchers have noted that integrating international rankings into local policy has consequences. Grek (2009) explained that rankings are not neutral observations, as they create comparisons and the illusion of a standard metric across contexts. International comparisons have created a "global gaze" (Sellar & Lingard, 2014) as national governments use PISA and other data outside the national context to make decisions for local education policies. Bailey (2022) has described how the global gaze influences context-specific decision-making and molds the educational identity of a country as part of its "eduscape." This has often been called policy mobility, as policies move through sites and change the landscape of education (Ball, 2016). PISA results have been influential as local education decision-making can be informed or constrained by global processes (Gulson et al., 2017). Schleicher (2009) has argued that the strength of the comparative data of PISA is that it allows countries to see their differences, enabling educational reform and transformational change to occur. He has claimed that this comparative benchmarking is more powerful than education legislation, rules, and regulations (Schleicher, 2009, p. 100).

In research conducted in the Arabian Gulf region, Morgan (2018) found that rankings portrayed globally comparative data as the most accurate and objective representation of schools while eclipsing the alternative locally-specific solutions guiding educational reform. Due to the narrowed focus, randomized, controlled results conducted by a third party and disconnected from context may appear better to find a cause for a problem, then create what seems like a prescription with clearly available solutions, even when the data is insufficient (Wiseman, 2010). Quantitative educational data like PISA often lacks

contextual elements and omits the uniqueness of each country, which may lead to oversimplification, misunderstanding of local needs, and unsuccessful remedies, undermining teachers' professional judgment and ignoring the importance of process in education (Biesta, 2017).

The dissemination of PISA results demonstrates a culture of comparison that is intentionally disconnected from local policy, local context, and the idiosyncrasies of a particular place. Previous research has shown this to be problematic. The findings from PISA have created a constant stream of information about countries and education, mostly through comparison (Gulson et al., 2017). Significant research has found that context matters to such an extent that global comparative quantitative research is rarely sufficient for solving local education problems (Crossley, 2014). In the UAE, Matsumoto (2019) has described the cultural mismatch that occurs as the UAE attempts to borrow education policy approaches from other countries. While the UAE and other Middle Eastern countries examine comparisons and draw conclusions about their schools, there is little explanation of the comparative data or guidance about the next steps for schools (Morgan, 2018).

Despite these limitations, countries use PISA and other metrics to position themselves within the global education context and to legitimize national reforms. Researchers who examine policy borrowing identify when a national education system engages in *externalization*—judging their own system compared to other countries—and it is often during times of increased policy contestation within the country (Steiner-Khamsi, 2014). PISA results may allow a country to distinguish itself from others, inform how policies can be borrowed or translated from other contexts, and generate meaning about its identity (Steiner-Khamsi, 2021). Results are often used to add credibility to a current educational agenda, present an imagined future, or add context to less desirable results, creating a narrative about a country's education system that makes decontextualized results more palpable (Waldow & Steiner-Khamsi, 2019).

It then becomes interesting to see how the UAE is framed within the PISA data. By looking at the instances in the PISA results documents that mention the UAE and the context that these provide, the PISA results documents demonstrate potential problems in the decontextualized comparative data. For the UAE, the idiosyncrasies of the country, its students, and the results that students in the UAE achieve can be analyzed to understand how comparison is used to portray the UAE and to analyze the implications of continuing use of PISA data.

3. Methodology

The methods for this research were document analysis and analysis of my observations during the PISA Announcement of Results event for the UAE in December 2023. The four documents analyzed were PISA 2022 Results Volume I: The State of Learning and Equity in Education (OECD, 2023b), PISA 2022 Results Volume II: Learning During – and From – Disruption (OECD, 2023c), the UAE-specific document PISA 2022 Results: Factsheets-United Arab Emirates (OECD, 2023a), and PISA 2022: Insights and interpretations (Schleicher, 2023).

A critical thematic analysis was conducted (Braun & Clarke, 2012) to develop themes based on how the documents portrayed the UAE. To understand the UAE results and context, every mention of the UAE in the documents was recorded. Excluded from the analysis were repeated mentions of the same information, mentions in tables or charts that included the data for all participating countries, methodology footnotes, and mentions that were lists of many example countries without any other information, for example, "The 13 countries/economies that distributed the well-being questionnaire were Brazil, Hong Kong (China), Hungary, Ireland, Macao (China), Mexico, the Netherlands, New Zealand, Panama, Saudi Arabia, Slovenia, Spain and the United Arab Emirates" (OECD, 2023c, p. 60). The cases were retained when the UAE was mentioned alone or with a few other countries as a unique case, to explain differences, or to exemplify a pattern. Each mention of the UAE was paraphrased for content, and noted for how many countries were listed. From these paraphrases emerged sub-themes of admissions, gender gap, immigrants, parents, performance gap, private schools, public vs private, quality assurance, questionnaire sleepers, school autonomy, socioeconomic status (SES), student behavior, teachers, and technology use. The main themes of results, school characteristics, and student characteristics emerged. After the exclusions, 70 mentions of the UAE were retained. The mentions tend to demonstrate when the UAE differed notably from a trend, was among the most notable participating countries, or was comparatively unique.

The OECD publishes and commissions significant research based on the PISA test results, continually increasing the test's scope, scale, and explanatory power (Sellar & Lingard, 2014). Research published about PISA tends to be secondary data analysis, often looking at affective variables, technical analysis like critiques of the constructs or bias, and impact or policy studies looking at governance, policy borrowing, and accountability structures (Hopfenbeck et al., 2018). This study fits within that third category, analyzing the implications of relying on PISA for knowledge and policy guidance (Grek, 2010) and informed by comparative policy analysis using systems theory to understand policy borrowing influenced by Steiner-Khamsi (2004, 2021, 2014) and Waldow and Steiner-Khamsi (2019).

The impetus of this research was my attendance at the official UAE PISA 2022 results announcement event in Dubai on December 6, 2023. I took notes on the presentation, photographs of the event, and wrote commentary about my experience. My observations are included in the discussion for this article.

4. Findings

Analyzing the text of the PISA results documents makes it clear that the UAE is a fascinating case. Most of the mentions within the text for any country were comparison charts or graphs that listed and categorized all the participating countries. In the Results Volume I (OECD, 2023b) and Volume II (OECD, 2023c) documents, every country was listed in nearly 100 charts and graphs. At the end of the document, each participating country is allocated one page devoted to their specific mathematics, science, and reading scores across the years that they have participated in PISA. In Results Volume II (OECD, 2023c), there were many instances where scores worldwide were compared with another indicator, for example, mathematics scores compared against students' self-report of time spent on digital devices in school

for leisure or learning purposes (OECD, 2023b, p. 194). In those instances, the individual countries were not named. However, most of the charts and graphs in the results documents compared countries, with the vast majority listing every participating country. When individual countries were listed separately from the charts, it was most often because they exemplified something noteworthy, they did not fit a trend, or the country showed some uniqueness. The UAE was among the most often mentioned countries, with 70 codable mentions. Looking at three other randomly chosen countries, Iceland was mentioned approximately 55 times outside of charts and graphs in the Volume I and II documents, Thailand approximately 46, and Mexico had around 23 mentions. While Iceland seemed to have a number close to the UAE, many of their mentions were due to a technical problem during the PISA 2022 administration, nullifying some students' results, rather than anything unique about that country or its context.

Generally, the mentions describe when a country exemplifies a trend or demonstrates something comparatively different from the overall trend of most countries, and the UAE is often listed. The consistent listing of all the countries in the results documents analyzed was juxtaposed with clear indications of the UAE's remarkable uniqueness, indicating that commensuration was probably not informative. While the UAE has engaged in the "global education race" (Sellar et al., 2017), setting goals of outdoing other countries and rising in the PISA rankings, the path forward seems ill-informed by the results of PISA. In many cases where data was presented in areas the UAE could hope to improve, there was also an explanation about an idiosyncrasy indicating that *what works* in other countries may not apply to the UAE. The findings for this study analyze the mentions of the UAE under the main themes of the uniqueness of UAE students, the uniqueness of UAE schools, and the uniqueness of the results for the UAE.

4.1. Uniqueness of schools

The school system in the UAE is already well-known to be remarkable for its history, growth, and goals (Gallagher, 2019). The 2022 PISA results described this uniqueness in many ways, including school staffing, technology use, the prevalence of private schools, and student behavior at school.

4.1.1. Staff shortages

The UAE was mentioned among the countries experiencing the most severe effects of staff shortages and the connection of staff shortages to low mathematics achievement. It was among 11 notable countries where teacher support and mathematics scores were highly linked (OECD, 2023c, p. 97). Principals were asked to report five aspects of staff shortages: inadequate or poorly qualified staff, a lack of teaching staff, a lack of teaching assistant staff, and poor or inadequate teaching assistant staff. These were combined in the PISA analysis to make a staff shortage index, which was then compared with mathematics scores while accounting for the SES of students and schools. When each of these aspects was analyzed separately, the UAE had the largest negative correlation with mathematics scores on each component, meaning that there was a stronger relationship between these staff shortage index items and low math scores than in any of the other participating countries (OECD, 2023c, p. 171).

While each component had a mix of different countries, the UAE consistently had the strongest relationship and was uniquely the only country mentioned in more than two components. Thirty-six countries reported more staffing shortages in public schools than private schools, and the UAE was noted as one of eight countries with the largest disparities in shortages of staff and as one of eight countries notable that these disparities were related to the lower SES of the schools (OECD, 2023c, p. 171). On a positive note from school leadership, principals in the UAE were among the four countries most likely to report participating in education leadership actions (OECD, 2023c, p. 217). The UAE was mentioned as one of only two countries where, compared to 2018, fewer principals found that lack of staff hindered instruction (OECD, 2023c, p. 171).

4.1.2. Technology use

Looking at technology, the UAE was also unique. Comparing public schools to private schools, the UAE was one of only nine participating countries where public schools reported a higher ratio of computers to students and rural schools had a higher ratio of computers to students than urban schools (OECD, 2023c, p. 182). The UAE was also noted as one of 12 countries where 90% of students in the sample attended schools where teachers said they have enough time to prepare lessons integrating technology and one of 12 countries where >80% of students attended schools with a sufficient number of technical staff (OECD, 2023c, p. 183). UAE students reported significant confidence in online learning, and the UAE was one of only five participating countries demonstrating that trend (OECD, 2023c, p. 72). These positive attributes in the UAE may be related to the differences between the types of schools, professional development offerings for teachers, and the increasing investment in government schools, which are equal in urban and rural areas (MOE, 2017).

The trend of technology access was unique in another way as the UAE was also mentioned as one of four countries with the largest disparity of the ratio of tablets to students in favor of economically advantaged students (OECD, 2023c, p. 182). Interestingly, the UAE was also mentioned as one of 13 countries where two-thirds of students attended schools with mobile phone bans and one of only six countries where public schools were more likely to ban mobile phone use during school hours than private schools (OECD, 2023c, p. 185). This trend demonstrates just one of the unique aspects of the country's private and public school differences.

4.1.3. Private schooling

The UAE was noted as significantly unique for the prevalence of private schooling in the country, and this was mentioned many times in the PISA documents. The UAE was described as one of five notable participating countries with a long history of private schooling, one of only 11 countries where more than four in ten students attended private schools, one of only four participating countries where independent private schools were frequent, one of only two countries with the largest share of for-profit independent

schools, and—most notable of all of the participating countries—that nearly 50% of all UAE students are educated in for-profit schools (OECD, 2023c, p. 221). The schools in the UAE are also remarkable for the attributes accompanying this highly privatized system. In the documents, UAE schools were shown to be notable for their high amount of autonomy and control over processes. UAE schools were mentioned as one of ten notable countries with high amounts of school autonomy, particularly as one of four countries with autonomy over curriculum and as one of six countries where schools have more autonomy over curriculum decisions than resources (OECD, 2023c, p. 211). Similarly, the UAE schools were mentioned as one of only nine participating countries where student background can be considered for admissions (OECD, 2023c, pp. 229–230). The UAE demonstrated a unique pattern of schools with significant autonomy for many choices about student selection, curriculum, and processes, but closely regulated through quality assurance processes. The UAE was mentioned as one of 11 countries where quality assurance mechanisms were not only present but highly prevalent (OECD, 2023c, p. 238).

While the ubiquity of private schools and their characteristics add to the uniqueness of UAE schools, it also sets up a remarkable comparison between the government and private schools in the country. The UAE was mentioned for the unique differences between its government and private schools. It was noted as one of only three participating countries where standardized testing was more common in public schools than in private schools (OECD, 2023c, p. 235) and one of only three countries where students in private schools outperformed public school students in mathematics (OECD, 2023c, p. 222). Other facets of the uniqueness of results are discussed in the section 4.3.

4.2. Behavior at school

One final aspect of uniqueness for UAE schools was found in the data reported about student behavior, bullying, and suspension. The UAE featured significantly in these sections and was mentioned as one of eight notable countries where >15% of students reported being exposed to frequent bullying (OECD, 2023c, p. 108). UAE schools were also noted as one of only three countries where one-fourth of students who reported missing school for long periods were out of school due to suspension (OECD, 2023c, p. 114). However, a very different pattern was noted as the UAE was remarkable as the only participating country where female students were less likely to report feeling unsafe in schools than male students (OECD, 2023c, p. 107). This is potentially related to the prevalence of gender segregation in government schools. The UAE was mentioned as one of two participating countries where boys and girls were commonly isolated in their classrooms (OECD, 2023c, p. 149). The implications of the uniqueness of the students and the schools were evident in the uniqueness of the results.

4.3. Uniqueness of students

The students of the UAE were prominently mentioned in the PISA documents for their uniqueness among all the students who participated in PISA. The uniqueness was noticeable related to several topics:

the prevalence of immigrant students, family effects on students, student time out of school, and the prevalence of student *sleepers*.

4.3.1. Immigrant students

The students in the UAE are an empirically interesting group due to the high population of immigrants in the country. In the PISA documents, it was noted that, of the participating countries, only two countries had a student population composed of >50% immigrants, and only five countries, including the UAE, had a 5% higher population of first-generation immigrants than second-generation immigrants (OECD, 2023b, p. 207). The UAE was also mentioned as one of only three participating countries where the share of immigrant students declined between 2018 and 2022 (OECD, 2023b, p. 209). This may be due to families who migrated back to their home countries during COVID-19. The highly mobile expatriate population in the UAE and the comparatively low population of Emirati nationals are reflected in the school population. This unique immigrant population was noted for the differences they experienced during COVID-19 online learning. In only eight countries, immigrant students were more likely to have schools that acted to maintain online learning (OECD, 2023c, p. 85).

The results were also analyzed to consider the segregation of immigrant and non-immigrant students between schools, which the OECD calls an *isolation index*. The UAE was mentioned as having the most isolated students out of seven remarkable countries (OECD, 2023c, p. 148). This means that immigrant students are concentrated in schools with fewer non-immigrant students to a greater extent than any other participating country. In the context of the UAE, Emirati national students and children of Emirati mothers have free access to the government school system, but nearly all expatriate students pay for private schools. The UAE system is characterized by a wide variety of curriculum choices, fees, and student body, with some schools very diverse and others concentrated with students of a specific national identity. The government schools tend to be populated only by Emirati nationals and children of Emirati mothers, while private schools have a mix of students, including some Emirati students. This approach differs significantly from many countries where immigrant students are integrated into government schools.

4.3.2. Family effects on students

The uniqueness of the student population relates to the uniqueness of families in the UAE. Five countries were noted in the PISA documents for the significant variation across schools for students whose home language did not match the test language (OECD, 2023c, p. 149). The UAE conducts the PISA test in Arabic and English, but many students do not speak either of those languages as their first language at home. This relates to the concentration of immigrant students in some schools and Emirati, Arabic-speaking students in other schools.

The UAE was noted for being unique in parental involvement. Principals reported how much parents were involved with school activities. While in most participating countries, parental involvement decreased

significantly since the 2018 results, the UAE was mentioned as one of six notable countries where parents were found to be more involved than before (OECD, 2023b, p. 232). This involvement was unique as the UAE was one of just six countries where the increase was because of higher rates of involvement in teacher-led discussions (OECD, 2023c, p. 115).

4.3.3. Students outside of school

The student population was also unique because of the expectations of how students spend their time out of school and why they miss school. In only nine countries, including the UAE, >30% of students reported work obligations in the home, family businesses, or on family land. Across many participating countries, long-term absenteeism was noted to be an increasing problem, however, the UAE was unique with only a few other countries for the reasons for absence. The UAE was mentioned as being one of only seven countries where students were likely to miss school because of a lack of transportation and one of only three countries where students were likely to miss school because of the expense of school fees (OECD, 2023c, p. 114). Both exceptionalities are likely due to the unique school system of private schools. With a free choice of private schools, students are not guaranteed a place in the geographically closest school. Parents can choose schools based on fees or location, but the PISA data suggests that many parents struggle with paying for fees or transporting students to school, which has consequences for school attendance. The connection of PISA results to school-based assessments or other standardized tests was not mentioned in the PISA documents, however, one uniqueness of the UAE was connected to other indicators. The UAE was mentioned as one of 12 countries where 5% of students repeat a grade more than once. The reasons for multiple repeats are connected to absenteeism, being an immigrant student, experiencing bullying, and being a lower-achieving male student (OECD, 2023c, pp. 142–143).

4.3.4. Sleepers

The UAE students had one more unique trend evident in the documents. One of the strategies to ensure the reliability and validity of PISA data was an analysis of *sleepers*. In the reading test and on questions of students' sense of belonging, UAE students were found to be among a few countries where students were not paying close attention when filling out the test. In the reading test, the UAE was among four countries where students did not notice when yes and no answers were flipped in position (OECD, 2023b, p. 303). On questions about their sense of belonging in schools, UAE students were among 11 countries where students gave identical responses to reversed direction questions (OECD, 2023b, p. 304). These were unique enough to merit discussion within the larger PISA documents and demonstrate students' test-taking skills. While the students and the characteristics of their schools are unique, the final finding is how this connects to the UAE's unique results.

4.4. Uniqueness of results

Lastly, the documents portrayed the UAE as a unique country based on the results of the UAE students. While all countries were mentioned throughout the documents for their mathematics, reading, and science scores, along with different indices, the UAE was often listed as a unique case. There were four areas where the UAE was often mentioned in discussions of performance gaps, specifically gaps related to gender, SES, comparisons of high performers to low performers, and the results for immigrant students.

4.4.1. Performance gap and gender

For UAE students, the results for sections of PISA were often different from the expected patterns. For example, when comparing the results of male students to female students, the UAE data often demonstrated different trends than most countries worldwide. This deviant pattern was mentioned many times in the OECD documents. The UAE was mentioned as one of only seven participating countries where female students outperformed male students in mathematics (OECD, 2023b, p.124). This outperformance was mentioned as two-fold, where the best female students outperformed the best male students, and the weakest female students outperformed the weakest performing male students in mathematics. The UAE was among only three countries that portrayed this trend (OECD, 2023b, p. 123). While overall, the UAE fit the general pattern of many countries was that female students outperformed male students in reading, the UAE was among the eight countries with the widest gap in performance between the two groups (OECD, 2023b, p.124).

4.4.2. Performance gap between low and high performers

When looking at the performance gap between high and low performers, the UAE was among six countries with the largest variation in mathematics performance, with a standard deviation of >95 points (OECD, 2023b, pp. 60–61). The UAE was listed as one of only three participating countries where the mean mathematics score stayed the same since the last administration of PISA but the gap between high and low performers widened (OECD, 2023b, p.189). In what seems contradictory at first glance, the UAE was one of only two participating countries that increased the number of high performers in mathematics (OECD, 2023b, p. 182). However, more details about mathematics performance emerge in the analysis comparing the effects of schools. The UAE was mentioned as one of 10 countries where the differences between schools account for >50% of the variation in mathematics performance (OECD, 2023b, p. 63). Combined, this demonstrated the unique performance of students in the UAE, where low performers' scores dropped so dramatically that it balanced out an increased number of high performers in mathematics.

4.4.3. Performance gap between immigrant and nonimmigrant students

As mentioned in previous sections, the UAE has a very high percentage of immigrant students. The UAE was mentioned as one of nine participating countries where immigrant students outperformed non-immigrant students in mathematics (OECD, 2023b, p. 216). Furthermore, the UAE was identified as the most remarkable case where a performance gap in mathematics in 2012 became even larger by 2022 where immigrant students outperformed non-immigrant students when accounting for student socio-economic status and language spoken at home (OECD, 2023b, p. 220). The OECD documents described the UAE, Macao, and Qatar as outliers because >50% of the student populations are composed of immigrants. However, even these three outliers are very different to their mathematics performance, as Macao performs among the best of the participating countries, while the UAE and Qatar are well below the OECD average (OECD, 2023b, p. 214). The UAE was remarkable as one of only eight participating countries where disadvantaged students were more likely to come from non-immigrant families (OECD, 2023b, p. 206). This is just one of many notable characteristics of how SES affects results uniquely for the UAE.

4.4.4. Performance gap and socioeconomic status (SES)

In the OECD documents, SES was discussed significantly along with results, and the UAE was mentioned often in these sections. SES is a commonly used indicator of wealth. However, due to vast differences in wealth between countries, the OECD documents report the analysis of SES within each country rather than between different countries by comparing scores between the wealthy and less-wealthy students within a country. The UAE was mentioned as one of six participating countries with the least variation in SES between students (OECD, 2023b, p. 113). While most countries demonstrated a significant relationship between SES and mathematics scores, the UAE was among only 14 participating countries where SES was not a good predictor (Schleicher, 2023, p. 20). While this predictive power was low, the UAE was still used in comparisons, and other details about mathematics performance were evident.

While the gap between less advantaged students and more advantaged students in mathematics stayed the same in most countries, the UAE was found to be one of only five countries where the gap due to SES narrowed (OECD, 2023b, p. 27) and in other parts of the documents, the UAE was listed as one of seven countries where the gap narrowed (OECD, 2023b, p. 226; OECD, 2023c, p. 250). Unfortunately, this shrinking difference in mathematics scores was not due to less advantaged students achieving higher scores; it was due to more advantaged students performing worse in mathematics, and the UAE was one of only three participating countries where this was the case (OECD, 2023b, p. 226). The OECD documents carefully explain that a smaller gap between scores does not necessarily indicate a more equal school system. Instead, it can result from more advantaged students failing to make the expected improvements. The UAE and Argentina were listed as two participating countries where underachievement of high achievers occurred (OECD, 2023b, p. 165).

4.4.5. Results and time at school

In the results documents, a significant section analyzed the relationship between school time and results. The UAE was mentioned as one of 11 participating countries where students spent more than 27 hours per week in class (OECD, 2023c, p. 189). This particular finding was remarkable because the data from all the countries did not seem to show any trend. The UAE was listed among a unique set of countries that spend more time per day in school, but those countries do not necessarily achieve higher scores. Four pages of information were included analyzing this trend and trying to make sense of the lack of a straightforward story with context about the quality of class time, the other activities that students may be involved in, and idiosyncrasies of different countries that would contribute to higher performance when students spend less time in class. This mention demonstrates one of the significant issues of the importance of context when trying to understand the results.

5. Discussion

Considering how the UAE is portrayed in the PISA documents, the uniqueness of the UAE brings into question how the results can be used in the country and the effects of focusing on PISA improvement as a goal.

5.1. Comparison despite uniquness

The uniqueness of the UAE's results brings into question how the results can influence the UAE's system and policy reactions. At the UAE PISA official results presentation in December 2023, the UAE Ministry of Education director of assessment, Hessa Al Naimi, stated that PISA was a "crucial tool for enhancing the education system." She encouraged listening to the presentation of results so we could "impart on a journey of discovery and innovation" to improve the results on future PISA tests. The primary suggestions from her presentation were that the UAE needed to reduce absenteeism and focus on low-achieving mathematics students, particularly students in government schools and male students. Based on the 2022 PISA results, many countries demonstrated difficulties with absenteeism post-COVID-19, and math scores had decreased in many countries. This left the question: Who should the UAE emulate or compare to? If every country was struggling, what was the course of action?

The UAE has consistently engaged in education policy borrowing (Mohamed & Morris, 2021). However, with so many exceptions for why a comparison is not useful, there seems to be little room for the expected competition, learning, or emulation mechanisms of policy borrowing (Jude et al., 2021). While high-performing PISA countries are often the focus of policy borrowing, countries like the UAE often engage in *cherry-picking* and reshaping policies from those high performers to match the government's current ideology (Winstanley, 2013), not necessarily engaging in careful policy learning or analysis.

The comparisons in the results documents and highlighted in the presentation of the results gave little information about which countries the UAE should be more like, which policies that the UAE could adopt

from other countries were causing higher schores, or how they could be implemented. If policy borrowing is intended to solve issues like a widening gap between immigrant and non-immigrant students or a gender gap, there seemed to be no comparable countries to emulate. Breakspear (2014) notes a "growing misguided tendency" for countries to pick out single policies from high-performing countries, disregarding context or policy coherence (p.10). As Steiner-Khamsi (2021) has noted, "no universal consensus has been established on why some school systems do better than others on tests such as PISA" (p. 812). It seems unlikely that the UAE can successfully borrow policies from other countries to solve these problems when its versions of the problems are so unique.

The uniqueness of the UAE is not a surprise, as previous research in the UAE has demonstrated the influence of various factors on PISA results. Researchers have examined how SES (Buckner, 2017), the mismatch of teachers' national origin and student background (Buckner, 2018), and the interaction of gender, school type, and national origin of students (Marquez et al., 2022) all have a significant impact on PISA results. Within the PISA documents, overly general statements of patterns and deviations from patterns superficially compare countries with simplistic explanations and little nuance. The results from PISA visually rank each country as "decontextualisation, commensurability and policy orientation have been the key ingredients contributing to its success" of being perceived as a true measure of students (Grek, 2010, p. 399). Looking at the uniqueness of students, schools, and results in the PISA documents, the race for rankings has forced the multidimensional playing field of the education landscape into an oversimplified single dimension. Rather than falsely equating vastly different countries with the assumption that they can all meet a specific target, this indicates that more nuance is needed to create useful goals for each country and differentiate the paths to meet those goals. Efforts to conduct further research about the UAE-specific findings may aid education reform more than continuous retesting. The novelty of the test and the shock of the results may eventually wear off, so the change will depend on the education policy processes within the country (Pons, 2017) rather than more results in succession.

However, the results of PISA exist in a context of significant government action to focus on PISA, with the intent of increasing PISA scores, and with a stated goal from *Vision 2021* to be within the top 20 countries ranked by PISA. Recent research in the UAE shows that there has been significant policy attention on government students' PISA achievement. Morgan and Ibrahim (2020) describe how focusing on testing, particularly PISA and the Trends in International Mathematics and Science (TIMSS) tests, influenced principals' and teachers' behavior in UAE government schools. They found that UAE teachers and principals in government schools enacted policies to prepare students to do well on the PISA exams, reorienting them toward the test rather than improving the quality of instruction. Rather than improving the system so that students become high performers, the PISA results were made into the goal, and this was connected with feelings of national pride and proving that the UAE was competitive with Western countries. Emirati principals favored molding the students to become good at the PISA test, while some Western principals felt they needed to find out if the PISA results would reveal something about the UAE education system (Morgan & Ibrahim, 2020). PISA data seemed to have limited usefulness as a diagnostic tool. However, the focus on PISA interacted with the system, changing the

actions of principals and teachers to construct the country's educational reputation and be part of the global education race. This fits Bailey's (2022) analysis of how international testing created identities through interplay with context-specific elements within a country's *eduscape*. Performance data and political rhetoric connecting scores to economic security can be used to legitimize significant changes in education (Sellar, 2015). Connecting to Wiseman's (2010) perspectives on using data for policy, it seems that the UAE government schools engaged in the technical–functional perspective influencing classroom teachers' approaches to instruction, framed good PISA results as necessary for the UAE to be competitive with Western countries with a sociopolitical perspective, and integrated PISA testing as routine with the organizational perspective. This fits a larger trend of PISA redefining the understanding of the purpose of education as primarily intended to support economic and political interests (Mangez & Hilgers, 2012).

5.2. Limits of the usefulness of PISA data

The final presentation of the results announcement was centered around employability and the country's future needs. In the context of the drive for a knowledge-based economy for the UAE, the goals seem to meet the framing of PISA by the OECD as an indicator of future economic success. Previous research has indicated this connection in the UAE as "the state's narrative underlines the importance of educational performance on the world stage for all its citizens and instills a desire for becoming an advanced economy through its participation in PISA" (Morgan & Ibrahim, 2020, p. 820). However, the claim that increased PISA scores would contribute $3 trillion (OECD, 2015) to the economy seems overblown and disconnected from the context of UAE students. Around half of all general education students in the UAE are not Emirati nationals (MOE, 2024), and if they pursue higher education, they are likely to leave the country (Wilkins, 2013). Looking at the 2022 results, as immigrant students and students in private schools outperformed Emirati nationals and students in government schools, it seems that the highest-performing students are likely to be expatriates whose stay in the UAE is temporary. The reaction of policies enacted in schools to improve PISA results seems to have done little to improve the government school students' scores on the 2022 test, while the students in private schools, with less direct connection to government policies, were more likely to have demonstrated improved scores. The study by Morgan and Ibrahim (2020) was conducted in government schools, but it is important to note that the UAE could be considered a "systemless system" (Lawn, 2013). The large number of private, international schools are only indirectly controlled through school evaluation and not through direct government policies. The influence of the government's goals for PISA seems far removed from principals and teachers in private schools. For example, in the current study, the UAE was unique because public and rural schools had a larger ratio of computers to students than private schools or urban schools. Considering that the prevalence of immigrant workers is much higher in urban areas and that their students are likely to attend private schools, this indicates government investment in rural public schools and the limits of government influence over private schools.

The Knowledge and Human Development Authority (KHDA) regulator of private schools in Dubai released their analysis of the PISA 2022 results, reporting results only for Dubai private schools. They reported the average mathematics, reading, and science scores, then placed that sector's scores against other country averages. They further broke down the scores by school and curriculum to compare them against KHDA's school evaluation ratings (KHDA, 2023). While each country's sample is intended to represent the 15-year-old students in the country, and the UAE ensured the sample enabled comparison between emirates and public versus private schools, with the schools randomly chosen of all schools within each category. This is unlikely to be robust enough for analyses requiring representativeness and comparability at the school level. This use of the PISA data by KHDA to show the comparatively high performance of private schools in Dubai demonstrates the use of data to advance a political perspective, as theorized by Wiseman (2010). By ignoring the differences in student population for the types of schools, this framing exalts the private schools in a system that is rapidly turning its government schools over to private, for-profit education management organizations (Winchip, 2024). This use of PISA results fits the pattern identified by Steiner-Khamsi's (2021) that international standardized tests are used to certify national policies, as policymakers seek a common metric to legitimize even the unique policy choices within the country.

The PISA data is presented as if it can inform the improvement of student results in individual schools and improvement for a country as a whole. However, the results do not allow feedback to individuals or schools, and the primary focus is on comparison, while the whole country's results are based on a cohort that will never be retested. Each cohort of students is different, yet the results are compared across years without reference to changes that may have occurred. In a country like the UAE, where curriculum and student demographic change, and teacher turnover are drastic and rapid (Matsumoto, 2019), information about the comparability of the student cohort across years would be vital to the comprehensibility of the results. It seems most likely that each cohort of students is so different that we cannot generalize trends over time.

5.3. Consequences of relying on international comparison

The knowledge that the UAE is so different from other countries seems to be treated as a problem to be overcome rather than a problem with participating in PISA. The plan of UAE assessment officials to increase the student sample for the next round of testing and the commitment to making policies to improve scores demonstrates that the UAE has fully embodied this external reference point of education quality (Morgan & Ibrahim, 2020) to intentionally converge education policy to be subsumed by global governance (Sellar & Lingard, 2014). Knowing the uniqueness of the UAE, this seems unlikely to improve the system, but it does seem likely have some adverse effects on schools and students. In previous research about UAE policy borrowing and testing, Morgan (2018) concluded that the

UAE's over-dependence on global tests in defining educational quality erodes their educational sovereignty and restricts their capacity as small states to develop and nurture alternative, indigenous

and localised solutions for guiding educational reform in order to benefit their students, teachers and communities. (p. 301)

The most recent PISA results and reaction seem like more of the same. The announcement of the 2022 results confirmed and doubled down on a commitment to defining UAE education by the standard of PISA, separate from the local context of UAE students.

Looking at these findings, the uniqueness of the UAE may make PISA results of little use to future education policy decisions, and previous decisions aimed toward higher scores and rankings demonstrated little effect on the 2022 results. While current discourse indicates that the UAE Ministry of Education intends to intensify its efforts, this does not occur without consequences. As Matsumoto (2019) suggests, "UAE policymakers might consider using the values important to their culture in defining educational success rather than measuring success according to the values extolled by the global reform movement" (p. 20).

Continuing to rely on PISA to define education in the UAE and constrain policy options will inevitably ignore the uniqueness of the UAE, potentially discarding policy options and reforms that could genuinely make a difference for the specific needs of the country, its students, and the country's ambitions for the future. With recently enacted requirements by KHDA for all students 6 to 15 years of age to participate in internationally benchmarked standardized assessments in reading (Sircar, 2022) and for Ministry of Education students to be assessed in grades 4, 6, 8, and 10 on the Emirates Standardized Test (UAE, 2024b), PISA does not seem to fit the instructional or evaluative goals of the country. With comparion as the primary outcome—and perhaps the goal—even amid such uniqueness, PISA demonstrates limited usefulness for the UAE educational system.

6. Conclusion

The motivation to conduct this document analysis originated with my experience at the UAE 2022 PISA results announcement event in December 2023. During the presentation, I noticed that surprisingly little attention was paid to the uniqueness of the highly international student sample or the uniqueness of the school system in the UAE when describing the results. The presentation did not acknowledge that the student population ranges from Emirati students who have lived their entire lives in the UAE to newly arrived foreign nationals who do not speak English or Arabic as a first language. The results for the UAE were presented in constant comparison with other countries, and they were considered commensurate even with drastically different educational systems. A few times, specific countries were chosen to compare to the UAE, particularly Cambodia, Brunei, Dominican Republic, and Taiwan. I found these choices fascinating as the comparison countries' cultures, histories, systems of education, and students are vastly different from those of the UAE. At other points, the UAE was compared to Singapore and Finland, seemingly as benchmarks for success and goal setting for the UAE, but also to demonstrate that even high-ranking countries were struggling with similar problems. When only UAE students' results were displayed, they were still demonstrated in comparison: comparison across different test years, across

emirates, gender, domains within a test, or comparison of low, medium, and high performers in the UAE. I wrote a note to find out if the predominance of comparison was to make the test scores more relatable for the audience, if the published results documents would present more comprehensive information for each country, or if they also relied heavily on comparison.

This research shows that comparison is a feature, not a bug. At the results event, presenter Shaikha Al Zaabi, the UAE MOE international assessments section manager, stated that PISA was "not just about ranking countries." She intended to bring attendees' attention to the variety of findings and to look beyond just the overall ranking of countries across subject areas. However, the heavy reliance on comparison and ranking was evident in the presentation and the PISA results documents. Moreover, there seems to be little direct benefit for teachers or students and a lack of clear information for policymakers. The UAE may just be so different from other PISA-participating countries, and the little control that the government has over a minority of students and families seems unlikely to result in changes to PISA results. However, the results are likely to be used to legitimize decision-making in the country as "standardized comparison has become a powerful policy tool to generate or block off reform" (Steiner-Khamsi, 2014). As the PISA results documents demonstrate, the uniqueness of the UAE defies comparison, and the unique qualities point to the necessity for homegrown policies based on locally-informed needs identified within the UAE context.

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