



Addressing the Early School Leaving Challenge 2011



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Addressing the Early School Leaving Challenge

About This Paper

As part of its commitment to the development of human capital in Dubai, the Knowledge and Human Development Authority (KHDA) commissioned research in December 2009 into early school leaving amongst Emiratis. This paper presents findings from the research project in addition to proposed policy options for jointly addressing the attrition challenge with fellow stakeholders. The paper's findings were presented at the First Annual Education Conference of the Emirates Center for Strategic Studies and Research (ECSSR) held in October 2010. A version of this report was published in 2011 by the ECSSR in a book entitled Education in the UAE: Current Status and Future Developments.

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Background and International Evidence

Early School Leaving

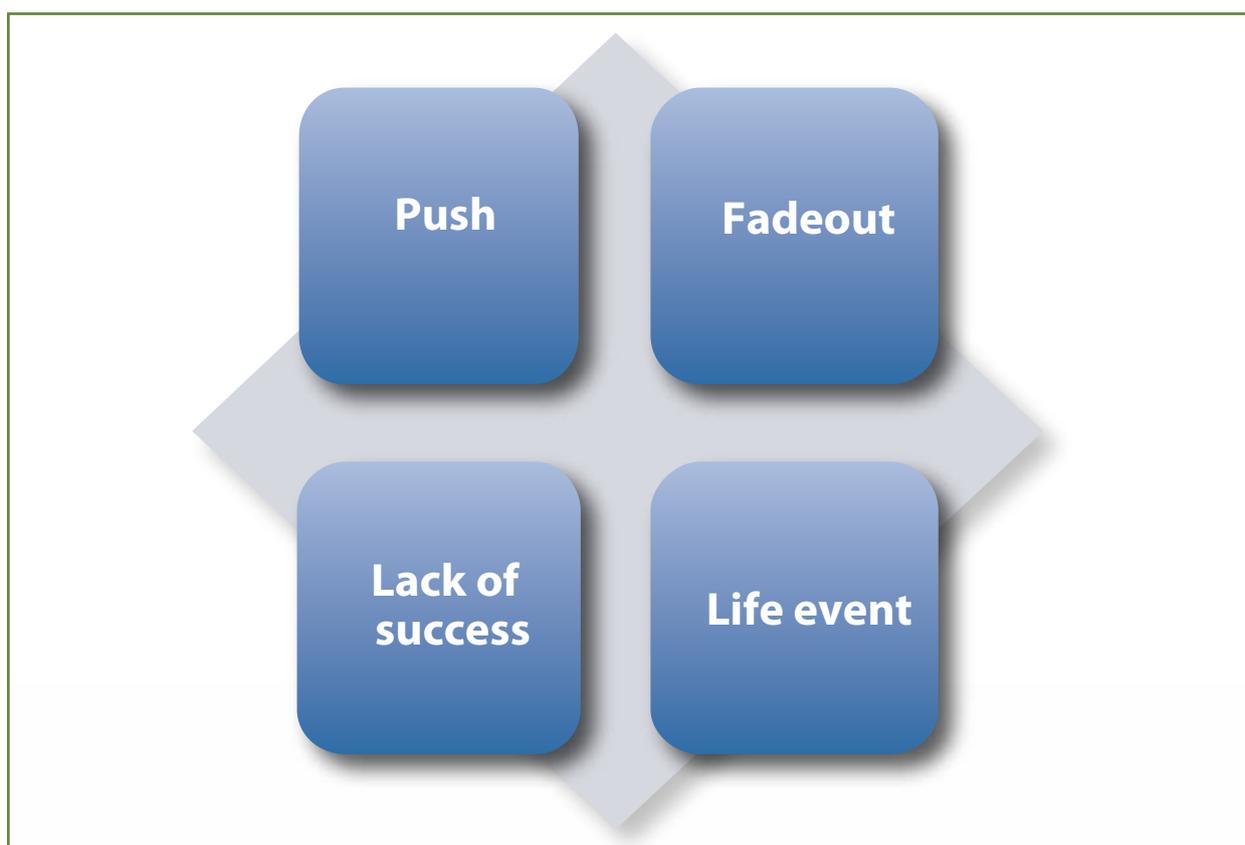
Most education systems worldwide have faced an attrition problem at some stage of their development. However, early school leaving had not been regarded as highly problematic prior to the onset of technological transformations and their consequent economic windfall.

While traditional production functions accounted for only labor and capital, contemporary growth has been inextricably linked to knowledge and skills. Knowledge economies exhibit an understanding that investment in knowledge can increase the productivity of other factors of production as well as transform them into new products and processes. Knowledge additionally serves to reverse the diminishing marginal productivity of capital by raising returns on investment through spillovers which in turn contribute to the accumulation of knowledge. Fundamentally, such an economy is characterized by knowledge-intensive production consequently amplifying demand for highly-skilled workers.

The development of economies towards knowledge-intensive means of production meant inadequate education could no longer be mollified by employment in manual labor. Indeed, the very development of a knowledge economy is severely restricted if individuals continue to receive less schooling and are therefore endowed with less knowledge and skills. Attrition from education therefore represents a shortfall in the pursuit of a highly-skilled workforce. Therefore, policymakers' interest in reducing early school leaving has witnessed a significant increase as economies expanded. In order to analyze the extent of the attrition challenge in Dubai, an operating definition of the term is required. While various terms exist in the literature, early school leaving forms the core underpinning of any explanation of attrition. Early school leaving - or attrition - thus refers to the process and outcome of exiting formal education to an activity which is not recognized as equivalent to a country's formal education system. This includes individuals who enter the labor force, participate in unrecognized training, enter formal government bodies such as the military or police or undertake any other non-educational activities prior to completing formal education.³ Attrition is most often highlighted as an issue in secondary schooling but can occur at all levels of education.

Individuals' educational attainment models can be categorized into two broad paradigms. The signaling model first introduced by Spence⁴ describes a world filled with information dissymmetry. Companies and governments wish to hire hard-working, intelligent and committed staff for any particular job given prevailing budget constraints. The process of distinguishing high type workers from low types is costly in the absence of signals. Hence, education is used as the primary signal of applicants' types; higher types are believed to find it less costly to pursue further education due to their comparative advantage. Diligent individuals would require relatively less effort to study and can use higher order thinking to achieve better results.⁵ By gaining additional qualifications, job market candidates signal their higher type to employers.

Figure 2 Determinants of Early School Leaving



Why Do Some Youth Leave Early?

Our review of international evidence and best practice concluded that although the term ‘drop-out’ implies an individual event, it should be conceptualized as a gradual process. A student’s decision to leave school early is affected by a number of complex factors and is often the culmination of a long process of disengagement from school. Far from being a spur of the moment decision, dropping out can be an individual response to socioeconomic incentives or a result of other school-related experiences.

The findings from the literature emphasize the need to acknowledge early school leaving as the culmination of a long process rather than a spontaneous choice. While different students drop out for different reasons, they do so in identifiable, and crucially, preventable ways. The factors leading students to leave school early can be classified into four major categories:

- **Push** - students forced by schools to leave due to behavior or attendance issues.
- **Life events** - students forced to leave by external circumstances such as a need to work or care for family members.
- **Lack of success** - students who exit schooling subsequent to a lack of academic success and often repeated attempts.
- **Fade out** - these students are subtle leavers who grow disengaged with their school or a particular learning process.

A student’s decision to leave school prior to completion may result from one or more of the factors in Figure 2. In light of the above factors, robust predictors of individuals’ consequent departure from school prior to successful completion were identified through a comprehensive exploration of global best practice. Table 1 summarizes findings from international evidence into the early detection of attrition from schooling.

Table 1 Attrition Predictors

• Chronic attendance problems particularly in initial days of a semester. ⁹
• Suspension or expulsion from school in grades 6-9. ¹⁰
• Core academic subject failures. ¹¹
• Grade retention, especially in early middle school years ¹²
• Socioeconomic complications. ¹³

Although the literature acknowledges that students who do not graduate do so in different ways, research has consistently found these ways to be identifiable. In considering the determinants of dropping out, we follow the framework coined by Gleason and Dynarski,¹⁴ which suggests that, to be useful, dropout predictors need a high predictive yield. Predictors are said to have high yield when most students flagged by an incident eventually fail to graduate. In other words, the predictor alone or in combination with other predictors can identify a significant portion of the students who will not graduate. Attrition is therefore emphasized as a process rather than an event, with clear origins traceable to an individual's early years. Precursors to dropping out are found to be traceable to students' first years following primary schooling.¹⁵

The school environment was widely found to be an important factor in students' persistence. Bowen and Bowen¹⁶ conclude that living in a high poverty area creates unique conditions that could potentially push students off the path to high school graduation. They find that poorer middle schools are characterized by high degrees of bullying, fighting, teacher turnover, and even teacher vacancies. Students entering the middle grades in high-poverty neighborhoods were also found to be more likely to experience chaotic, under-resourced classrooms and schools.¹⁷ Wilson and Corbett¹⁸ observe that at such schools many students conclude that productive learning cannot occur and consequently opt out of schooling altogether.

Alexander et al.¹⁹ were among the first to prove empirically that dropping out is a process rather than an isolated event by tracking a cohort of Baltimore students for an eight-year period. Their results indicate that grade retention due to academic failure only has a positive effect on academic achievement when coupled with individual programs. The researchers' expanded study seven years later found that retention in any grade turned out to have a negative impact on a student's odds of graduation. In particular, retention in the middle grades was especially problematic for on-time graduation.²⁰ Neild and Balfanz²¹ additionally find course failures and low attendance in eighth grade in Philadelphia are near perfectly deterministic predictors of failing to earn promotion out of the ninth grade and ultimately dropping out.

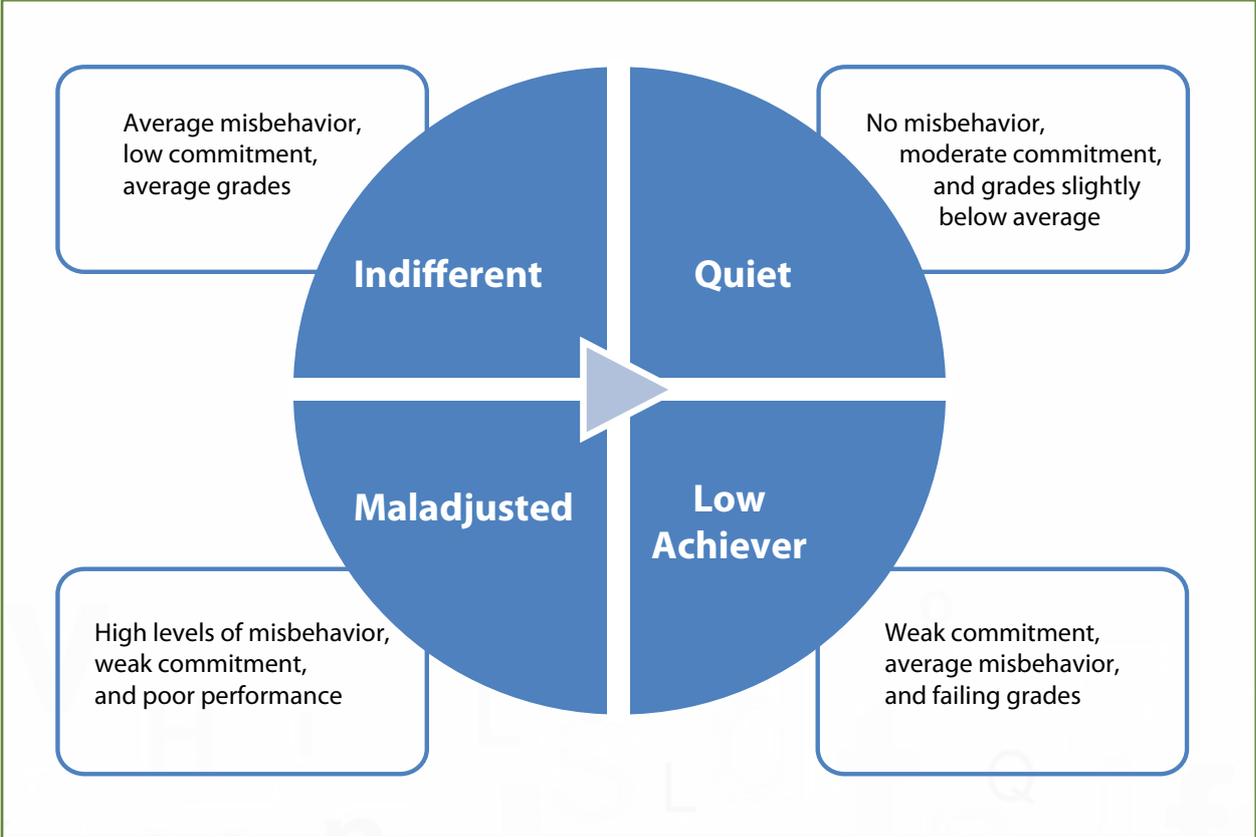
Theoretical literature on student engagement, most notably that of Fredricks and Blumenfeld,²² suggests that a middle or high school student's decision to not attend school regularly, to misbehave, or to expend low effort are all consequential behavioral indicators of a student's growing disengagement from school and thus might be strongly predictive of dropping out. Pedagogical research has explored the phenomenon of self-confirming cycles where a cyclical relation arises among students' perceived control, engagement and academic performance.²³ Because a course failure drastically dampens a young individual's perceived control and engagement, it can often reinforce a negative self-image and prophesies future failure. Kaplan et al.²⁴ validate the aforementioned theories since their longitudinal study found negative academic experiences have a significant impact on students' feelings of being rejected in the school environment. Furthermore, students were found to attempt to assuage these negative feelings by adopting contra-normative attitudes and behaviors as well as associating with other students who have adopted similar contra-normative stances. The study indicated that this pattern of alienation lead to dropout behavior and could be observed from students' lower secondary years.

After reviewing the extensive literature on the determinants of school attrition, the most comprehensive study was found to be that of Herzog et al.²⁵ With the aim of identifying indicators of the highest yield in predicting eventual dropouts, the researchers constructed longitudinal records from regularly found attendance, demographic, administrative and academic data in US school systems. Their findings have been instrumental in shaping education policy in the United States, Canada and the UK and are summarized below:

- Attending school less than 90 percent of the time in Grade 6 increases the likelihood that students will not graduate. Over 75 percent of students who missed 20 percent of school days or more failed to eventually graduate.
- Low test scores are a weak predictor of dropping out. However, subject failures are strongly associated with early school leaving. Less than 2 percent of students who had failed English or mathematics in Grade 6 graduated on time.
- Having one or more suspensions in Grade 6 increased the propensity to drop out fourfold.
- Almost none of the students who had negative behavior marks as well as a subject failure in Grade 6 eventually graduated.
- Students who are classified as special needs or have English as a second language were equally likely to graduate, holding all else constant.

Mac Iver²⁶ had noted that the common response to students who face difficulties in Grade 6 was either to hope for them to grow out of their issues or adapt, or to attribute early struggles to natural processes of early adolescence adapting to middle school structures, challenging curricula and less personalized attendance. Following the study by Herzog et al.²⁷ using econometrically sound techniques, similar studies were replicated in cities around the United States and Europe as Rumberger²⁸ notes. Results differ only in the sequential incidence of dropout indicators but all findings point to the following warning signals in summary. Considering both the causes and predictors of early school leaving, this project has constructed a typology of early school leavers based on research findings as presented in Figure 3.

Figure 3 A Typology of Early School Leavers





Students who depart schooling prior to completion thus differ in explicit or concealed shades that might not necessarily alert educators. In research with their peers and teachers, early school leavers were found to be primarily characterized as maladjusted or quiet.²⁹ Although the former may be visibly detected, the latter carries a subtlety which may prove difficult for education authorities to independently observe.

As a result of the complex interaction of causes and various types of early school leavers, the research project underscores the necessity for a multifaceted approach to the attrition problem. Factors within education in addition to those exogenous to the system intricately affect student persistence. The findings reinforce the need for policymakers to adopt a measured holistic view of the early school leaving challenge.

Measuring Student Progression

Attrition from education is not only a complex process but one that mandates delicate measurement procedures. Gauging an accurate dropout rate firstly involves determining the precise parameter of interest for policymakers, for which different indicators exist. Recent worldwide policy concern with helping young people stay in and complete high school has seen the development of a variety of markers used to measure attrition from different perspectives. Although not encompassing mutually exclusive parameters, indicators can be broadly classified into either population or performance indicators.

Population Indicators

Population indicators are chiefly concerned with examining educational attainment within a particular population. As a primary first step in exploring the attrition problem, these indicators explore attainment for specific subgroups of the population. Having a highly educated population is vital for the economic and social wellbeing of any country. On an individual level, education enhances the personal knowledge, skills and competencies required for effective participation in society. The educational status of the population is a crucial determinant of an economy's ability to develop towards knowledge-intensive forms of production. These forms of production are often categorized as high value-added sectors, owing to their significant contribution to gross domestic product and comparatively lower cost burden.

More broadly, education is used as a proxy for countries' stock of human capital - the level of skills available in the population. Therefore, while acting as an important determinant of future economic expansion, levels of education within a population form contemporaneous snapshots of a country's current development. A more educated populous proxies advanced skill levels, thus corresponding to higher comparative returns coupled with advanced economic development. In addition to acting as informative instruments for diagnosing current economic environments and forecasting future development, population indicators play other socioeconomic roles. Policymakers are often interested in determining the educational attainment of specific groups within inhabitants of a state or nation as an indicator of their overall well-being.

Population indicators, particularly those relating to attainment among different subgroups of Emirati nationals, is especially important in countries such as the UAE where nationals form less than 20 percent of the population. These measures can help inform economic planning perspectives, such as technology and innovation capacity building, or targets as outlined in Vision 2021, or employment in strategic sectors as stipulated by the Dubai Strategic Plan (DSP) 2015. They can alert policymakers to potentially challenging employment conditions and consequent demand for social services such as job placements. Policymakers might also need to examine educational attainment to explore inequities in the Emirati population and consider potential consequences for social inclusion in the form of marriage, housing, family-rearing and civic participation. Measuring attainment in a population often focuses on determining the proportion of particular subsets of a population with secondary or tertiary qualifications. This project's primary interest lies in examining secondary schooling, ideally measured by a status dropout rate. This indicator examines particular cohorts aged above the official school-leaving age. Individuals still in education are excluded from this indicator which can be calculated using the below formula:

$$\frac{\text{Number of individuals in population (P) who have not completed Secondary School}}{\text{Size of population (P)}}$$

Population (P) generally includes individuals aged 20–24 or 25–29 as the two age groups believed to have most recently completed formal secondary schooling.

Performance Indicators

While population indicators are useful for labor force characterization and other outcome-based measures of education, they are lagging indicators of the education system. Performance indicators serve to more directly evaluate educational units such as schools or areas such as Dubai overall. These indicators are further markers of educational outcomes but are seen to be more direct and timely efficiency measures of the operational success of an education system.

The 'event dropout rate' denotes the measurement most often referred to in educators' concern over attrition from school education. This alludes to the proportion of students during a given year that leave school without successful completion of the country's formal secondary schooling qualification or any equivalent. This indicator proves most valuable for policymakers as it is a prompt benchmark which can be measured annually for every cohort. It is especially useful in areas experiencing educational reforms such as the UAE as it provides rapid evaluation of the success of reforms aimed at reducing attrition. This ideal measure of attrition from education can be calculated using the following formula:

$$\frac{\text{Number of students who drop out of a student population (P) during year (Y)}}{[\text{Size of population (P) during year (Y)}] - [\text{Exclusions from (P) during year (Y)}]}$$

This measure of dropping out in its most commonly known format defines a dropout student as one who was:

- enrolled in a current year but did not complete the year or return the following year;
- did not graduate from high school or an approved equivalent program; and
- did not transfer to another equivalent program or travel overseas or suffer from suspension, chronic illness or death.

In Dubai, formally recognized alternatives to public schooling include private schools with a variety of curricula, home schooling and adult schooling. The quality of schooling in the latter two is beyond the scope of this paper but must be considered in future research as existing evidence on poor learning activities and attainment in either pathway challenges the validity of these as acceptable alternatives.



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Measurement Requirements

Dropout rates classified as population or performance indicators differ not only in their interpretability but additionally in the data requirements to calculate accurately each measure. While population indicators will often be obtainable from general data collection, the aforementioned indicators necessitate a nuanced but not necessarily challenging compilation procedure.

The status dropout rate reflects population attainment and therefore indicates workforce readiness among youth and represents a proxy for a country's skill level. Measuring a status dropout rate is thus achievable as a by-product of several data collection processes such as a general population census or a labor force survey. The latter is often conducted annually with smaller samples routinely visited on a monthly basis while the former is usually conducted in three- to six-year cycles. Since a status dropout rate covers the educational attainment of a five- or ten-year age cohort, calculating it from general population censuses can prove to be a cost-effective practice. A population census in Dubai was conducted in 1993, 2000 and 2005, while large sample surveys have more recently been carried out in the form of a household expenditure survey in 2007 and a labor force survey in 2008. This project will subsequently utilize the entire range of existing data on Dubai from population censuses as well as sample surveys to analyze early school leaving.

The aforementioned performance indicators denote the gold standard in measuring attrition and ideally dictate a need for comprehensive longitudinal data at the individual student level. While being costly to set up at first, education authorities have succeeded in recouping initial survey infrastructure outlays when the long-term benefits of student tracking are weighed in comparison.

Through Ministry of Education (MoE) data, the crucial event dropout rate was calculated for Emiratis in public schools at every year level in Dubai. No similar student-level data on private schools exists, thus preventing the calculation of event dropout rates for students in private schools. However, an analysis of raw cohort sizes suggests that early school leaving is not a substantial problem in Dubai's private schools. Furthermore, over 60 percent of Emirati students in cycle 2 and secondary schooling in Dubai are enrolled in public schools.

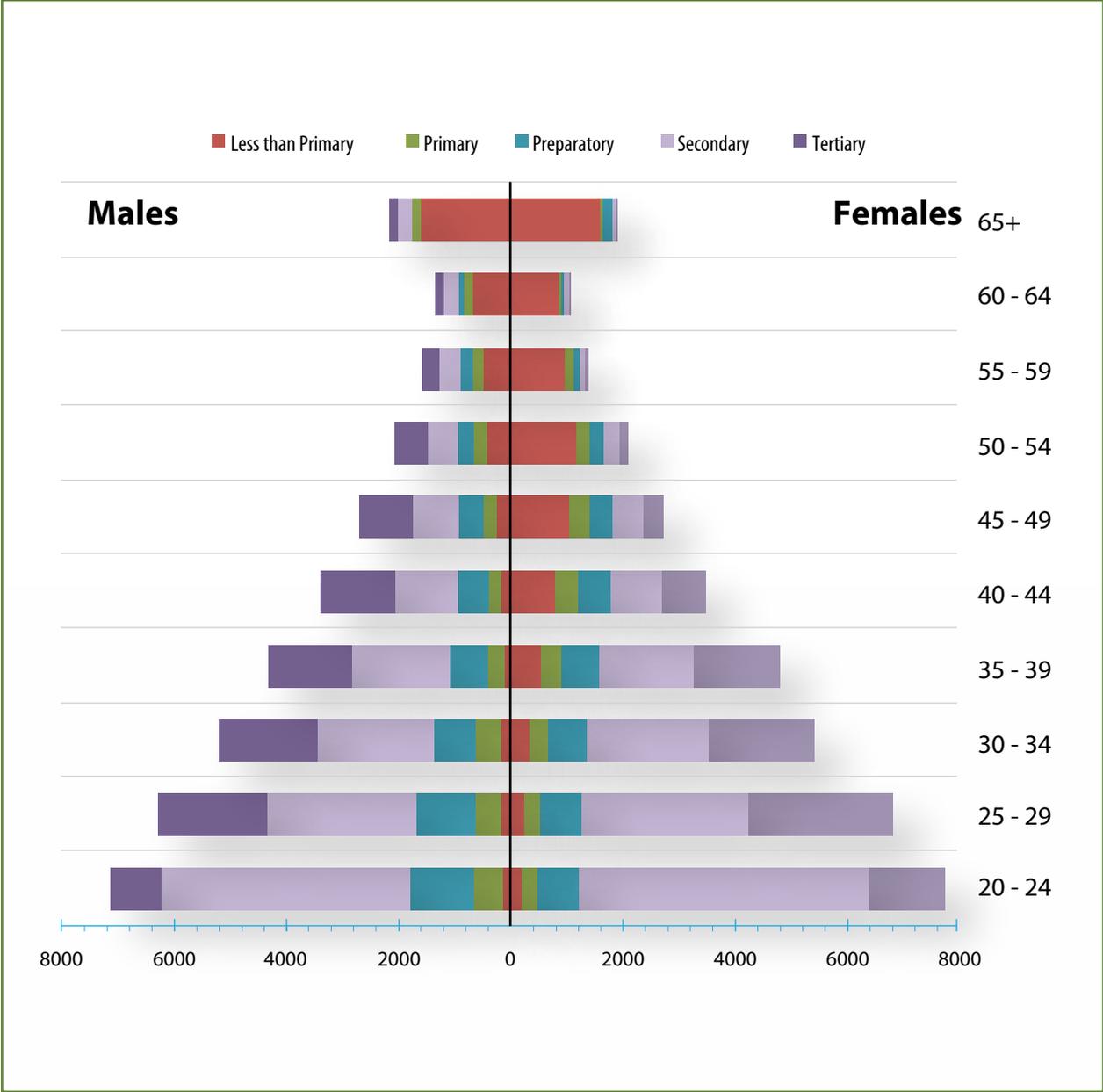
Thus, this project has utilized all available data to calculate the status dropout rate for all Emiratis in Dubai as well as the event dropout rate for all Emiratis in public schools, where attrition was found to be a significant challenge. The findings form an essential baseline in understanding the magnitude and characteristics of early school leaving in order to be able to develop viable solutions.



To benchmark measurements for Dubai and the UAE, worldwide attainment rates were explored. In education systems worldwide, the secondary level representing grades 10 to 12 is the site of highest school attrition due to compulsory schooling laws as well as minimum working-age legislation. Using figures from the Organization for Economic Cooperation and Development (OECD), the number of individuals in the labor market with less than an upper secondary qualification were found to have declined in the last three decades. Furthermore, 34 percent, on average, of the 25–34 year old cohort in OECD member countries currently have a tertiary qualification.³⁰

In 23 out of 29 OECD countries surveyed, over 60 percent of the population aged 25–34 have completed upper secondary education. Comparing the levels of educational attainment of 25–34 year olds with that of those aged 55–64 is indicative of the changing attainment patterns over time. In OECD countries, the average proportion of 25–34 year olds having attained upper secondary schooling is 22 percentage points higher than that of 55–64 year olds. Korea, the country with the highest proportion of upper secondary attainment at 97 percent of 25–34 year olds, also displays the largest gap within its population. Only 39 percent of individuals aged 55–64 carry a high school diploma suggesting a workforce that has undergone immense transformation in the last 30 years. Other notable progress in educational attainment is evident in Ireland, Greece, Italy, Spain and Chile, where high school attainment rates were found to have doubled when using the above generational comparison.

Figure 4 Educational Attainment Pyramid (Emiratis in Dubai)

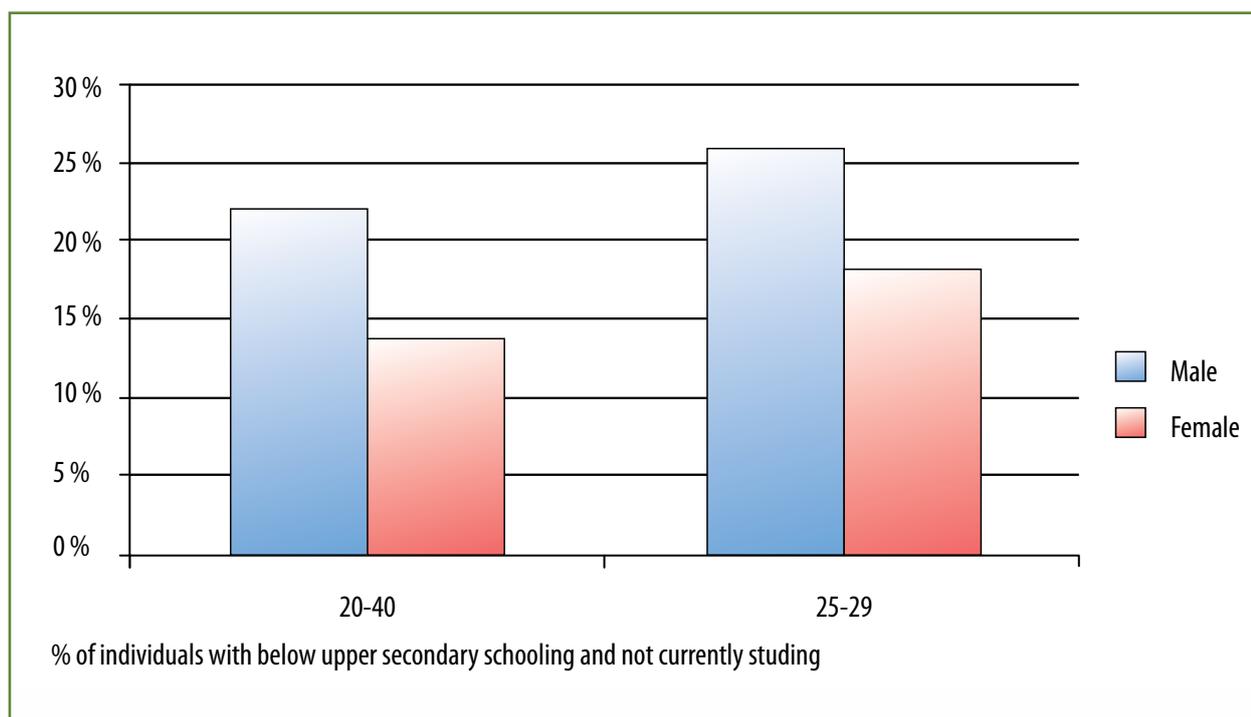


Source: Authors' calculations from Dubai Statistics Center (2006).

The Dropout Challenge

The status dropout rate is the first form of measurement of early school leaving. It represents the proportion of individuals within a subset of the population who have not completed secondary school and are not currently enrolled in education. 22 percent of male Emiratis in Dubai aged 20-24 were found to have dropped out of school prior to completion as shown by Figure 5. The rate is significantly lower for similar aged females at only 14 percent. In other words, two out of every 10 male Emiratis currently aged 20-24 were found to have failed to complete high school. Dubai's overall status dropout rate for individuals 20-24 years old was found to be 20.1 percent on average.

Figure 5 Status Dropout Rate (Emiratis in Dubai)



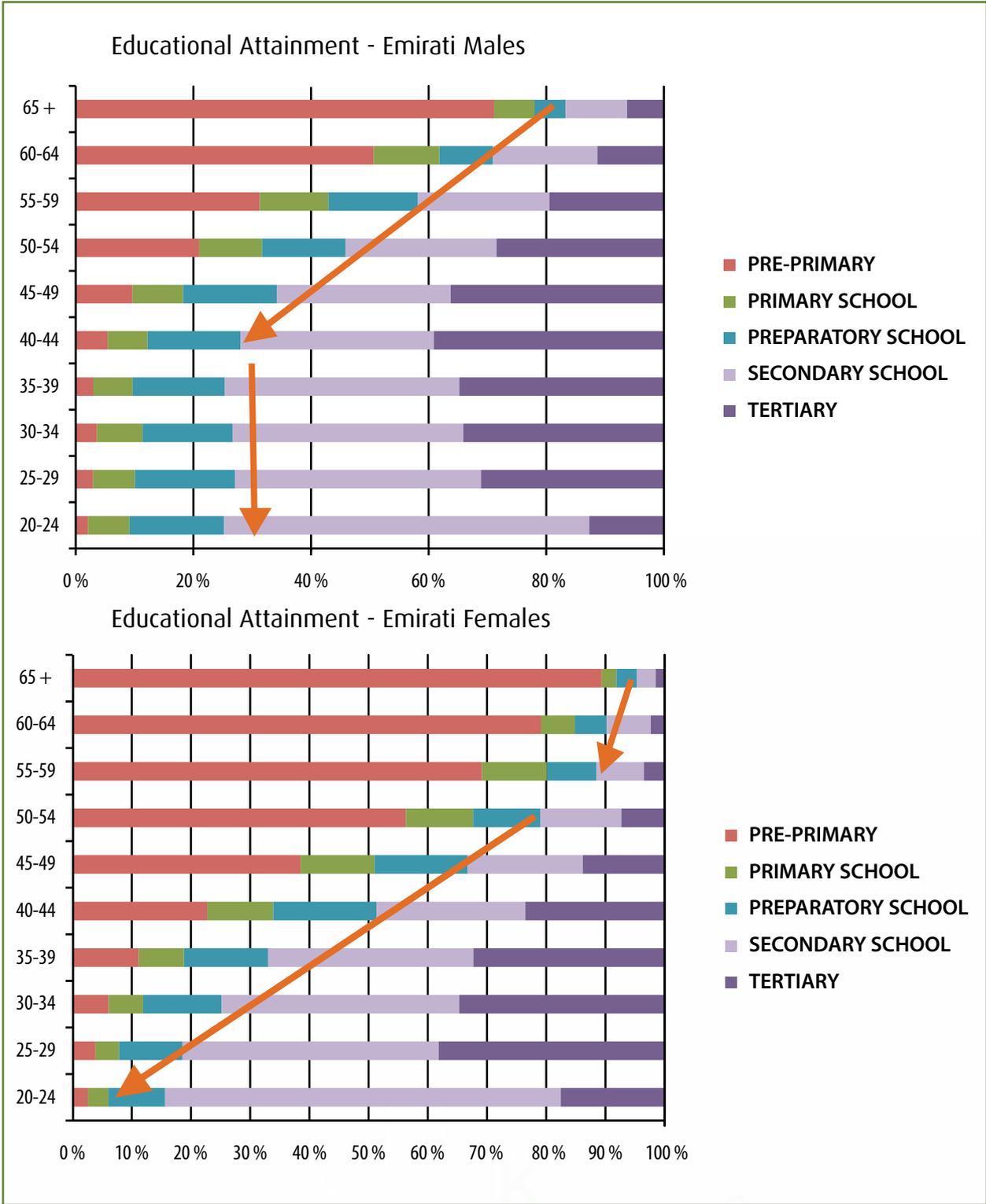
Source: Authors' calculations from Dubai Statistics Center (2009).

Census data presented in Figure 6 outlines the historical persistence of this status dropout rate. Comparing across age cohorts, the status dropout rate for males appears to have recently stagnated around 25 percent on average suggesting that the status dropout rate in Dubai has in fact been a substantial issue for 20 to 25 years. A similar comparison reveals a contrasting trend amongst female Emiratis with significant declines in the proportion of individuals with less than secondary schooling for each younger cohort.

The issue of early school leaving appears to be a historic issue that has not witnessed significant improvement since the onset of economic expansion. The last significant rise in male attainment was that exhibited by 40–44 year olds who were at a school-leaving age just over 20 years ago, coinciding with the onset of the Emirate's economic boom. However, simultaneous population growth implies the absolute number of early school leavers has grown even while the proportion has remained at a constant high. The fact that dropping out is more of an issue for male Emiratis than females is not a unique finding in the region as the next section outlines further.

A status dropout rate enables inferences to be made regarding Emiratis' workforce readiness. As an outcome measure, it is additionally an indication of the skill-set available in the working population. The figures reveal that for over two decades, nearly one-quarter of Emirati males have entered the workforce with less than a high school qualification. In contrast, female persistence has witnessed sustained increase for over four decades.

Figure 6 Emirati Educational Attainment



Source: Authors' calculations from Dubai Statistics Center (2006).

Of further interest to policymakers is the internal efficiency of the education system as it proceeds towards final outcomes. The performance of an education system can thus be gauged by an ‘event dropout rate.’

This indicator measures the proportion of students who exit school annually without transferring to an equivalent alternative. Event dropout rates are only measurable where student-level data exists, and were thus calculated for all public school students, who represent nearly two-thirds of Emirati students at the secondary level. The findings point to the occurrence of attrition in varying degrees at every level of education in Dubai’s public schools. Although Ministerial Decree no. 963 of 2002 had established the compulsory nature of education up to and including Grade 9, the research found two distinct phases of attrition are evident amongst Emiratis in Dubai’s public schools:

Phase 1 In cycle 2, high attrition of males and minor attrition of females.

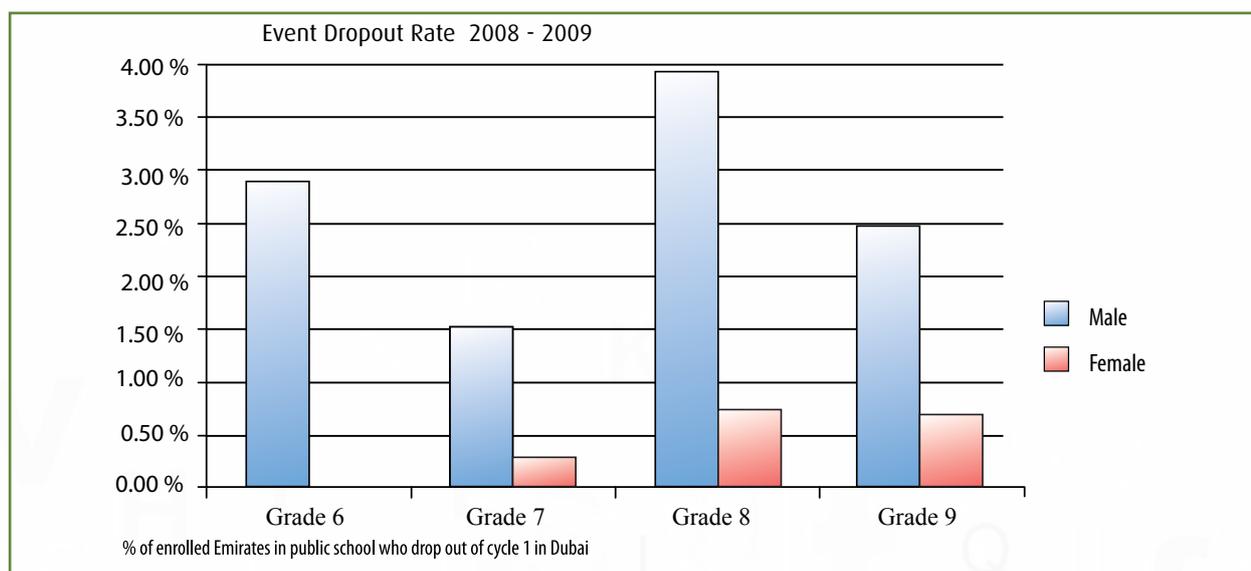
Phase 2 Alarming attrition in secondary schooling, particularly in the first year for males and relatively large attrition of females.

In public schooling, cycle 2 encompasses grades 6 through 9 and often entails a physical shift to a different school campus. Figure 7 outlines the contrasting event dropout rates for males and females in cycle 2 schools. While female attrition from compulsory schooling is near nonexistent, as many as 2.9 percent of male Emirati students enrolled in the first year of cycle 2 drop out.

This then drops to 1.5 percent in Grade 7 but exceeds 3.9 percent in Grade 8 with less than 1 percent of enrolled female Emiratis at that level leaving school. A similar proportion of females appear to leave school in the following grade whereas 2.5 percent of males drop out at Grade 9. The fact that they have left school with less than half of formal education completed leaves these students largely vulnerable both economically and socially. Attrition from compulsory schooling grades is a serious issue which requires joint collaboration between various stakeholders in education as the final section of this report will outline.

At the secondary level, the event dropout rate has changed only marginally since the first possible measure in 2005. On average, 7.4–8 percent of male Emirati students were found to leave each year of secondary school prior to completion. Thorough analysis of the 2008/2009 academic year reveals the prevalence of attrition at every stage of secondary school (see Figure 8). In the most recent year, 3.8 percent of Emirati females in the Literary stream of the senior year dropped out of schooling without successfully graduating. This was next followed by approximately 3 percent of Grade 10 and Grade 11 Literary students while less than 2 percent of Grade 12 Scientific female Emiratis quit school. In a similar feature to males, the lowest dropout rate for females was that of Grade 11 Scientific students as less than 1 percent of enrolled students exited schooling.

Figure 7 Attrition During Compulsory School Years

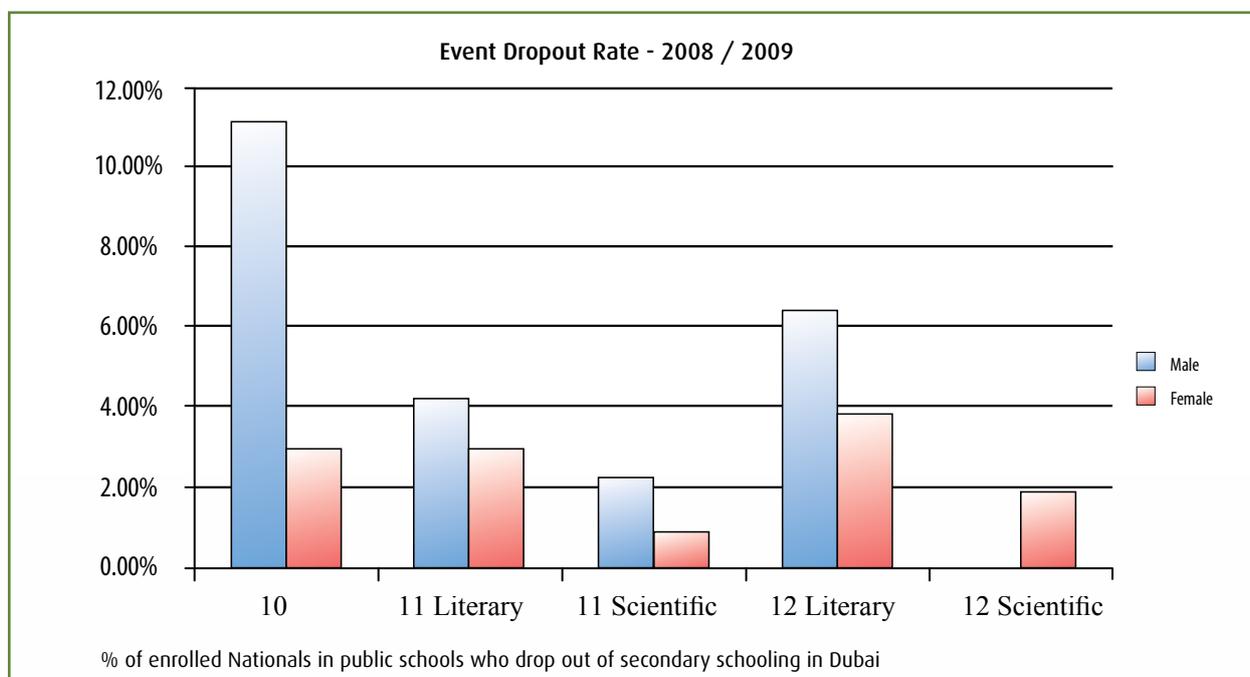


Source: Authors’ calculations from MoE (2009).

Notes: The event dropout rate represents the proportion of enrolled students who drop out during a given year, excluding transfers to recognized alternatives such as private schools, home schooling and adult education.

The average secondary school event dropout rate for male Emiratis was found to be heavily skewed by the substantial proportion of Grade 10 students who drop out during that year. At that level, 11 percent of enrolled male Emiratis in public schools left schooling without successful completion by the end of the 2008/2009 academic year. Six percent of Grade 12 Literary students left school in 2009 while four percent of their colleagues in Grade 11 of the same stream additionally left school without graduating.

Figure 8 Secondary Schooling – The Attrition Challenge



Source: Authors' calculations from MoE (2009).

Notes: The event dropout rate represents the proportion of enrolled students who drop out during a given year, excluding transfers to recognized alternatives such as private schools, home schooling and adult education.

The low event dropout rate in Grade 11 Scientific at 2.2%, as well as the near-nil level observed in the senior Scientific class, is a function of the streaming system applied in MoE schools. Segregation into Scientific and Literary is used by local educators as a proxy for hierarchical ability or achievement streaming. Better performing students in Dubai, and the UAE in general, will be placed into the Scientific stream; perceived to be relatively more difficult for students. This positive selection bias means the sample of students left in Scientific classes represent those who are not at-risk of dropping out as earlier defined.

Research findings from our survey of existing seminal research point to a negative effect stemming from high-stakes testing as a form of assessment. Consistent with international observations, the early school leaving challenge in Dubai was found to be exacerbated by grade retention practices.

Retention and Attrition

In cycle 2 over 10.5 percent of Grade 6 Emirati males fail to pass the year compared to only 1.5 percent of females. Similar rates are detected for the subsequent two years with a drop to six percent of males and one percent of females in Grade 9. During 2008/09, 24 percent of males and 11 percent of females in Grade 10 failed to complete the year. The astonishingly high retention rates in secondary school were further found to be closely correlated to event dropout rates. Since 2005, the earliest year for which measures are comparable, the event dropout rate has perfectly trended the failure rate in the preceding year. In other words, high retention rates appear to drive high attrition rates. The evidence thus strongly supports the hypothesis that the failure rate directly affects students' sense of success. Their engagement with the learning process is severely compromised when they are retained, leading some at-risk students to not only fall off the graduation path at this critical stage of schooling, but to opt out of school entirely.

Systemic Determinants of Attrition

Following the aforementioned classification of attrition determinants, Table 2 summarizes the research project’s findings of the systemic causes of early school leaving in Dubai. With extraordinarily high retention rates, lack of success and push factors are likely to be the biggest causes of attrition. In Grade 10, the point of highest attrition in secondary schooling, success is challenged by the onset of an unwieldy curriculum devoid of student choice. At this point, four novel subjects enter the curriculum, taking the total to 11 academically intensive subjects. With music already eliminated from the syllabus in Grade 7, art does not survive to Grade 10, therefore purging the system of any creative outlet for students.

The majority of education systems around the world, especially those where attrition has been identified as problematic, have moved towards a diversified range of subject offerings in various contexts. The current structure and ethos in UAE public schools does not satisfactorily challenge students with a rigorous and engaging curriculum that is relevant to their everyday lives. This is appearing to lead to detachment from school and an escalating order of disengagement culminating in a definitive withdrawal from the commitment to school completion.

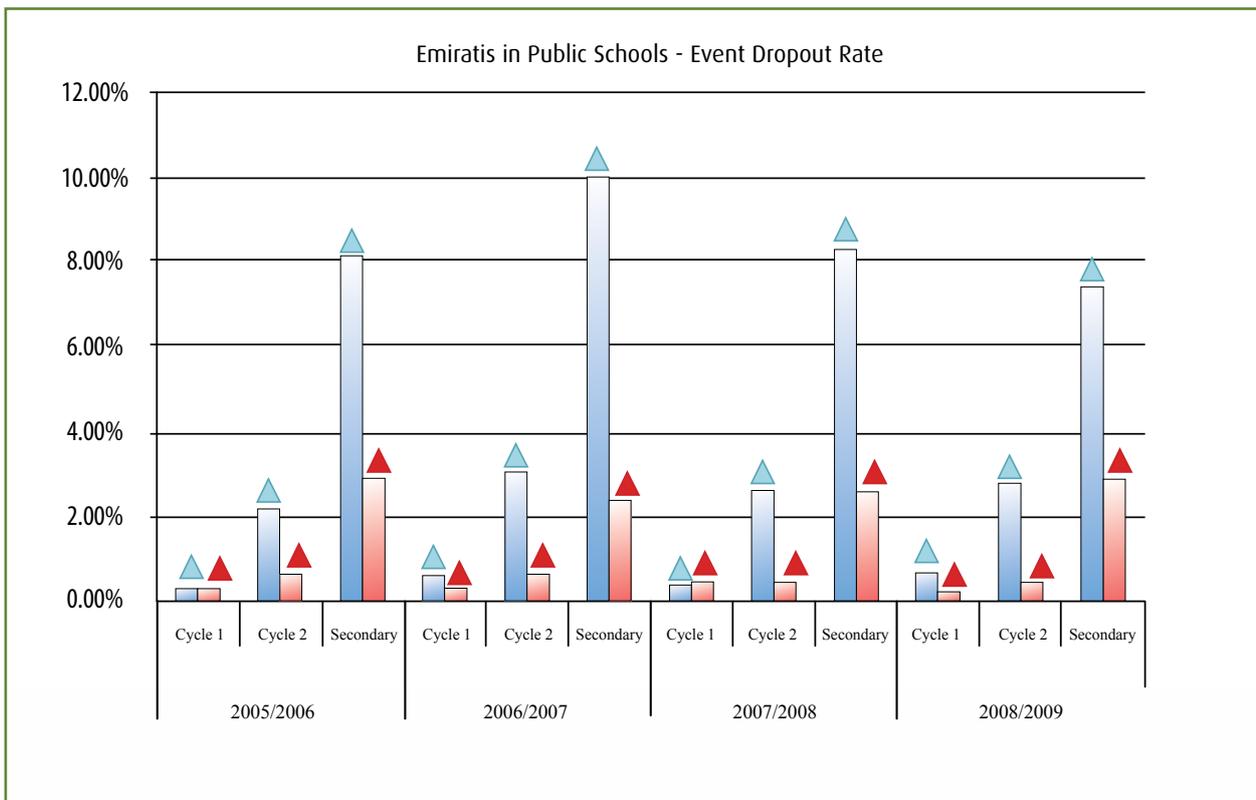
Table 2 Systemic Attrition Factors

Push Factors	Life Events
Males must exit public schooling if their age exceeds the designated limit for each year. Females who leave school for marriage are not permitted to re-enroll.	Average GDP per capita in Dubai is high. However, life events may still leave students with no choice but to drop out. Further research is needed to identify demographic patterns of dropouts.
Lack of success	Fading out
Cycle 2 students may be retained for failing two or more subjects. Secondary school students can be forced to repeat for failing one subject. Retention rates in Dubai and the UAE in general are extraordinarily high, especially for the first year of each cycle.	An unimaginative curriculum offers students no choice with an overweight compulsory subject load. Teaching methodology lacks pedagogical steer and prioritizes rote learning. High-stakes examinations are the major form of assessment.

A National Comparison

A comparison of Dubai’s event dropout rate in relation to the UAE as a whole is presented in Figure 10. The figure clearly demonstrates that the attrition challenge is a national issue far from being a localized problem just in Dubai. In fact, a lower proportion of male Emiratis in Dubai appear to leave school prior to successful graduation when compared to their colleagues around the UAE on average. This is particularly true for secondary school where the average national event dropout rate for male Emiratis was calculated at nine percent for each grade level in 2009 compared to Dubai’s rate of 7.4 percent. Female Emirati students in Dubai appear to trend the overall UAE figures, narrowing the gap since the 2005/2006 academic year to near identical levels in the most recently available comparable data.

Figure 10 Early School Leaving – A National Challenge



Source: MoE (2006, 2007, 2008, 2009).

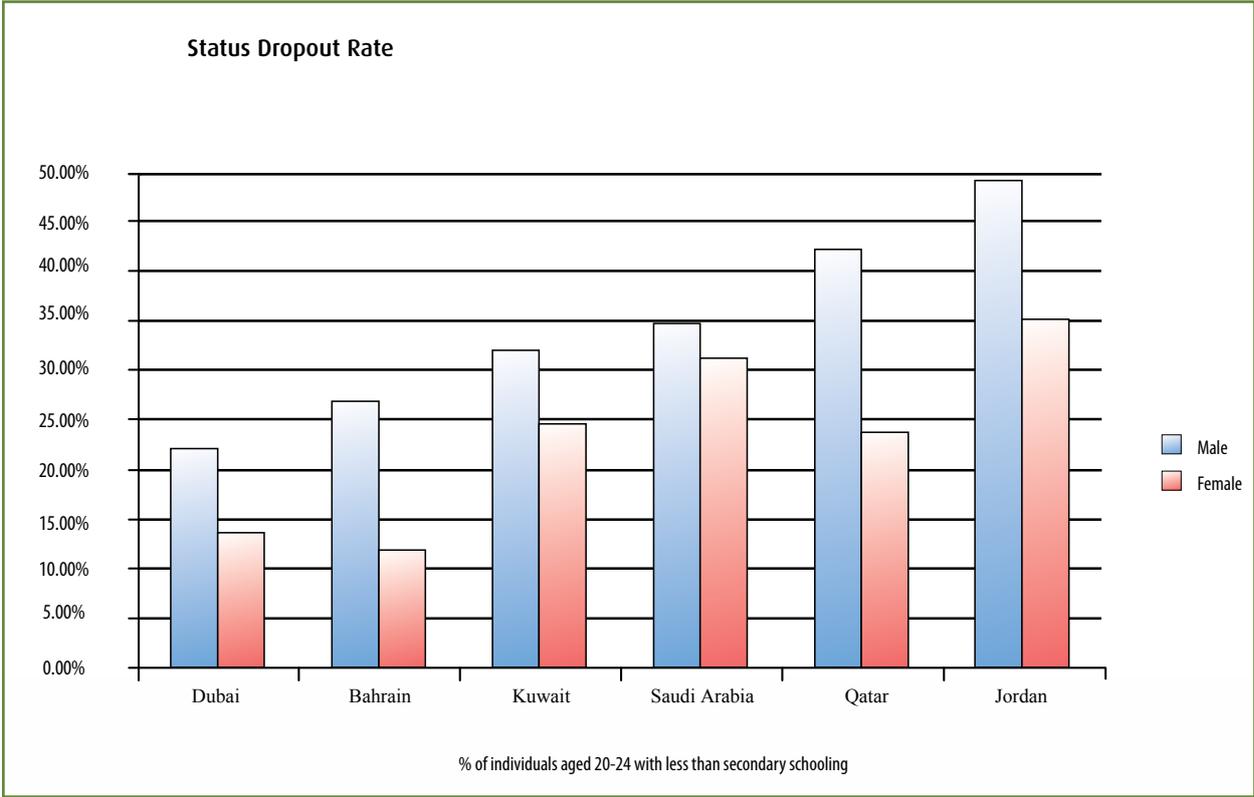
Notes: The event dropout rate represents the proportion of enrolled students who drop out during a given year. This excludes transfers to recognized alternatives such as private schools, home schooling and adult education.

Benchmarking the Findings

The project additionally analyzed labor force surveys from neighboring states and global comparators in order to benchmark early school leaving in Dubai. Using the most recent available data, the project found attrition from schooling to be a significant regional issue, particularly for males. Across the region, early school leaving appears to be affecting youth cohorts in each of the countries described. More than a quarter of Kuwaiti young adults aged 20–24 lack a secondary school qualification, while this rate is even higher for similar Qataris at 34 percent on average and young Jordanian adults at 41 percent. Figure 11 highlights the challenge for Arab countries attempting to develop knowledge economies amid clear skill shortage among a growing youth population. Furthermore, increased attrition among males is evident in every state in the region. Males exit education without successful completion in larger proportions than their female colleagues. In Dubai, Bahrain and Qatar nearly twice as many males between the ages of 20 and 24 have dropped out of school. Kuwait and Saudi Arabia additionally exhibit a gender differential in educational persistence and attainment.

Although the above figure posits Dubai’s dropout rate as the lowest regionally, the rate for nationals in Dubai is more than twice that observed in developed education systems. Figure 12 compares Dubai’s status dropout rate to that of OECD countries.

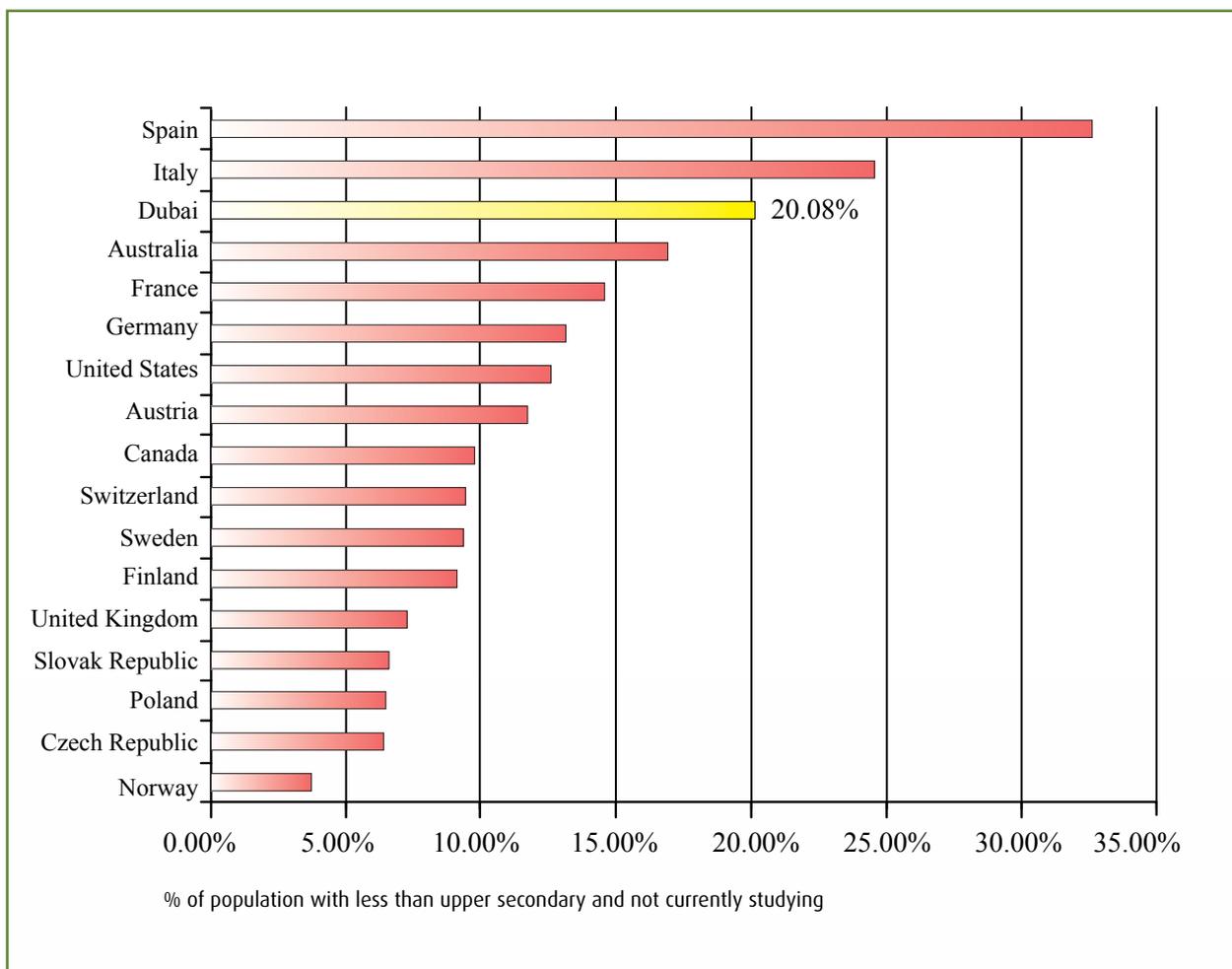
Figure 11 Early School Leaving: A Regional Issue



Source: Authors’ calculations from respective country surveys.
 Notes: Figures calculated for nationals of each country only using: Dubai – Labor Force Survey DSC (2009); Bahrain – Labor Force Survey Labor Market Regulatory Authority (2004); Kuwait – Census Ministry of Planning (2005); Saudi Arabia – Population & Household Characteristics Survey Ministry of Economy & Planning (2007); Qatar – Labor Force Survey Qatar Statistics Authority (2006); Jordan – Employed & Unemployed Survey Department of Statistics (2009).

The majority of developed economies have achieved status dropout rates below 15 percent as shown. Indeed, members of the European Union have committed to rates below 10 percent by 2020. The relatively higher rate observed in Australia, France and Germany masks flourishing forms of alternative educational pathways. Vocational education and training in particular accounts for the moderately large status dropout rate in these countries as students pursue qualifications other than a standard high school diploma. The status dropout rate in Canada, Switzerland and the Scandinavian countries is below 10 percent whereas less than five percent of individuals aged 20 to 24 in Norway and Korea fail to complete secondary schooling.

Figure 12 Early School Leaving: A Regional Issue



Notes: Dubai figures are calculated for Emiratis only from the 2008 Labor Force Survey.
Source: OECD (2005) and DSC (2009).

While some of these states have existed for multiple centuries with well-established and dynamic education systems, historical examples of educational advances in short periods prove that the challenge is not insurmountable. The Korean or Singaporean experience of reducing early school leaving rates to less than three percent, along with that of the Asian Tigers in general, lends credence to the view that dedicated holistic educational reform can yield sizeable leaps towards commendable milestones.



The Impact of Early School Leaving

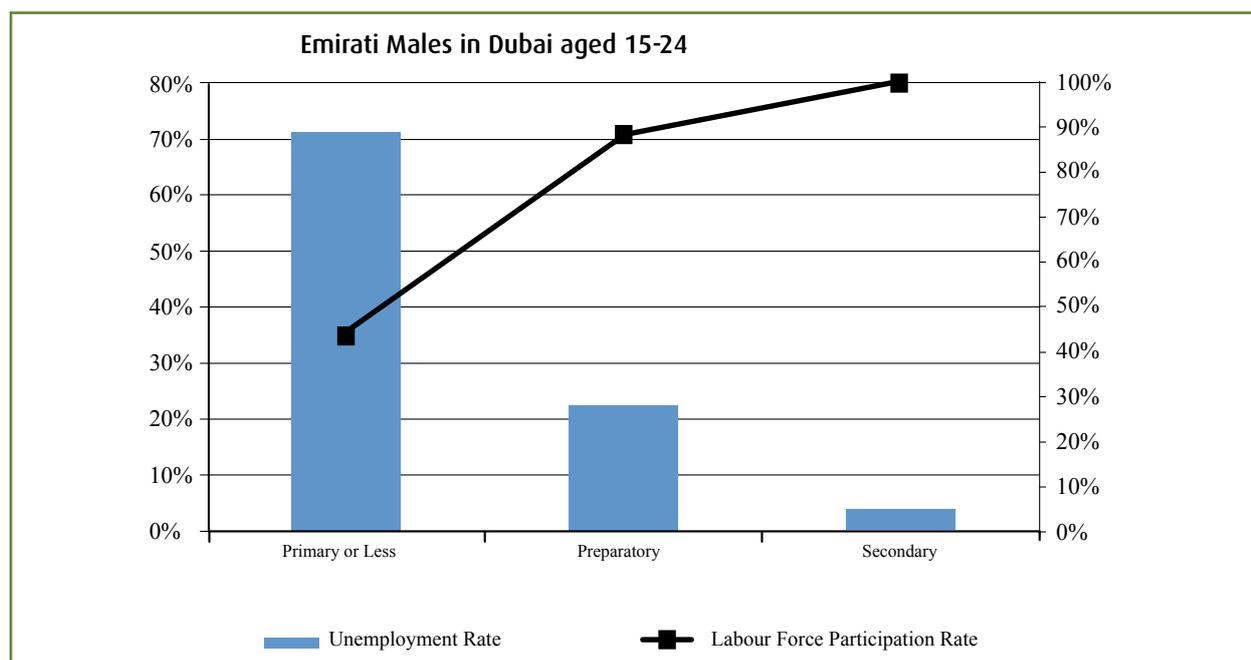
Labor Market Outcomes

Early school leavers in Dubai were found to experience severe adversity in the labor market. However, it is notable that labor force participation is negligible for female leavers, suggesting that their attrition is neither driven by, nor results in, seeking employment. Female early school leavers appear to be exiting in order to marry, or become otherwise domestically engaged, as they are not part of the labor force. For all Emirati males of working age in Dubai not currently studying and free of any disabilities, education was found to be invariably linked to improved labor market outcomes.

Among Emirati males with no formal schooling who express a willingness to work, 16 percent cannot find employment. This rate is somewhat less but considerably large at 10 percent for those who have dropped out of school. For others, unemployment appears to be less of an issue with only two percent of those with a secondary qualification out of work, while negligible unemployment was observed for those with postsecondary certifications, at below one percent. Male Emiratis who left school early were found to be five times more likely to be unemployed than those who complete secondary school. However, examining the labor market outcomes of younger early school leavers emphasizes the critically urgent need to combat the attrition challenge, as shown in Figure 13.

The graph depicts the labor market outcomes of all Emirati males between the ages of 15 and 24 who are no longer in education and have no stated disabilities. This data would capture the best estimate of the fate of the most recent leavers from Dubai's schools. Emirati males of working age who have exited education prior to the completion of primary school face extremely difficult labor market conditions. The participation of less than 28 percent of them in the labor force emphasizes their involvement in unproductive activities. Of those who do express a willingness to work, 71 percent were found to be unemployed as recently as 2008.

Figure 13 The Most Recent Early School Leavers



Notes: Calculated for Emiratis only from the 2008 Labor Force Survey.
Source: Authors' calculations from Dubai Statistics Center (2009).

Their colleagues – who left school after completing Grade 9, where this report has identified the biggest incidence of attrition – also face drastic employment conditions. At this stage, 75 percent of Emirati males would take up a job if offered but 22 percent of them cannot find employment. An unemployment rate of 22 percent for youth in the foundation years of life-long careers can have debilitating effects, including prolonged unemployment and eventual attrition from job-search activities. The employment landscape of school completers is invariably better, with near universal labor force participation by those not continuing education and an unemployment rate of four percent. Similar workforce readiness is displayed by individuals with postsecondary qualifications who face an unemployment rate of only 2.1 percent.

Of the most recent early school leavers who find employment, 63 percent were found to work for Dubai government entities such as Dubai Municipality or Dubai Police. A further 31 percent work for federal ministries and departments. Semi-government organizations, including bodies such as the Commercial Bank of Dubai or Dubai World, additionally hire one percent of the Emirati male dropout population. This brings the proportion of employed Emirati males aged 15–24 with less than secondary schooling who work for the government to 95 percent of all early leavers in employment. 89 percent of all Emirati males of the same age who find employment do so in government bodies, suggesting a disproportionate absorption of high school leavers by the public sector. While governments may consider hiring high school dropouts to be a form of unemployment insurance to preserve a minimum standard of living for these individuals, this may have a contrarian effect on students still in school. Hiring practices as well as opportunities for further learning can be considered to help alleviate attrition.

The fact that contemporary early school leavers face much tougher labor market outcomes than those who may have left school over 20 years ago is indicative of a shift in the Emirate's economy. Although individuals without high school credentials may not have struggled to find employment in the past, the value of skills has risen in the workplace. There are additionally more leavers in absolute numbers, potentially competing for the same number of low-skilled jobs which may not have grown in line with the demographic boom. Real economic growth in the UAE for the next five years was forecast by the IMF³³ to be less than half the rate experienced over the last five years. This translates to a tougher labor market for all entrants, with particularly difficult circumstances anticipated for individuals without a secondary qualification.

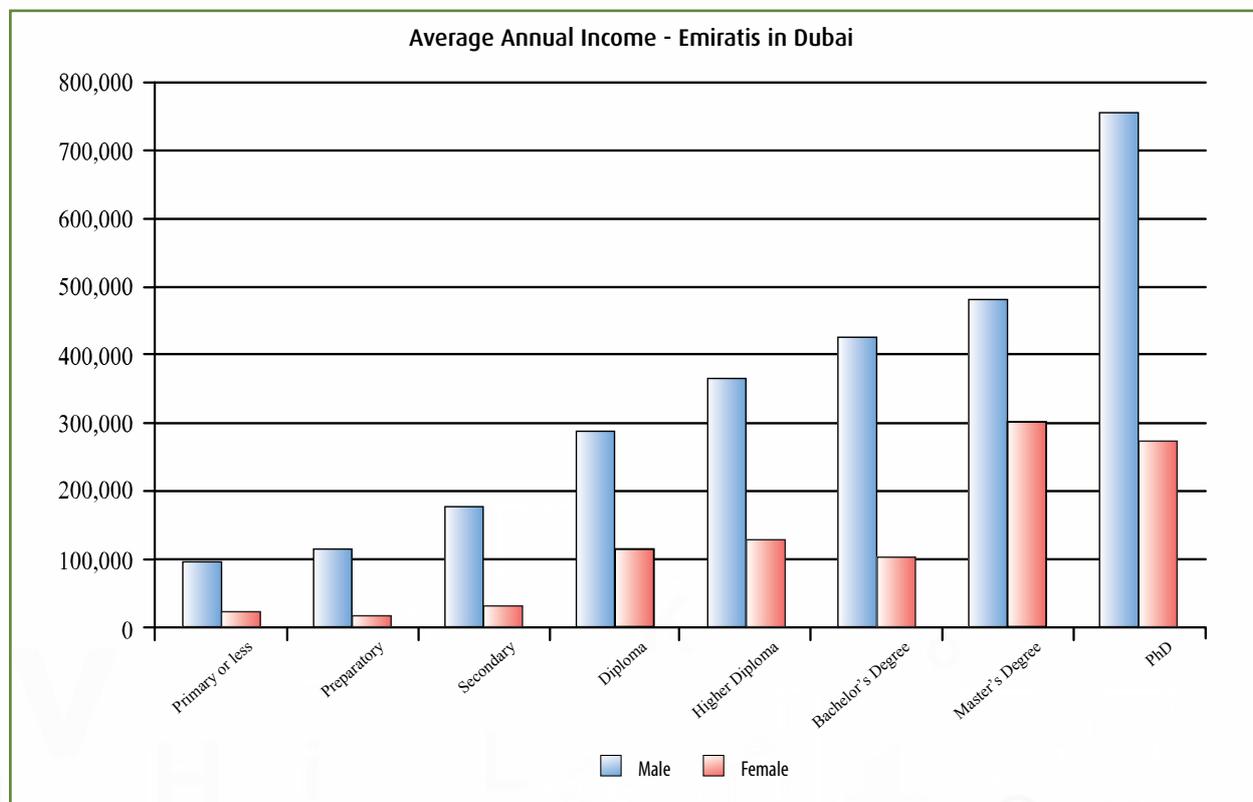
Individuals' Livelihood and Wellbeing

Low employment prospects are not the only concern faced by early school leavers in Dubai. Figure 14 represents the earnings profiles of employed Emiratis in Dubai. These reflect the total income received from all sources. It covers remuneration received as part of employment in salaried or commission-based positions as well as investment or property returns.

The figure reinforces prior deductions emphasizing the inseparable nature of education and labor market outcomes. Accounting for all forms of income generation, the figure shows Emirati males and females receiving more income annually, on average, at higher levels of education. The average annual income for early school leavers appears to be around AED 100,000 while it approaches AED 200,000 for those who have successfully completed secondary school. A tertiary qualification appears to impart significant benefit upon its carrier as the average income of those with a diploma or higher is at least AED 300,000. Male Emiratis who leave school prior to secondary completion are thus likely to earn around half that of high school graduates and a third of the income generated by those with postsecondary credentials.

Having less educated individuals in the population not only adds to fiscal burdens but can worsen other standards of living such as health conditions. The earliest leavers may additionally follow less healthy lifestyles, leading to a vicious cycle of knock-on adverse effects emanating from early school leaving. The social impact of early school leaving is an additional consequence which cannot be discounted and issues such as security and criminality among dropouts are crucially in need of further research in Dubai. Finally, it must be noted that lower earnings by high school dropouts can generate equity concerns in society, especially as females persist in education at far greater rates. Social inclusion, especially that of males, can thus be severely compromised by the attrition challenge.

Figure 14 A Returns to Education Framework



Notes: Calculated for Emiratis only from the 2007/2008 Household Expenditure & Income Survey.
Source: Authors' calculations from Dubai Statistics Center (2008).

An holistic approach to reform need not be overwhelmed by the magnitude of the task at hand. On the contrary, UAE policymakers can call on their calculated courage and renowned drive for excellence, which have elevated the country to its current global stature. A measured response to the dropout challenge will not only resolve a national issue but illuminate a beacon of light for regional counterparts faced with similar challenges. Following the above strategic objectives, the report presents four types of policy options for decision-makers in Dubai to address the issue of early school leaving:

- Systemic change
- Student-centered solutions
- Community involvement
- Curricular intervention

The following recommendations represent the culmination of an extensive review of international best practice with an emphasis on the specific makeup of Dubai and the UAE. Consultations with educators, academics, community members and policymakers were a crucial component in developing these recommendations.

Five Short-Term Policy Levers

Although early school leaving has been a protracted issue in Emirati society, policy options with relatively swift results can be implemented. The following five recommendations represent bespoke solutions for the country's early school leaving challenge, with the consequent section outlining additional long-term strategies.

Recommendation 1. Utilize the Public Pulpit

Raising awareness around the problem is the cornerstone of addressing early school leaving. The most effective means of addressing the challenge of early school leaving is to originate emphatic public rhetoric underscoring the gravity of the issue. The public pulpit in Dubai and the UAE in general attracts intense following with widespread reverence of the Emirate's leadership. Such a message, presented by the leaders of Dubai and the UAE, will rapidly enter the core of public discourse by building immediate awareness and zeal for its resolution. Messaging must also be accompanied by explicit targeting of tangible goals such as reducing the male status dropout rate to 10 percent by 2020 with a secondary school event dropout rate target of four percent by 2015 and three percent by 2020.

Recommendation 2. Establish an Early Warning and Intervention System

Ensuring students remain in school and on-track for timely graduation requires identifying those who are at risk of failing to do so. To facilitate recognition of students who require intervention and active support along the graduation pathway, a system must be created to better inform school support staff and regulators at the Emirate level. The system should be designed not only as one for record-keeping but to automatically flag at-risk students and notify teachers and support staff. Notifications must be triggered by:

- Subject failure in English, Arabic or Mathematics.
- Prior retention in an earlier grade.
- Severe discipline incidents.
- Chronic truancy; in excess of five percent of instruction days per semester (four unexcused absences in public schools).

Recommendation 3. Address Cycle 2 Attrition

Dropping out of school commonly occurs throughout cycle 2 with notably high rates at grades 6, 8 and 9. The MoE has recently proposed modified legislation to penalize parents of early school leavers under the age of 16. Nevertheless, Dubai and the UAE's high retention rate imply that this will not resolve attrition of students aged above 16 but still in cycle 2. Extending the minimum leaving/hiring age to 18 in partnership with major government employers may result in more students remaining in education.

Resolving cycle 2 attrition need not be solely through judicial action. A community liaison officer operating out of the Community Development Authority (CDA), MoE or Ministry of Social Affairs (MoSA) can be assigned to effectively case-manage students of compulsory schooling age with habitual truancy or those who have stopped attending school entirely. Following international best practice, the liaison officer must play the role of facilitator to allow students to return to or remain in education. Absolute dropout numbers in compulsory education are not unmanageable and the liaison officer, in conjunction with the school, can develop strategies catering for each potential early school leaver during cycle 2.

Recommendation 4. Pilot Student-Centered Solutions

Tried and tested student-centered solutions based on international research have validated the need for individualized support for students to ensure their engagement in the learning process. Grade 10 was identified by this project as the point of highest attrition. For students who have been identified as at-risk, proposed recommendations include creating the role of graduation coaches at each school. The graduation coach, qualified in education or counseling, would be mandated with:

- Negotiating an 'Individual Learning Plan' with each at-risk student based on the student's learning strengths and interests.
- Assisting at-risk students in developing a 'Roadmap for Life' by considering postsecondary options in addition to exploring and planning for future careers.
- 'Check and Connect': Maintaining contact with the student to follow up on the Learning Plan and Roadmap as well as other personal or academic issues to facilitate their persistence.

Recommendation 5. Conduct Further Research

This research project has uncovered the magnitude and individual impact of early school leaving in Dubai and the UAE. Using hitherto unique data, these findings have shed light on a regional issue of substantial concern. Extensive research has uncovered the incidence of attrition in almost all schools in Dubai, at various levels. This emphasizes the need to build upon the systemic analysis of attrition in this project through two key research projects:

- Individual Determinants
 - Why do students drop out?
- Eventual Destinations
 - What happens to early school leavers?

Long-term Prerogatives

The aforementioned policy instruments for 2010 represent cost-effective means of promptly addressing the dropout challenge and ensuring Emirati students remain in school until successful graduation. Table 0.3 proposes five long-term recommendations that can serve to elevate the attractiveness of the education system and consequently manage to fruitfully guide students along the graduation path.

Table 3 Long-Term Strategies for Reducing Attrition

Long-Term Recommendations	Required Partnerships
6 – Advocate Legislative and Regulatory Change.	Public sector hiring, teacher qualifications, retention policy.
7 – Develop Equivalent Pathways.	Enhancing lifelong learning with alternatives for workforce equivalents.
8 – Promote a Broad, Choice-Based Curriculum.	Increasing student choice with creative and engaging subjects.
9 – Encourage Vocational Education and Training (VET) in Secondary Schooling.	Promoting reputation of VET and increasing access to Institute of Applied Technology (IAT).
10 – Enlist Community Support: Graduation for All.	Champions from industry and government to encourage graduation.

Conclusion

In response to the findings of this research, KHDA has in partnership with the Dubai School of Government commenced action towards alleviating the attrition challenge by establishing an Early School Leaving Taskforce. Comprised of stakeholders from multiple Government departments, it unites the various efforts needed to construct a holistic response to this strategic issue.

The Taskforce has thus far focused on raising awareness amongst public departments of the gravity of the challenge as well as the discussion of particular actions to be taken by the Community Development Authority, Ministry of Education, Dubai Police and the academic community through the Dubai School of Government. School principals will play a key role in implementing strategies to reduce the incidence of early school leaving and their representation on the Taskforce will be instrumental. As a vital element of any nation’s social and economic development, education is habitually at the forefront of public debate. The interrelation of students, parents, educators, schools, universities and other industries means education stakeholders extend throughout the population.

Adult skills surveys conducted by the OECD, such as the Adult Literacy and Life Skills survey, find skill levels rising with educational attainment. Only 30 percent of early school leavers were found to possess the skill level considered a suitable minimum for coping with the demands of everyday life and work.³⁴ This issue is likely to be exacerbated in countries where critical inquiry and skill development are not hallmarks of the education system. Early leavers from school systems with traditional instruction techniques that prioritize facts memorization and rote learning will therefore find their workforce readiness additionally lacking.

While attrition from education affects individuals, since the skill-level of early school leavers fails to meet the growing demand from industry, dropping out is additionally problematic from a social perspective. Individuals who leave school prior to completion are less likely to find prosperous employment and they may pose a burden on their families or the state to provide for them. The established relationship between education and improved health outcomes additionally exacerbates life outcomes for early school leavers. Security and judicial concerns are further externalities resulting from lower educational attainment. The aforementioned hardships can strain communities and severely stunt a country’s development as a result.

Although the UAE has witnessed rapid advances in attainment in its young history, moving from good to excellent education entails the need to avoid inertia. With a comprehensive focus on developing the quality of education, the country can build on the momentum of prior success to enhance the efficiency of both the process and the outcomes of education. At the time of writing, all eyes appear to be on the fiscal challenges facing Dubai and the rest of the world as a result of the global economic downturn. Nevertheless, education has always been a critical investment for the future of individuals, economies and societies at large. As the difficulties of finding and retaining employment rise in a recessionary market, the imperative for improving the educational attainment of the UAE’s youth has never been greater.

Notes

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