مؤسسة عبدالله الغرير للتعليم
Abdulla Al Ghurair Foundation for Education

**INVESTING IN TOMORROW'S TALENT:
A STUDY ON THE COLLEGE AND CAREER
READINESS OF ARAB YOUTH**

2018

FOREWORD

Arab youth are at the heart of our work at the Abdulla Al Ghurair Foundation for Education. In just a few years of offering university scholarships, we gained valuable insights from our applicants and scholars. We learned that they are ambitious, persistent and serious about their careers. We also learned that investing in their academic success alone is not enough to prepare them for the future, particularly among those coming from disadvantaged backgrounds who lack the support system to guide them along the way.

The voices of Arab youth are often lost or forgotten in the policy debates about them. This study on the college and career readiness of Arab youth is an effort to hear their perspectives around the critical junctures in their educational journey towards employment. It is also the Foundation's first effort to contribute to research on topics that deserve greater attention and that have implications on access, quality, and equity issues in education in the Arab world.

While this report raises many questions, we also hope it sheds light on this important issue. Arab youth have concrete ideas about how to support themselves in their preparation for college and careers. And, we – philanthropies, educators and future employers have a collective responsibility to invest in tomorrow's talent, providing Arab youth with the professional guidance, experiences, and knowledge that they need to be the best they can be.

Maysa Jalbout
CEO
Abdulla Al Ghurair Foundation for Education

ACKNOWLEDGMENTS

ABOUT THE ABDULLA AL GHURAIR FOUNDATION FOR EDUCATION

The Abdulla Al Ghurair Foundation for Education, founded in 2015 and based in Dubai, is the largest privately funded foundation in the Arab world focused exclusively on education. It aims to improve access to quality education for high-achieving, underserved Emirati and Arab youth. Abdulla Al Ghurair pledged one third of his wealth to the Foundation and set out a target of reaching 15,000 youth over the next 10 years via secondary and higher education programs and scholarships valued at over US$1 billion.

For more information, please visit: www.alghurairfoundation.org.

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EXECUTIVE SUMMARY

The Abdulla Al Ghurair Foundation for Education conducted a study on college and career readiness, which aimed to understand the perceptions of over 3,000 Arab high school and university students around their preparation and experience throughout this transition. College and career readiness is typically defined as the set of knowledge, skills and factors that can successfully enable students to transition from school to university and work. It usually consists of five components: college knowledge, non-cognitive skills (also known as soft skills), cognitive skills, content knowledge and support system (family and school).

The report summarizes six key findings pertaining to the perceptions of Arab youth:

1 **Arab youth are increasingly sophisticated in their university and career selection and responsive to market needs.**

Over 68% of university participants selected their university primarily based on its reputation, an indication that students are paying more attention to the quality of the education they are receiving. In addition, their top three post-university plans are pursuing further studies, working in the private sector, and becoming an entrepreneur, which is also a sign that they are changing their mentality about employment and their careers.

2 **Arab youth have high confidence in their academic abilities and skills.**

While Arab student test scores (in international assessments) and employer feedback indicate a gap in college and career readiness, Arab youth remain confident in their academic skills in mathematics, English, presentation, research, and more. This indicates a gap between student perception and reality, which is most likely rooted in a lack of alignment between expectations for high school graduation and expectations for college and career readiness, a phenomenon seen well beyond the Arab world.

3 **Almost 43% of Arab youth in high school do not feel sufficiently prepared for university.**

Notably, 66% reported that they never had access to academic counseling during their high school career. Research findings indicate that students who met with an academic counselor have better student learning outcomes, overall well-being and satisfaction during high school and college, and therefore were 25% more likely to report feeling prepared for university.

4 **Once at university, Arab students seek more quality services from their universities.**

Over 42% of surveyed university students report that 'career-related events and opportunities' are missing from their university experience, followed by 'counseling services' and 'extracurricular activities.' These responses are an indication that Arab students are seeking more, and perhaps better quality, professional services from their universities to help them thrive at university, in their careers, and beyond.

5 **Although the majority of Arab university students report being satisfied with their overall university experience, more than one-third do not feel university is effectively preparing them for their career.**

In addition, nine out of ten surveyed university students stated that internships are important, indicating that Arab youth are in tune with employer expectations. However, they seek more support in gaining the practical experience they are lacking to prepare for employment.

6 **Disadvantaged students, with strong support, show resilience throughout their educational experience, despite facing greater barriers than most students.**

Results from the survey indicate that disadvantaged students are more likely to enroll in public schools, have more limited access to the Internet and academic counselors and other support services. Yet, they feel just as, if not more, supported by their community and prepared for university. These findings confirm research which shows that with enough extra support from their educational institutions and family, disadvantaged students can beat the odds and access better educational opportunities.

OPPORTUNITIES FOR ACTION

Based on the findings, the report presents three key recommendations that lie at the heart of addressing the lack of college and career readiness among Arab youth and their preparation for the workforce. These include providing:

1. **College and career information** that is up-to-date, personalized and digestible for both high school and university students on university admission requirements, program and university selection, and career preparation,

2. **Experiential learning** that includes all practical activities and experiences that better prepare them for university and work, such as college and career fairs, internships, co-operative programs, mentorship, extracurricular activities, skills development courses, etc. and

3. **Professional support** from well trained and experienced academic and career counselors both at the high school and university levels.

However, in order to maximize student success throughout their school to work transition, the above recommendations must be delivered within a climate of **collaboration** among all relevant stakeholders; and **innovation** in designing, delivering, and evaluating their academic and other related experiences and support.

INTRODUCTION

In recent decades, most countries in the Arab world have succeeded in expanding access to education across all levels. However, the quality of education in the region continues to trail behind global averages; the region's youth unemployment rate hovers around 29%, the highest rate in the world; and employers argue that Arab youth are largely unprepared for the current world of work, let alone its future needs (Bayt, Injaz Al-Arab & Yougov, 2016; IFC & IDB, 2011).

Although there is a multitude of factors, both educational and non-educational, that have contributed to this situation and continue to do so, practitioners have neglected and understudied the college and career readiness of youth in the Arab world. In fact, Arab students receive little to no professional college and career support throughout their educational experiences (IFC & IDB, 2011; Injaz Al Arab & ALECSO, 2014; Steer et al., 2014). In the case where it is provided, little is known about its impact.

This report presents the perspectives of over 3,000 Arab youth on their journeys from high school to university and to work, as captured in a 2017 survey conducted by the Abdulla Al Ghurair Foundation for Education. As college and career readiness is still a nascent field in the Arab region, the report draws on international literature to illustrate its components and its impact on student success not only on their education and employment, but also on their lives more broadly.

The report begins with an overview of the current state of education in the Arab world, highlighting its major achievements and challenges as they relate to students' transition to university and work. This is followed by a brief overview of the international literature on college and career readiness, followed by the methodology used to conduct this study. The next section presents and discusses the main findings of the study. Finally, the report concludes with a number of opportunities that would enable governments, educational institutions, employers, and others to invest in the talent of Arab youth by playing a more impactful role in preparing them for their transition from education to work.
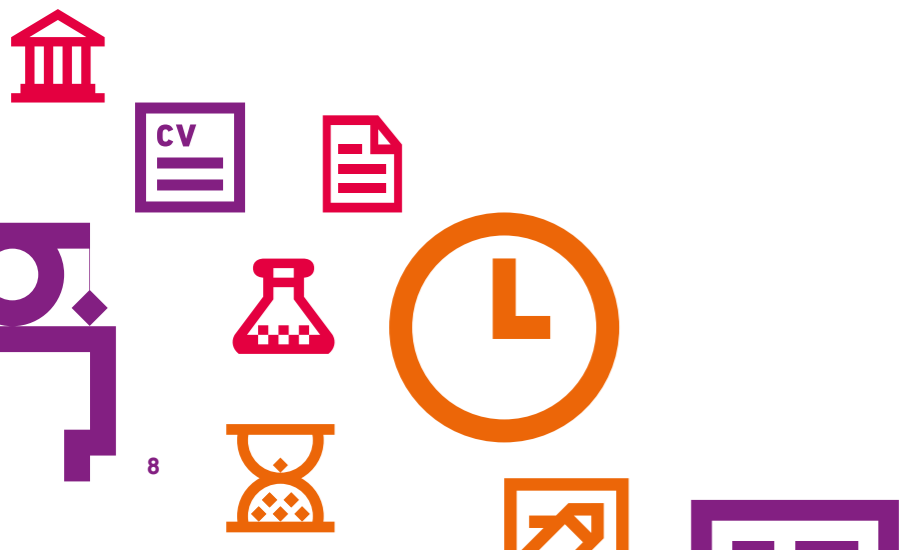
THE EDUCATION TO EMPLOYMENT JOURNEY OF ARAB YOUTH

Over the past 60 years, the Arab world has recorded notable achievements in expanding access to formal education. Enrollment in primary education is nearly universal in several countries (UNDP, 2016), and the average enrollment rate in secondary education is over 70% (World Bank, 2014), as compared to 76% globally (World Bank, 2016). Enrollment rates at the tertiary education level have also steadily increased across the region over the past two decades, and according to recent forecasts, the overall tertiary educated pool is set to double by 2030 (World Economic Forum, 2017). In fact, Jordan and Saudi Arabia saw their total tertiary enrollment across all levels almost double and triple respectively between 2000 and 2015, reaching 45% and 63%, although the 28% regional average is still 7% below the global average. Even more troubling, this is still more than 40% below the Organization for Economic Co-operation and Development (OECD) average of 70% (World Bank, 2017)[1].

Access to all levels of education, especially higher education, is most restricted for the region's refugee youth, those living in countries affected by conflict, as well as those most financially disadvantaged. In 2016, in conflict-torn Syria, only 5% of youth aged 18-24 were enrolled in a tertiary education institution (UNESCO, 2017). However, the region has made noteworthy progress with respect to closing the gender gap in education at all levels. In fact, in the Gulf Cooperation Council (GCC), there has been a reverse gender gap, where girls represent the majority of total enrollment at the tertiary level, with rates of 65% in Kuwait (Young, 2017) and over 80% in the United Arab Emirates (Pennington, 2017) compared to around 56% versus 44% in the United States (Marcus, 2017).

In addition to growing enrollment rates in the region, Arab youth have some of the highest educational aspirations and motivation in the world. The OECD's Programme for International Student Assessment (PISA), a survey administered to 15-year-old students across 75 participating countries every three years, revealed that Arab students are 22% more likely than students across the OECD region to report that they expect to pursue their higher education (2015)[2]. They were also 13% more likely to report wanting to work in a science-related occupation by the age of 30, and 23% more likely to spend 60 or more hours per week studying. Finally, Arab students displayed exceptional achievement motivation compared to students across other regions in the world, as illustrated in Figure 1 below.

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1 The OECD includes 37 member countries, most of which are high-income economies.
2 The six Arab countries that participated in PISA conducted in 2015 are Jordan, the United Arab Emirates, Lebanon, Qatar, Tunisia and Algeria.

Figure 1. Students' achievement motivation in the Arab world, OECD and Asia

	Arab countries	OECD	Asia
I see myself as an ambitious person	47	22	21
I want to be one of the best students in my class	55	23	26
I want top grades in most or all of my courses	65	40.6	32
I want to be able to select from among the best opportunities available when I graduate	64	51	48
I want to be the best at whatever I do	56	29	31
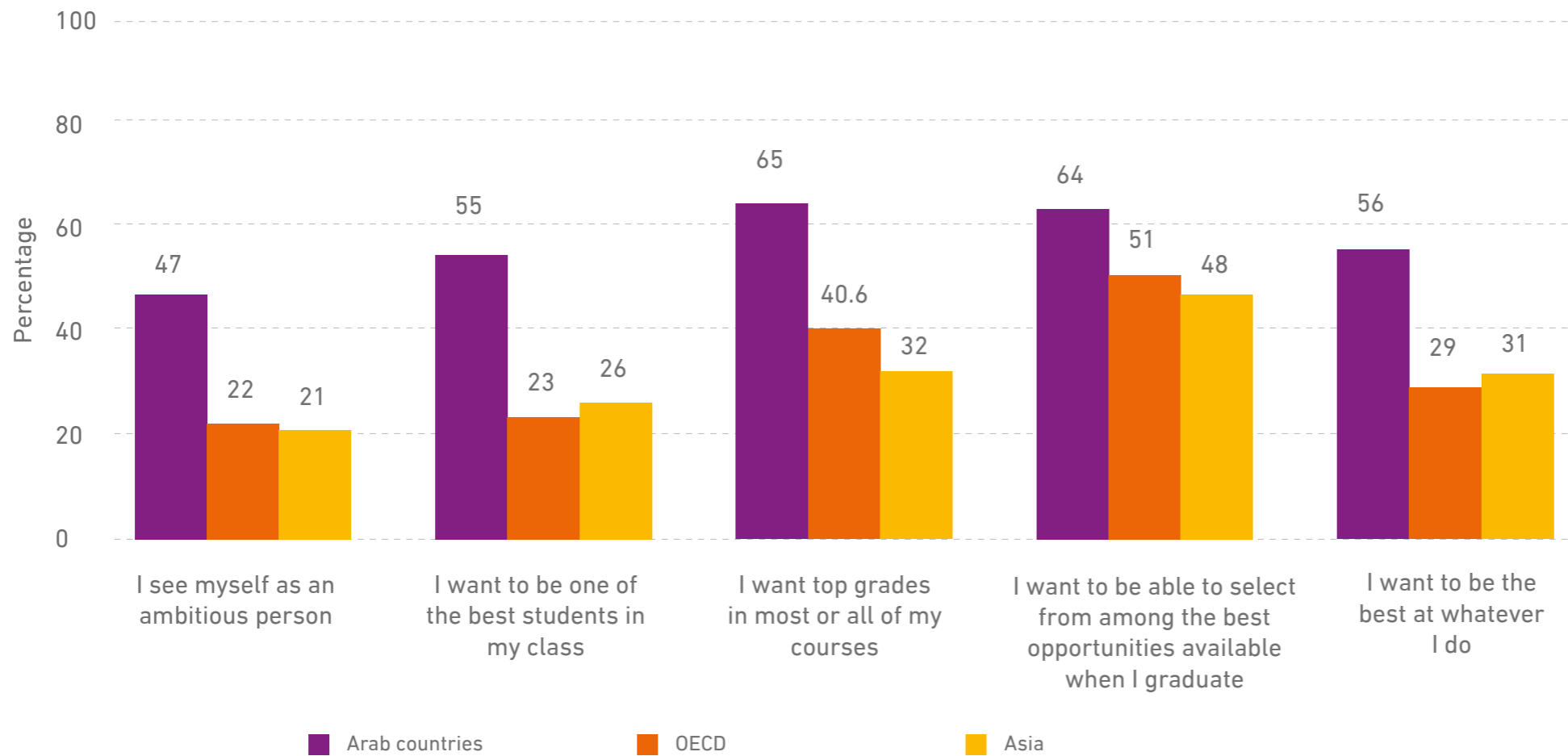
Source: OECD (2017)

Not only do Arab students seem intrinsically motivated to succeed, but they also report feeling supported by their parents throughout their education journey. The PISA report shows that the overwhelming majority, between 81-91% of sampled Arab students reported that their parents support them when they face difficulties at school, and at least 85% said that their parents are interested in their school activities (OECD, 2017). These findings were corroborated by a pilot study conducted by the Abdulla Al Ghurair Foundation for Education in 2016 among 300 Emirati high school and university students, which found that 66% of surveyed students choose to turn to their family for advice about university.

1 The OECD includes 37 member countries, most of which are high-income economies.
2 The six Arab countries that participated in PISA conducted in 2015 are Jordan, the United Arab Emirates, Lebanon, Qatar, Tunisia and Algeria.

School to University Transition: Completing, but Not Succeeding

Yet, these achievements tell only part of the story. Although a growing number of Arab students are completing high school, enrolling in university, and obtaining a degree, they are not receiving an education that prepares them for the working world. The overarching reason for the lack of preparation of Arab youth for employment is the relatively low quality of education across the region.

At the secondary level, 15-year-old students from the six participating Arab countries in PISA scored well below the OECD average in all three tested subjects - mathematics, reading[3], and science. Figure 2 below shows their performance for mathematics by country. Furthermore, a longitudinal review of Arab students' performance across the last three PISA assessments (2009, 2012 and 2015) reveals a relative deterioration of the quality of education, particularly in mathematics.

Figure 2. A comparison of student performance in mathematics in select countries
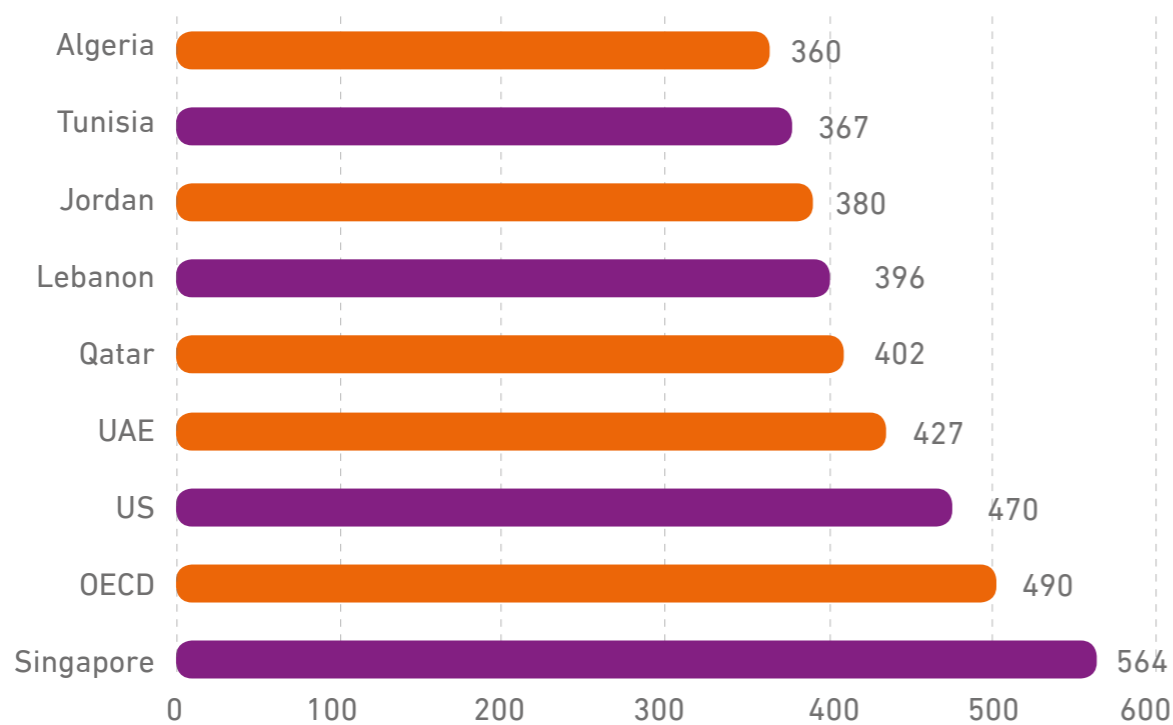
Source: OECD (2017)

These results have far-reaching implications. In addition to informing us of students' academic competencies, they are an indication of students' cognitive skills. Indeed, PISA not only tests students' content knowledge in mathematics and science, but it also assesses their ability to think like scientists - make and verify assumptions, draw conclusions, question facts and interpret data (OECD, 2015).

Studies provide a number of reasons for why Arab students do not perform well in their core subjects and resulting cognitive skills, relative to other countries. These include the low quality of training for teachers, the use of traditional and outdated curricula, large classroom sizes, limited support and resources for schools, and much more (Faour, 2012). But one of the most important reasons is that education systems across the region still heavily rely on pedagogical techniques such as memorization, rather than problem solving and critical thinking (UNDP, 2016; Injaz & ALESCO, 2014). They also weigh subjects like history, language, religion and moral guidance heavily compared to STEM (Science, Technology, Engineering, Mathematic) subjects, as showcased by Alkebsi and his colleagues (2017) in an assessment of teaching time allocated to each group of subjects in public schools across the region. Until recently, on average, nearly 75% of teaching time in six Arab states was dedicated to non-STEM subjects while only 24% was spent on STEM subjects[4]. This is relatively low compared to top-performing countries like Singapore that dedicate almost half of teaching time on STEM subjects (Alkebsi et al., 2017).

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3 30 points on the PISA scale is roughly equivalent to one year of schooling (World Bank, 2015). As an illustration, Figure 2 shows that Algeria scored 204 points less than Singapore, which is equivalent to more than six years of schooling.

At the tertiary level, young Arabs are also shortchanged, as evidenced by the limited number of Arab universities that are listed in the world rankings. Only one university in the Arab world is ranked in the top 200 of the 2018 QS World University Ranking, as compared to 54 in North America, 89 in Europe, six in Latin America and 37 in Asia. Furthermore, only one university in the Arab world, the American University of Beirut (AUB), has ranked 51st in the QS Graduate Employability Ranking (2018), an indication that most graduates in the Arab world are not globally competitive[5].

Figure 3. University rankings by continent
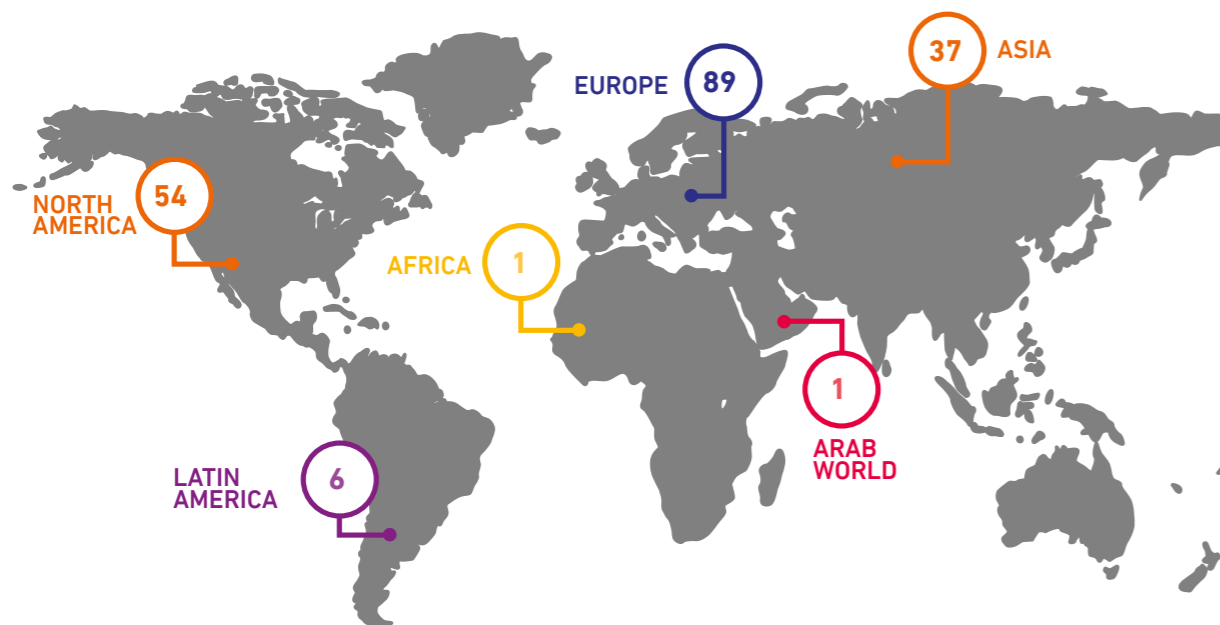
Source: QS World University ranking (2018)

Joining the Labor Force: Unprepared and Inexperienced

The lack of preparation of youth for the world of work is a widely known phenomenon that is reflected in the 29% of youth who are unemployed across the region, the highest rate in the world (World Bank, 2017). University graduates in particular, constitute nearly 40% of the total unemployed pool (Devarajan, 2016), compared to 4.6% across the OECD (OECD, 2018). Young Arab women are also twice as likely as young men to be affected (43.2% versus 24.4%) (World Bank, 2017).

While many factors contribute to these high unemployment rates, regional studies on employer perceptions of university graduates point to the fact that education institutions are falling short on their commitments to their students.

First, there is a misalignment between students' areas of study and the demands of the labor market. With countries vying to compete in the knowledge-based economy, Arab countries need to boost their private sectors and invest in areas such as science, technology and innovation. Yet, in more than half of the Arab countries, regional data shows that only 25% of students actually enroll in a STEM discipline at university (UNESCO, 2016). Similarly, surveyed private sector employers across five Arab countries reported that too many students graduate from the humanities and have "little or no knowledge relevant to the workplace" (IDB & IFC, 2011, p.37)[6]. They argue that while these enrollment choices may be consistent with the region's historical pattern of absorbing university graduates in the public sector regardless of their specialty, this is no longer suitable to meet the demand of the current and future labor market. This has been corroborated by another study conducted among around 4,000 students and graduates from 19 Arab countries, which found that Arab students are not aware of the current growth sectors and where new career opportunities lie. Instead, students continue to believe that traditional sectors, such as construction and oil and gas, provide the best employment opportunities (Bayt, Injaz Al-Arab & Yougov, 2016).

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4 This analysis covered the following countries: Jordan, Lebanon, the United Arab Emirates, Qatar, Egypt, and Saudi Arabia, and is based on data from 2010/2011.
5 Although international university rankings are an imperfect measure of quality, particularly for universities in the developing world, it is the most comprehensive and globally comparable measure to date and is therefore used as a proxy for overall quality of higher education institutions.

Second, Arab students suffer from a notable skills gap. Although this is not a trend unique to the region, a number of reports underscore the prevalent mismatch between the skills that employers seek and value in graduates, such as communication and critical thinking, and those that are taught to students at school and in university. According to an Ernst & Young survey, around one third of employers in the Gulf Cooperation Council (GCC) stated that nationals are missing key skills such as communication, discipline, and commitment (Cooper et al., 2015). Comparable results were also found among Arab students in general, with private sector employers reporting that Arab graduates are missing the combination of hard and soft skills (IFC & IDB, 2011). Finally, a more recent study, conducted primarily among job seekers and employers in the GCC region, further found that one third of surveyed employers reported that students do not know what employers are looking for (Yougov & Bayt, 2016). This, according to most surveyed employers across these studies, is due to the inability of higher education institutions to teach students the skills they need to enter the job market.

The data above confirms that Arab youth are lacking professional guidance and support throughout high school and university to prepare them for success in their lives and their careers. The field of college and career readiness is still nascent in the Arab world; however, there is a dearth of global literature on the topic, its components, and its impact on students' educational and career opportunities. These are discussed in the next section.

6 The five Arab countries included in the study are Egypt, Jordan, Morocco, Saudi Arabia and Yemen.

WHAT IS COLLEGE AND CAREER READINESS?

Although there is no unified definition of college and career readiness, it is typically known as the knowledge, skills and factors that can enable students to successfully transition from high school to university and from university to the workplace. The most widely used framework consists of four key components: college knowledge, non-cognitive skills (also known as soft skills), cognitive skills, and content knowledge (Conley, 2007; Borsato et al., 2013). A number of studies also argue that external factors such as family and school play an important role in college and career readiness (Nishioka et al., 2014; Ryerse et al., 2014). Therefore, this study includes a fifth component called support systems. Each of the five components are presented in Figure 4 and their impacts are discussed below.

Figure 4. Five components of college and career readiness

1. College knowledge

2. Non-cognitive skills

What is college and career readiness?

3. Cognitive skills and abilities

5. Support systems (family and school)

4. Content knowledge
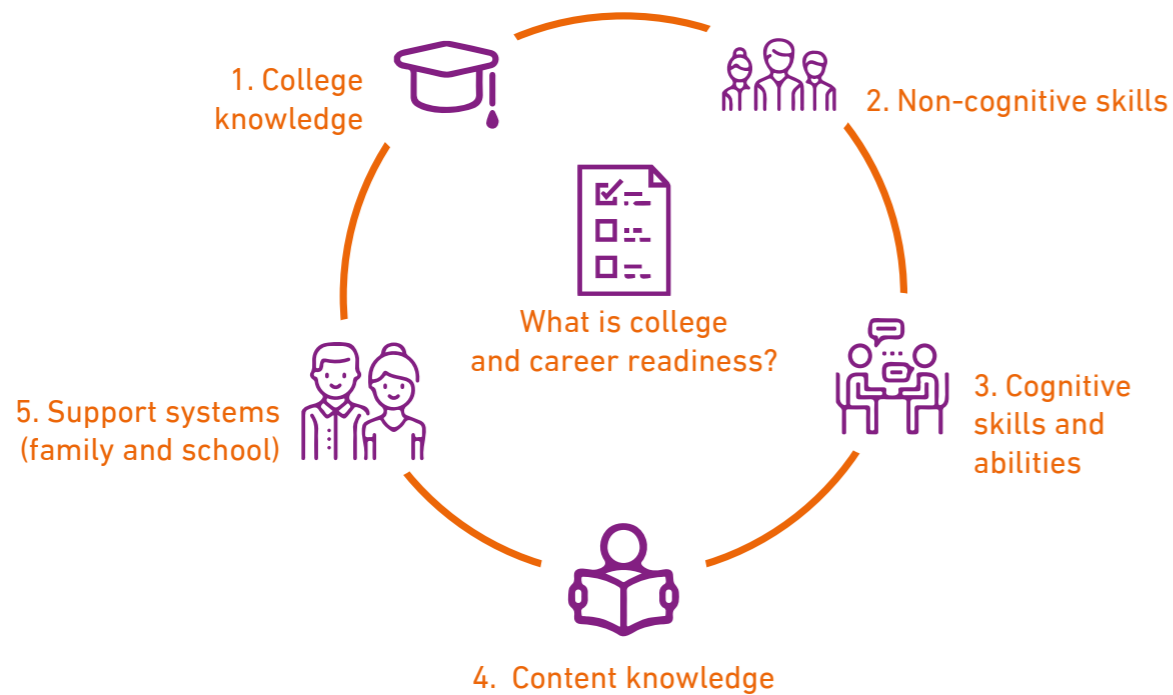
First, *college knowledge* refers to a student's ability to develop a college-going culture and adjust to a post-graduate setting (Corwin & Tierney, 2007; Duncheon, 2015). Studies find that having sufficient knowledge of the college application process (procedures, deadlines, and requirements), the academic programs available and what it takes to succeed in university, increases a student's chances of success including making more informed career choices (Conley, 2007; Borsato et al., 2013).

Second, a considerable body of literature underscores the importance of students being equipped with *non-cognitive skills* that enable them to thrive in an academic setting, in the labor market and throughout their lives (Hooley et al., 2011; Darch & Stam 2012; Deloitte, 2017). Non-cognitive skills, defined as the set of soft skills, behaviors, and non-test-score attributes ranging from perseverance and a positive mindset to self-discipline and self-confidence, are positively associated with student achievement at different stages (Nagaoka et al., 2013; Chamorro-Premuzic et al., 2010; Farrington et al, 2012; Chen et al., 2017). In a seminal study, Duckworth and Seligman (2005) demonstrated that self-discipline is a stronger predictor of academic success than student Intelligence Quotient (IQ) scores. Indeed, students with more self-control outperformed their peers with less self-control; they had higher grades, test scores, attendance, and admission rates to competitive high schools. Similarly, Komarraju and colleagues (2011) found that skills such as conscientiousness and emotional stability have a strong influence on student learning styles and grades.

Third, research also finds that *cognitive skills and abilities,* defined as the skills reflecting critical thinking, problem-solving, as well as basic numeracy and literacy, among others, are highly correlated with school and employment success (Hooley et al., 2011; Conley, 2013). A number of studies found that higher cognitive skills at the high school and university levels are systematically correlated with higher wages and employment opportunities (Hanushek et al, 2015; Lin et al., 2017; Green & Riddell, 2009). Drawing on the results of the Programme for the International Assessment of Adult Competencies (PIAAC) survey conducted by the OECD in 23 countries, Hanushek and his colleagues found that in all participating countries, "a one-standard deviation increase in numeracy skills is associated with an 18% wage increase among workers" (2014, p.104).

Fourth, although general *content knowledge* falls broadly under cognitive skills, students are also expected to master a number of academic disciplines in order to succeed at university and in their careers (Conley, 2007; Horn & Kojaku, 2001; Kirst & Venezia, 2004)[7]. In a series of groundbreaking works, the OECD identified mathematics, reading, and science as crucial skills for lifelong learning and success (UNESCO & OECD, 2003; OECD, 2017). For example, higher reading competencies were found to significantly improve employment prospects (UNESCO & OECD, 2003). Furthermore, in a longitudinal study of 13,000 American high school students, Balfanz and his colleagues (2007) found that failing mathematics or English class in sixth grade was a key early predictor of students who would not graduate from high school.

Finally, although all of the above components of college and career readiness are important, they alone do not prepare young people for educational and career success. A number of studies found that the *support system*, whether at home, school, or university, is instrumental for success. In the educational context, academic counseling is positively related to student learning outcomes and overall well-being both in high school and university (Shaterloo & Mohammadyari, 2011). For example, Hines and Lemons (2011) highlighted the unique position of high school counselors to help students make informed college choices, while Pargett (2011) found that academic advising contributes to "93% of student's satisfaction with their college experience" (p.42).

Family also plays an important role in a student's educational experience, with positive correlations found between parental support and student motivation and academic performance (Boonk et al., 2018; Gordon & Cui, 2012). For example, "students who often discussed school courses with their parents had 44% higher odds of immediate enrollment in postsecondary education," as opposed to those who never had such discussions (Ross, 2016, p7). Similar results were found by Martinez, DeGarmo, and Eddy (2004), who found that students who are able to talk about life issues with their parents and who are often supported and encouraged by them are more likely to complete their homework.

As previously stated, the field of college and career readiness is still nascent in the Arab region, and as such, this study drew on the above five components as identified in the international literature to understand the perceptions of youth around their transition to university and then to work. The methods used to conduct this study are described in the following section.

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7 Drawing on David Conley's framework for college and career readiness (2007), this report presents content knowledge and cognitive skills as two separate components.
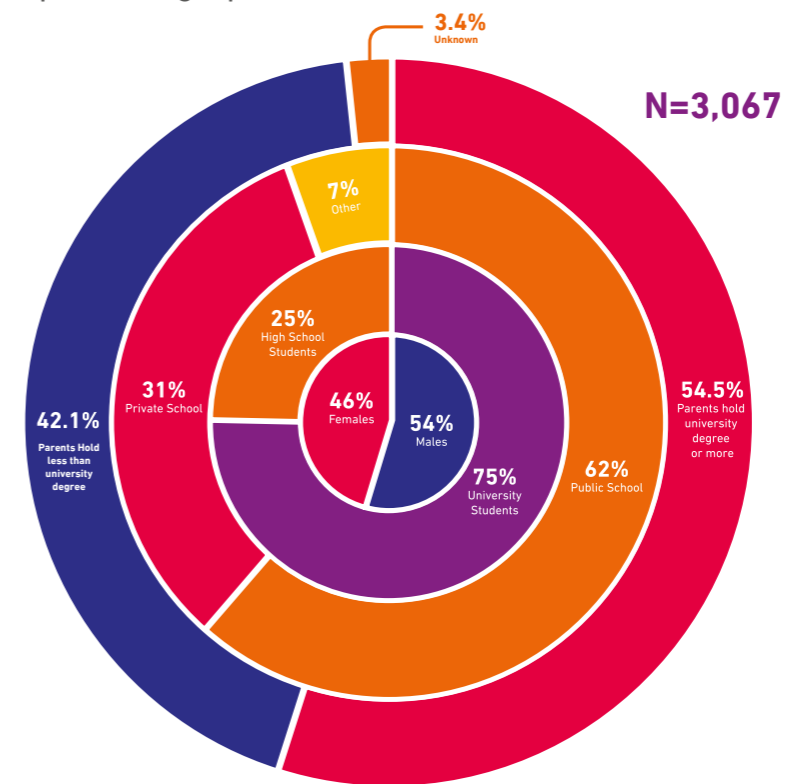
METHODOLOGY

This study used quantitative methods to survey high school and university students from the Arab world about their self-perceptions and feelings of preparedness for university and their careers. Based on the framework for college and career readiness discussed above, the survey included seven overlapping sections that cover the five components. These were students' education and career aspirations, attitudes towards learning, knowledge about the university system, study habits, confidence in their own abilities and skills, perceptions of the job market, and the support they receive(d) from educational institutions and family throughout the journey.

The survey was made available online in both Arabic and English and consisted of approximately 45 closed-ended questions[8]. The survey was confidential and was administered between November and December of 2017 through multiple online channels[9]. Over a period of six weeks, 3,154 survey responses were collected from Arab youth representing 19 nationalities. To ensure the efficacy of the data, less than 3% of the survey responses were removed due to incomplete surveys or questionable responses leaving 3,067 surveys that were analyzed.

The sample demographics, as illustrated in Figure 5 below, consisted of 75% university students (82% undergraduates and 18% graduates) from approximately 414 universities inside and outside the Arab region, and 25% high school students. The sample was gender representative, with 46% of participants being female and 54% being male. In terms of academic specialization, 60% of university respondents were enrolled in a STEM program, while 47% of high school students surveyed stated that they would like to study a STEM discipline at university. Finally, in terms of the respondents' socio-economic status, 26% are first-generation university students,[10] and around two-thirds attended or are currently attending a public high school. Overall, 46% of respondents' parents (40% of mothers and 52% of fathers) hold at least an undergraduate degree, and 50.5% (56% of mothers and 45% of fathers) have not pursued higher education, holding a vocational certificate, a high school degree or less.

There were a number of limitations associated with this study. First, it was a self-selected sample, as students volunteered to complete the survey. The sample is also not representative of the total population of Arab youth since the participants were either already pursuing a degree or planning to do so. It primarily includes highly ambitious and academically achieving students attending universities in and beyond the region, with a number of them enrolled in the Abdulla Al Ghurair Foundation for Education's scholarship programs. As such, their responses may not reflect the perspectives of the broader population of Arab youth. Second, as questions about students' self-perceptions are self-reported, there is a potential for social desirability bias, and therefore the results need to be reviewed with caution. Finally, the sample is not geographically representative of the region, with half of the respondents living in four countries (Palestine, Egypt, Jordan, and Morocco). As a result, cross-country comparisons or in-depth analyses of individual countries could not be conducted.

Figure 5. Sample demographics

Results

1 Arab youth are sophisticated in their university and career selection; they are responding to market needs.

The first finding that emerged in the study is that Arab students have high aspirations. Together with their parents' support, they are more mindful in their university and program selection decisions and have ambitious career plans, beyond the public sector.

Over 64.8% of university participants reported making their enrollment decisions primarily based on a university's reputation, as seen in Figure 6 below. This was followed by whether the university offered their program of interest (55%), whether it was financially affordable or free (39.2%), and to a much lesser degree based on advice they received from their family, their school, or others (24.6%).[11]

Figure 6. How Arab students select their universities
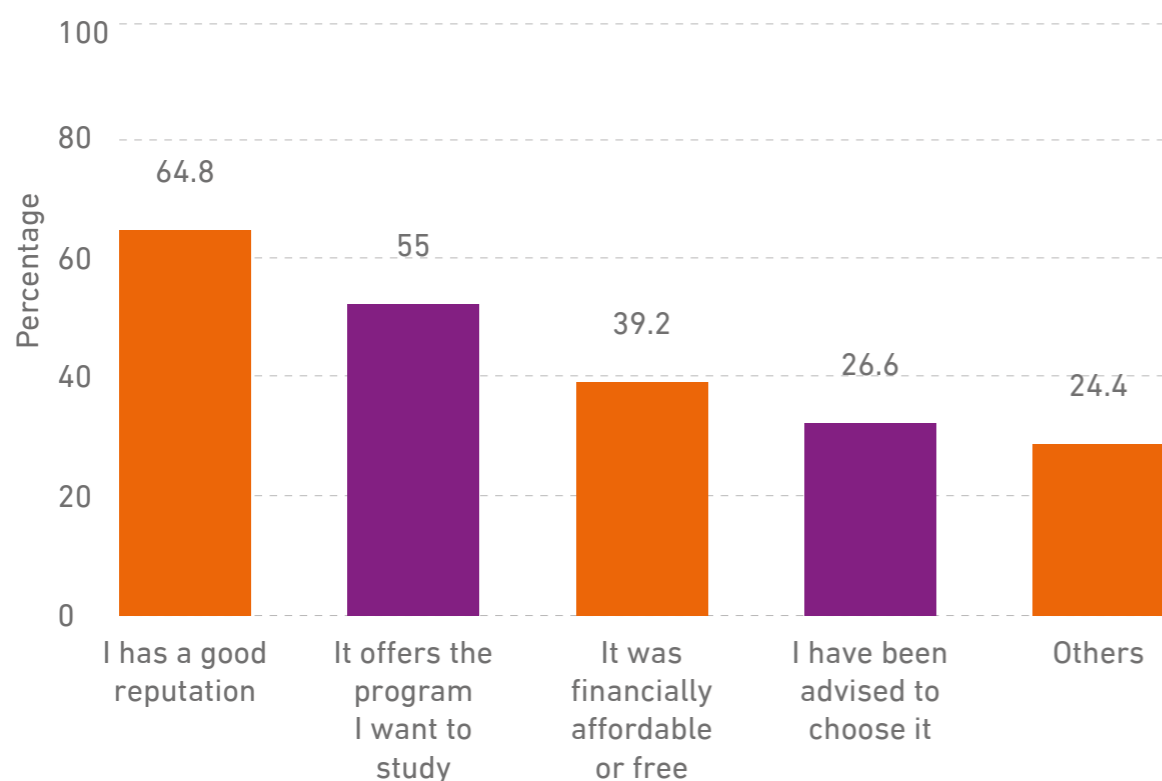
These results may indicate that students recognize that their university experience is dependent not only on their experience in their specific program but based on the overall quality and fit of the university itself. When asked why they selected their program of study (students had the option to select more than one choice), the most popular choice was "I am good at or I like this subject" (86.1%), followed by "I know it has many job opportunities" (51.4%) and "my parents/friends advised me to choose it" (23.9%) coming in third. Given the significant role that Arab families plays in driving their children's educational and career preferences, as well as the centralized process of assigning students to national university degree programs, further research would be required to understand whether these findings are a true reflection of student perspectives or whether there are external factors that influence them to select these programs of study.
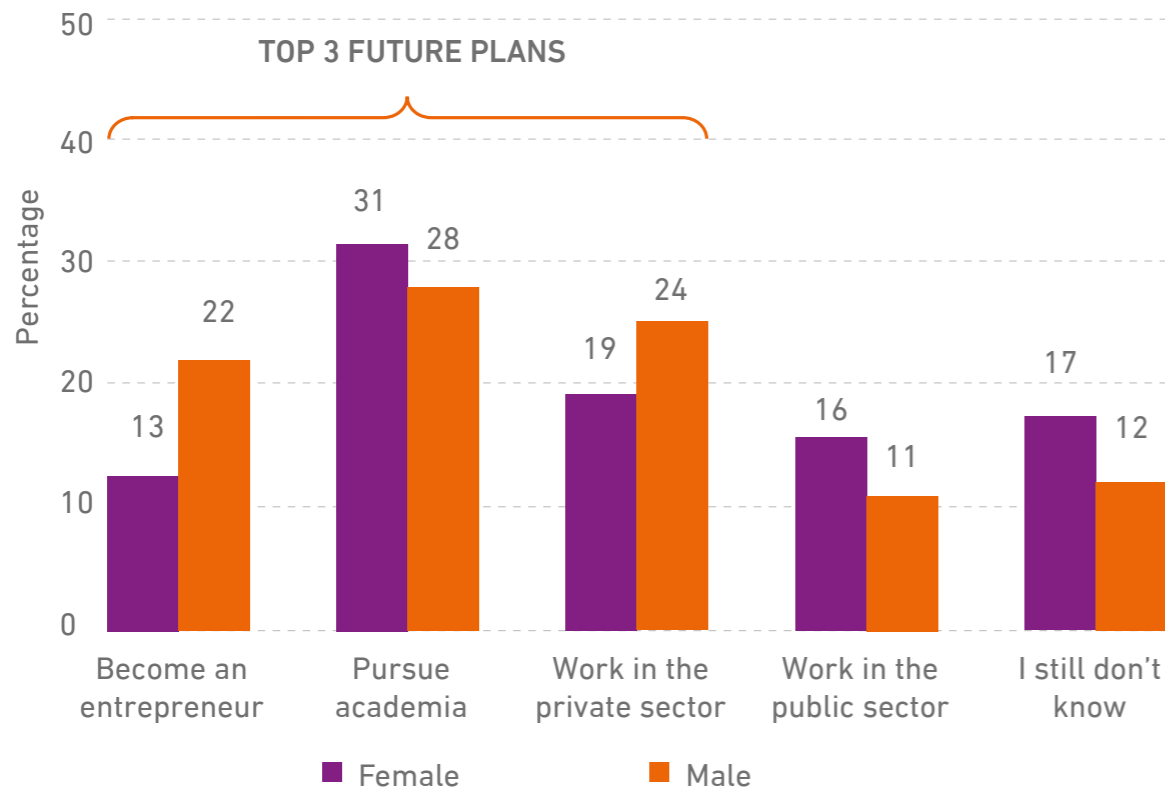
Participants also reported having their families' support in going to university. Although the survey was catered to Arab students who were either studying at university or intending to go to university, almost 97% of participants, regardless of their socio-economic background, reported that their families support their decision to go to university. This corroborates the findings from the 2015 PISA report, which found that Arab youth and their parents have very high educational aspirations and expectations. In fact, the educational aspirations of students in the UAE were roughly double the OECD average.[12]

Finally, when asked about their plans beyond university, the survey found that students favor further education or work in the private sector over work in the public sector. Figure 7 illustrates that the majority, around 30%, of respondents reported wanting to pursue further graduate studies or academia, followed by work in the private sector (22%), and entrepreneurship (18%) as the top three post-university plans. Although the results did not vary significantly across genders, males were more likely to report wanting to become entrepreneurs (21.6% versus 13.4%), while females were more likely to want to work in the public sector (by 5.5%). Some of these findings are consistent with international studies, which highlight a gender gap in entrepreneurship, with women usually displaying less entrepreneurial intentions than men (Sieger et al., 2016; OECD, 2015). In the Arab world, males are more likely to pursue business ventures while females, most likely due to "social factors, including family life and cultural norms" prefer to work in the public sector (Young, 2016), which is often perceived as more respectable (Momani, 2016).

11 Responses that fell into the "others" category included: "the admission requirements were easy" (7.4%), "my friends are attending this university" (6.9%), "it was the only option available to me" (5.5%) and "other" (4.6%).
12 A survey conducted by the OECD in 2015 as part of the PISA assessment finds that 66% of surveyed students across the Arab region and 72% in the United Arab Emirates are expecting to pursue tertiary education as opposed to only 44% across the OECD.
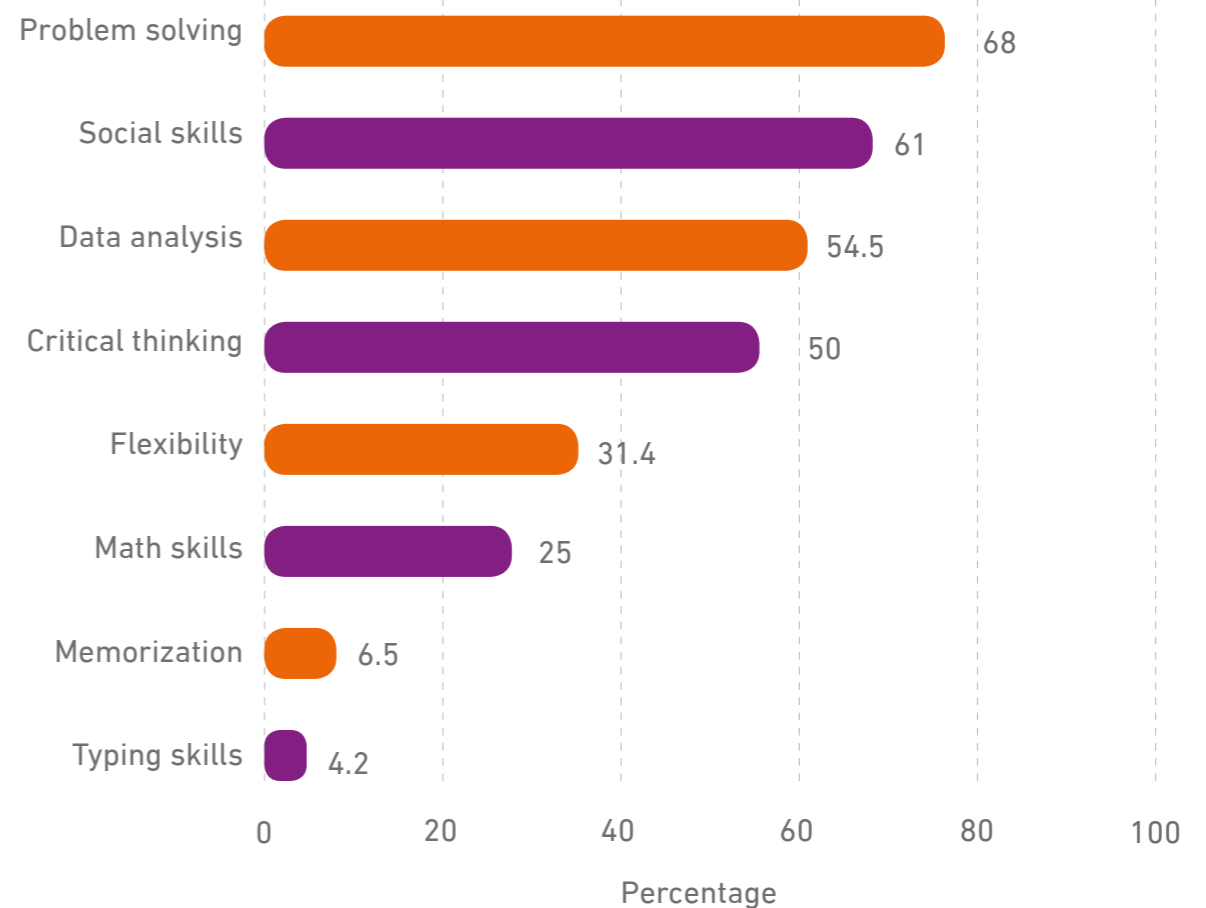
Figure 7. Plans after university

TOP 3 FUTURE PLANS

Plan	Female	Male
Become an entrepreneur	13	22
Pursue academia	31	28
Work in the private sector	19	24
Work in the public sector	16	11
I still don't know	17	12

■ Female   ■ Male

However, these results are a departure from most recent regional reports that find that although interest in entrepreneurship and private sector work is growing overall, the vast majority of youth in the Arab region still favor employment in the public sector (UNDP, 2016). Despite government efforts to encourage private sector employment, the public sector continues to account for 60-80% of total formal employment across most of the region, and in particular in the GCC (Momani, 2017). For example, in a 2016 survey, 70% of youth from the GCC stated that they prefer to work in the public over the private sector (Asda'a Burson-Marstelle, 2016).

The gap between the survey results and reality could be further explained by the fact that the surveyed youth do not reflect the preferences of most youth in the region. The sample was mainly composed of high achieving and ambitious students pursuing a STEM specialization, which would most likely put them on track for a career in the private sector. However, the survey also indicated that youth are in tune with the skills and the jobs of the future. Indeed, when asked to select the skills they think will be important in the next 15 to 20 years, the majority of university students selected problem solving (68%), social skills (61%) and data analysis (54.5%), while only 6.5% and 4.2% choose memorization and typing skills, respectively. Similarly, when asked to select the jobs they think will be important in the next 15-20 years, the most selected occupation was data analyst (75.4%), while the least selected was office assistant (9.5%). In other words, given the consistently high youth unemployment rates in the region, it is possible that they are beginning to respond to the reality and needs on the ground as shown in Figure 8 below.

Figure 8. Arab students' perspectives on skills of the future

Skill	Percentage
Problem solving	68
Social skills	61
Data analysis	54.5
Critical thinking	50
Flexibility	31.4
Math skills	25
Memorization	6.5
Typing skills	4.2

Percentage

2 Arab students' high confidence in their skills is in sharp contrast with their poor learning outcomes and employer feedback.

The second key finding of the study is that Arab students, across both high school and university, demonstrate high levels of confidence in their content knowledge and cognitive and non-cognitive skills, which is in sharp contrast with their poor learning outcomes and employer experiences with young Arab graduates. In terms of non-cognitive skills and content knowledge, up to 90% of surveyed students strongly agreed or agreed that they feel confident in their mathematics, English, research and presentation skills. In addition, just over 90% of respondents reported that they know the subjects they are good at and that they are doing their best to improve in the subjects they are weak at. These results did not vary across school type, gender, or age.

Surveyed students' perceptions of their cognitive skills were just as high. Around 86% reported being comfortable sharing their point of view, and 90% were comfortable having conversations with people who have different opinions than them. Their confidence extended to their college knowledge, albeit to a lesser degree. Only 64% of high school students responded positively when asked if they know where to look for scholarships and 74% responded positively when asked if they know how to apply for admission to university. These results are surprising when juxtaposed with overall Arab student performance in international assessments, as well as reports of Arab youth unemployment rates and employment experiences in the region, discussed earlier in the report. Although there is no comparative data on Arab students' self-assessments, these results indicate an evident gap between youth perceptions, particularly in the case of ambitious students, and the reality on the ground.

Yet, students' false perception of their competencies is not unique to the Arab world. A US-study conducted in 2014 found that while 86% of students felt they were academically prepared for university, up to 68% of them took at least one foundational course at university, revealing a "disconnect between their perceptions of college readiness and their actual preparedness" (CCCSE, 2016, p.8)[13]. According to the authors of the report, this is the result of the lack of alignment between expectations for high school graduation and expectations for college readiness. This, coupled with the relatively low quality of public education systems in the region, may be contributing to the divide between student perceptions and reality.

Education systems continue to be largely traditional in their teaching styles and curricula, focused on memorization rather than critical thinking and analysis, with low expectations from students, and lacking in their ability to graduate students with basic soft skills. Yet, students who study hard and can fulfill the requirements set by their teachers and administrators can earn high, and at times inflated, grades, potentially developing an unrealistic sense of self-confidence.

This perception is then challenged as students engage with older peers at university, or potential employers during their job search, who set more realistic expectations for them. The process of adjusting aspirations to accommodate an external reality, also known as compromise, is not unique to the Arab world. In her study about career choice and development, Gottfredson (2002) found that students with disproportionate career aspirations moderate their hopes when they meet barriers that they were unaware of, such as hiring practices or family obligations. These findings are also consistent with global research, which found that people with little experience have a false sense of competence, with self-confidence typically "…surg[ing] between late adolescence and young adulthood, then level[ing] off among older respondents until late adulthood, where it beg[ins] to rise again" (Dunning & Sanchez, 2018).

However, despite the self-reported high confidence in both cognitive and non-cognitive skills, the only outlier in the results was that just 50% of respondents stated that they felt comfortable working on subjects they do not find interesting, with males exhibiting less comfort (37%) than females (42%). Although insignificant, this difference across genders is not surprising. Indeed, global studies have already demonstrated that female students are more perseverant, hardworking and diligent than male students (& Knezek, 2017). They are also more likely to persist when they encounter difficulties (Daniel & Susan Voyer, 2014). Yet, studies indicate that regardless of their gender, students lacking self-efficacy (or one's belief in one's ability to perform in different situations) are less likely to persist and more likely to shy away from difficult tasks. In this case, it could cause them to feel uncomfortable working on subjects they dislike (Bandura, 2001, 2012). While several factors can influence someone's self-efficacy, observing others perform and seeing them succeed ("if they can do it, I can do it") may be what is missing for Arab students.

13 Foundational courses, also known as developmental classes, reteach high school–level content in reading, writing, and mathematics to first year university students.

According to Tsang and his colleagues "effective mastery and coping models, such as parents, teachers, or peers who cope competently with challenges can demonstrate and stimulate the learning of skills and strategies" (2012, p.3). Yet, according to Faour (2012), schools across the region are not providing supportive learning environments for students. Part of the problem, he argues, is the "reliance on rote memorization of facts, student and teacher absenteeism, classroom overcrowding, and limited resources" (p.1). In this context, it is not surprising that students have less chances to find a model to follow and to increase their belief in themselves.

The Arab Digital Generation

One notable finding of this study is that Arab youth are digitally connected both in their academic and personal lives. Around 33% of respondents stated that they spend at least three hours on the Internet daily, with 22% spending over five hours. The survey also found that 90% of both high school and university students reported being confident in using online resources for academic purposes. They reported that the Internet is their third (56.1%) most used resource to prepare for exams after their personal notes (80.4%) and textbooks (64.2%). It is also the most used resource (81.9%) when they "do not understand something in class," almost equivalent to asking their professor (82.6%). These results are a positive indication that Arab youth are using technology to enhance their learning. Data from online learning platforms confirm this demand, with Saudi Arabian platform Rwaq recording 1.9 million enrollments and Jordan-based Edraak attracting over 1.4 million users over the past four and five years respectively (Farhat, 2017).

But Arab youth are not only using the Internet for educational purposes. The majority of respondents read news online and spend time on social media platforms, with more than half of them using social media platforms daily, especially WhatsApp (62%), Facebook (55%) and YouTube (33%) (ASDA'A Burson-Marstelle, 2017). In addition, the most recent edition of the same survey found that 63% of Arab youth get their daily news on social media and 38% from online news sources, as opposed to other sources (ASDA'A Burson-Marstelle, 2018). Further research would be needed to better understand exactly how Arab youth are spending their time online and to what extent they use it for social versus educational purposes.

3 Arab youth feel unprepared for university before they enter.

Although students reported high confidence levels across most areas and that their family supported their decision to go to university, they did report not having enough help to prepare for university. The third finding from the study confirmed that almost 43% of Arab youth in high school disagreed or strongly disagreed with the statement, "Overall, I feel I had enough help to prepare me for university." At the university level, the rates were at 31%. Participants also rated the following services as being most beneficial in addressing this issue: online resources about applying to universities (22.1%), events about university and careers (22.1%), good college counseling services (18%), and visits to local universities (15.6%), as shown in Figure 9 below.

Figure 9. Top college preparation services requested
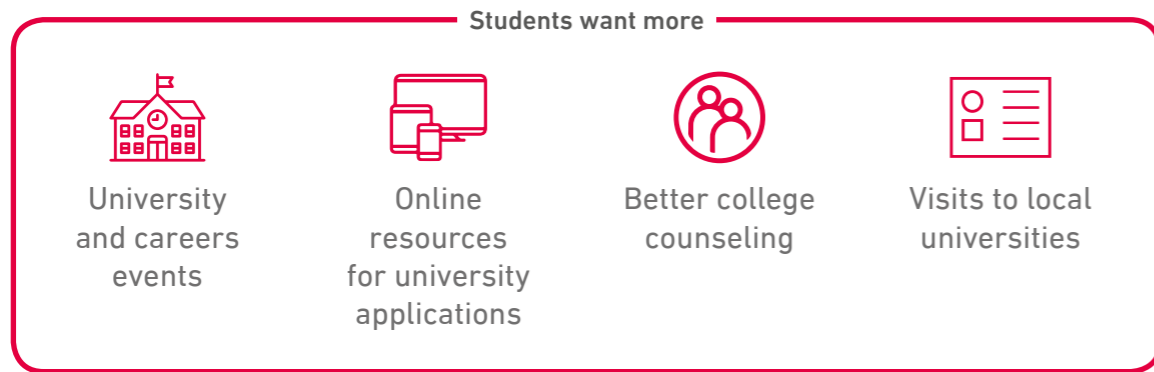
Interestingly, when high school students were asked how they feel about going to university, only 23% reported being "worried," "afraid," or "neutral" (as opposed to "excited"), with more females (26.3%) than males (18.8%) falling in these categories. When asked why, most respondents stated that they felt unprepared (40%), did not know what they wanted to study (23.2%), or did not find a university to go to (14.2%).

Most Arab youth also do not have access to professional counseling support at school, with 66% of surveyed high school students reporting that they never met with an academic counselor, as seen in Figure 10 below. Although the term could have been understood in a number of different ways, including an academic advisor, a psychosocial counselor, or others, the data indicates that most students do not have access to any professional guidance in high school. Of those that did meet with a counselor, 65% met them more than one time, and up to 58% of those students stated they were satisfied or very satisfied with the support they received. These students were also 25% more likely to report feeling prepared for university.

Although more research would be required to understand whether this correlation also reflects a causal relationship between seeing a counselor and feeling more prepared for university, there may be other contributing factors that lead to the positive student experience, such as the quality of the school, the families' resources and network, and more. Yet, as mentioned earlier, academic counseling is positively correlated to academic achievement and overall satisfaction in high school and university (Shaterloo & Mohammadyari, 2011; Hines & Lemons, 2011; Pargett, 2011).

Figure 10. Access to academic counseling at school

Students who met with an academic counselor were 25% more likely to report they had enough help to prepare for university
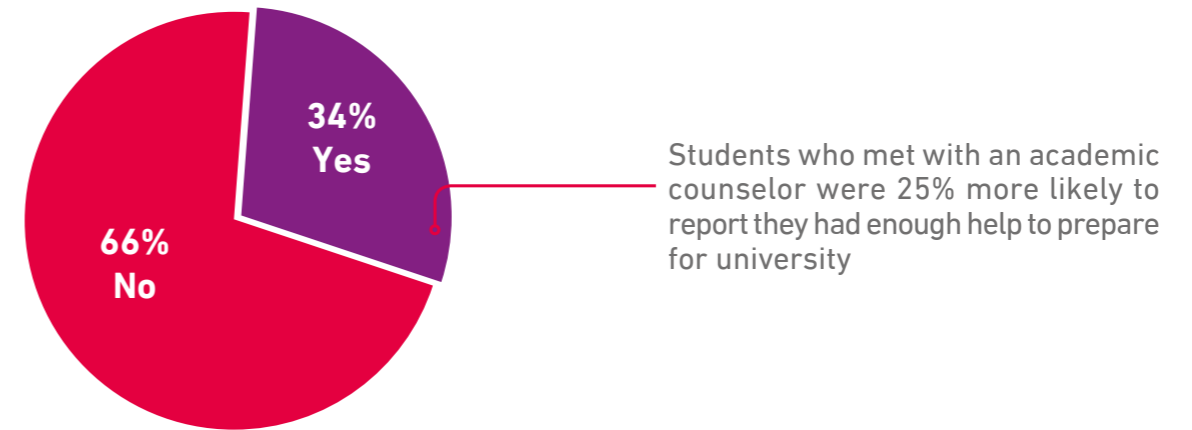
These findings point to the fact that young Arabs require more professional support when making these life-changing decisions, beyond the support they may receive from their family and friends. In his groundbreaking work on college and career readiness, Conley (2007) argued that the university application process could be intimidating or overwhelming for many students. He further argued that incorporating college readiness activities into the routines and requirements at school would not only help increase university enrollment rates, but also students' success at university.

4

Once at university, Arab students seek more quality services from their universities.

The fourth finding illustrates that for Arab youth that enroll in university, although they are primarily focused on preparing for their careers, they do not receive the support they expect from their educational institutions.

When surveyed about "the most important thing at university," 97.1% of students selected "preparing for their career," as illustrated in Figure 11 below, which is comparable to results in the United States, where 88% of first-year university students said that "getting a good job" is the main reason they enrolled in university (Auter, 2018). The next most important "things" at university, which followed closely after the first, were "developing good social and communication skills," and "acquiring deep knowledge in their field." Interestingly, graduate students ranked acquiring deep knowledge second, which could be an indication that master's students are more mature and committed to their area of specialization than bachelor's students are. Although the differences are not significant, contrary to expectations that Arab students are primarily focused on their test scores, the survey found that "getting good grades" was ranked fourth by students. This could be interpreted as a positive sign that students are beginning to recognize that good grades alone will not help them find the jobs they want.

Figure 11. What is important to students at university
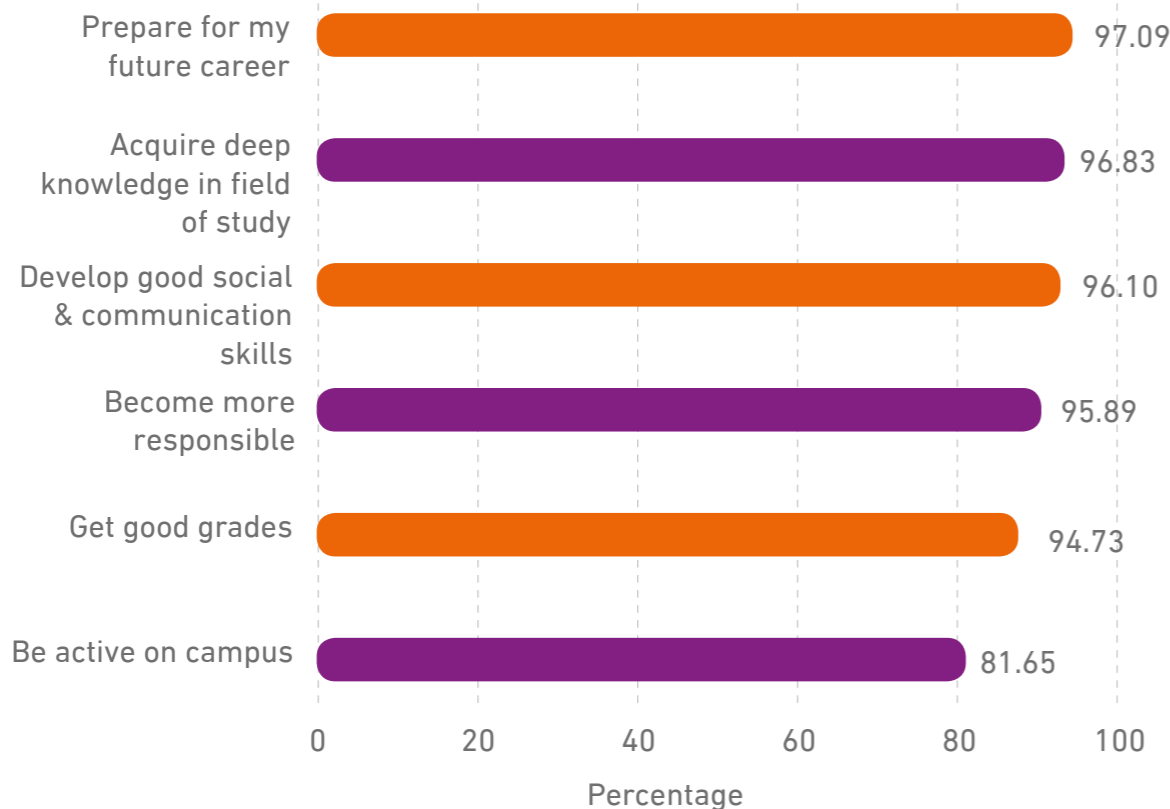
When asked what was missing in their university experience, the students primarily reported lacking career preparation opportunities. As shown in Figure 12, the top three choice were "career-related events and opportunities" (42%), "counseling services" (32%), and "extra-curricular activities" (30%). These responses are an indication that Arab students are seeking more, and perhaps better quality, professional services from their universities to help them thrive at university, in their careers, and beyond. In fact, studies found that students who participated in extracurricular activities, particularly at university, have a competitive advantage in the labor market as they gained valuable skills and experiences for employment through other ways (Kaufman & Gabler, 2004; Stuart et al., 2015).

Figure 12. Top three missing university experiences

Providing these services to students is a relatively new concept in the Arab world, but "despite the scarcity of out-of-class programs in many public universities (...), some institutions have worked on offering extracurricular activities to enhance the student experience and equip graduates with skills to succeed in the job market" (Lahbabi, 2015). As far as academic and career counseling are concerned, however, Arab students still have limited access to these types of services, as will be discussed in the next finding.

5 Although they are satisfied with their overall university experience, Arab students want more work experience and better career support.

The fifth finding is that although the majority of Arab university students (70%) reported having a very good or excellent overall experience at university, they seek more work experience and better career support to prepare them for the transition to the workplace. [14]

More than one-third of respondents did not agree that their university is effectively preparing them for their first job or internship. Although formal internships are still a relatively new concept in the Arab world and are not required by most university programs, nine out of ten surveyed university students stated that internships are important. In addition, more than 55% stated that they have completed at least one to date. Although details around the students' experience in the internship were not collected, the rates are comparable to those in the United States and could be a reflection of students recognizing the value of internships in preparing them for their careers (Auter, 2014).
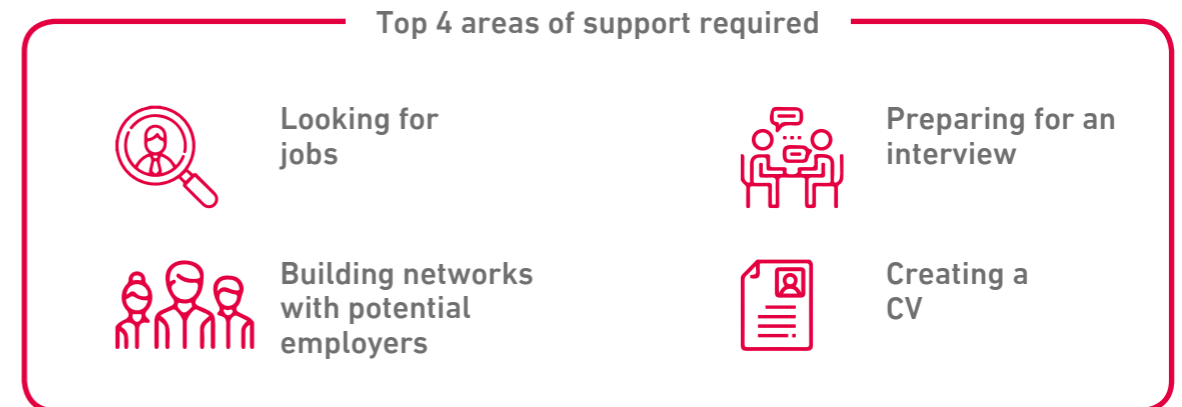
Figure 13. Importance of Internships

10%

90%

9 out of 10
surveyed students said that doing internships is important
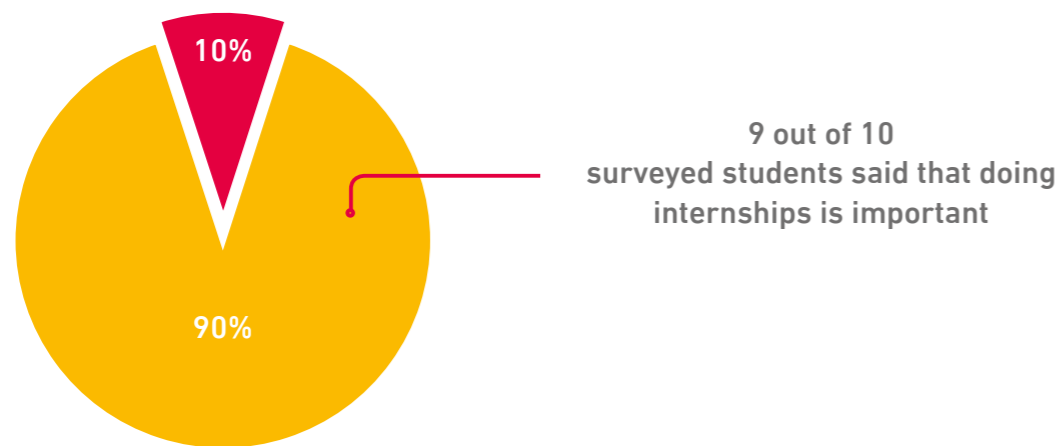
Finally, surveyed students reported wanting more help from their universities' career services in areas such as looking for jobs (69%), building their networks (66%), preparing for interviews (50%), and writing their Curriculum Vitae (40%) as seen in Figure 14 below. These findings are in line with a regional survey that revealed that the overwhelming majority, or 80%, of surveyed fresh university graduates across the region reported that college did not help them identify and apply for suitable career options (Bayt, Injaz Al-Arab & Yougov, 2016).

Similarly, a Silatech and Gallup report showed that only 25% of the surveyed Arab youth have ever benefited from job placement and career guidance services at university (2010). All of these results indicate that there is a divide between universities and employers, where career services offices alone are unable to bridge the gap to effectively support students in this critical transition.

Figure 14. Career preparation at university

Top 4 areas of support required

Looking for jobs

Preparing for an interview

Building networks with potential employers

Creating a CV

Insights from Work Experiences of Al Ghurair STEM Scholars

Data from the Foundation's Al Ghurair STEM Scholars Program, a comprehensive scholarship program which requires students to complete internships and community service, among other requirements, found that around 30% of scholars reported completing a work experience between 2016 and 2017. Although they were mostly short experiences (65% lasted one month or less), 62% of the students stated that the experiences were beneficial. Of the 66% off-campus work experiences reported by the Scholars, around 62% found them on their own, thanks to a friend or a colleague; 20% were found through the scholarship program or other sources; and less than 4% were found through their universities.[15]

14 Students' assessment of their overall university experiences reflects the perspectives of Arab students in and outside the region. No statistically significant differences were observed across gender or university type.
15 Work experiences refer to internships, full-time or part-time jobs.

6 Disadvantaged students show resilience throughout their educational experience despite facing greater barriers than most students.
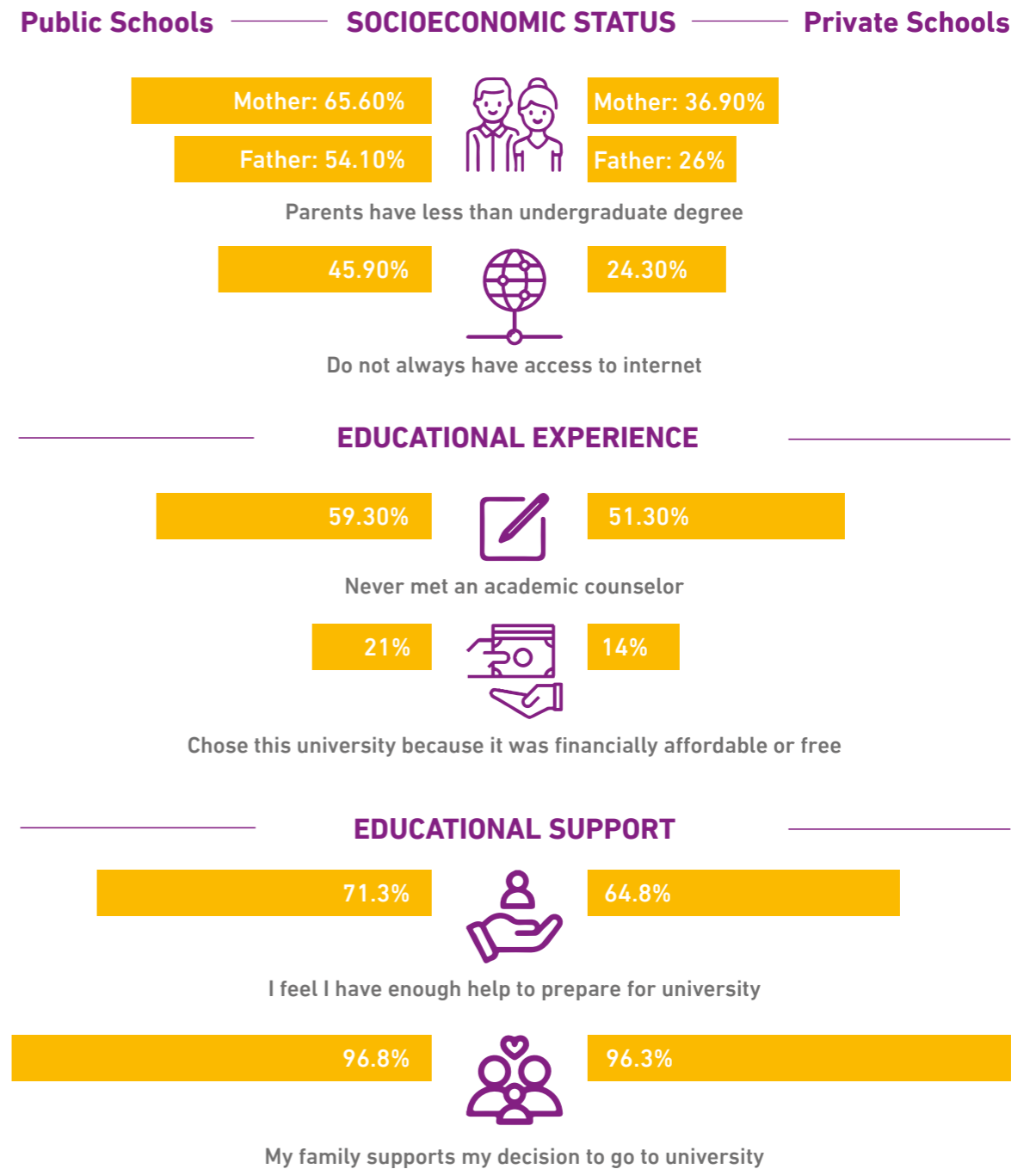
Finally, the sixth finding is that throughout the transition from high school to university, and then to work, disadvantaged students face greater barriers to access and completion than the average student. However, with enough support from their family and educational institutions, they can show resilience and overcome their disadvantage.

Results from the survey found in Figure 15 indicate that students who enroll in public schools on average have less educated parents than those who are attending or have attended private schools, with about half of them having parents with less than a university degree, as compared to only a quarter in private schools (52% versus 25%).[16] This illustrates the vulnerability of disadvantaged students, as studies have consistently shown that parental education can influence a child's academic achievements and decisions (Gooding, 2001; Lippman et al., 2009). For example, a national survey conducted across the United States found that "88% of students whose parents had earned at least a bachelor's degree had parents who expected them to finish college compared to 44% of students whose parents had graduated from high school or who had less than a high school diploma" (2009, iv).

The survey results are a reflection of the reality in the region, where the majority of students enroll in public schools, and only the most advantaged families can afford to place their children in private schools, which are typically of higher quality. The survey also found that students who attended public schools had much more limited access to the Internet, with only half of respondents (52.7%) reporting that they "always" have access to the Internet, as compared to 75% of students in private schools, which as discussed earlier, is an important educational resource for students.

In terms of educational support and access, disadvantaged students were also 8% less likely to have met with an academic counselor, and were 7% more likely to make university enrollment decisions based on finances. Yet, they reported feeling that they had more help preparing for university and stated that they had just as much support from their family before and throughout university. This could be explained by research which shows that when parents have a relatively low level of education, they are more committed to ensure that their children aspire for a better education than they had themselves and be supportive of them (Nilsen, 2011; Kiyama, 2015). In addition, research also finds that "if parents are successful in providing an emotionally stable and stimulating environment, the negative effects of financial restrictions can be minimized" (Davis-Kean, 2005, p302).

Figure 15. Comparison of students' educational support and experiences by socio-economic status

Public Schools ——— **SOCIOECONOMIC STATUS** ——— **Private Schools**

Mother: 65.60%   Mother: 36.90%
Father: 54.10%   Father: 26%

Parents have less than undergraduate degree

45.90%   24.30%

Do not always have access to internet

EDUCATIONAL EXPERIENCE

59.30%   51.30%

Never met an academic counselor

21%   14%

Chose this university because it was financially affordable or free

EDUCATIONAL SUPPORT

71.3%   64.8%

I feel I have enough help to prepare for university

96.8%   96.3%

My family supports my decision to go to university

16 For the purpose of this analysis, school type was used as a proxy for disadvantage, or the socio-economic status of participants.

At school, the factors that most impact student resilience include being surrounded by more affluent students, being exposed to a good disciplinary climate,[17] and having access to a wide selection of extracurricular activities (Agasisti et al., 2018). Moreover, "school counselors can be essential to developing social capital for students who do not have access to social capital through other means" (McPhilip et al., 2012). Finally, students' attitudes and beliefs, which are strongly influenced by their support system, have been found to be twice as predictive of student performance as their background (Mourshed et al., 2015).

Therefore, disadvantaged students can beat the odds against them; with the appropriate support from their educational institutions and family, they can succeed in achieving the same academic and career goals as other, more affluent, students.

17 Disciplinary climate refers to the climate in a classroom, for example the frequency of the teacher having to wait for students; level of noise and disorder in the classroom; time spent doing nothing and more.

OPPORTUNITIES FOR ACTION

The findings from the study illustrate that while Arab youth are ambitious and increasingly aware of what they need to do to be competitive both at university and in the workplace, they lack the college and career preparation to ensure a smooth and successful transition from education to employment. There are three key pillars that lie at the heart of addressing the limited availability and quality of college and career readiness among Arab youth (excluding content knowledge which is covered at school).

All three are inter-related and must be provided in tandem to achieve greatest impact. These include:

College and career information, which consists of the availability of up-to-date, personalized, and digestible information for both high school and university students that can empower them to make informed decisions about their college and career path. The research indicates that such information is lacking and outdated and could be especially valuable for first-generation and disadvantaged students, who may not have a support system beyond school to guide their decisions around going to university and beyond. This, for example, could include a personalized one-stop shop online that houses and shares personalized information about the university application process, career choices and opportunities, and the educational journey needed to get there.

Experiential learning, which includes a range of high quality structured activities held at the high school and university levels, such as college and career fairs, extracurricular activities, internships, co-operative programs, mentoring and presentations by alumni or successful professionals on their career pathways, as well as other career guidance courses and workshops. Many of these experiences could help to address the survey participants' concerns around looking for jobs, developing a network, writing a CV, preparing a cover letter, and more. According to Conley (2007), these activities should be broken down into manageable components that are structured and integrated within school curricula. In this way, students master the experiences throughout high school, which has been found to help increase the number of university applicants and their subsequent success getting admitted to and succeeding in college.

Professional support, from well qualified and experienced academic and career counselors both at the high school and university levels. Although some schools and most universities have generic counselors available, many are not specialized in college and career preparation or they are not in tune with the market needs in their given country, or the region more broadly. Hiring or training up school counselors, ideally professionals with industry or other work experience outside academia, to provide structured, personalized, and context-relevant support to high school students on college and career decisions is critical for academic success and beyond, particularly among disadvantaged students (Ellis et al., 2015; Dearing et al., 2006).

However as Figure 16 illustrates, in order to maximize student success throughout their school to work transition, the above pillars must exist in a climate of **collaboration**, among all the relevant stakeholders, and **innovation** in designing, delivering, and evaluating academic and other educational experiences.

Given the scale of the need for college and career readiness in the region and the interconnected nature of education and employment, this process must be done in tandem to produce results, as modeled in the best education systems in the world. This includes establishing close collaborations among schools, universities, youth-serving organizations, and the private sector on the delivery of college and career information and experiential learning, such as informing the design of courses and programs by evaluating the quality of their graduates and their success upon graduation.

There is also extensive evidence illustrating the value of using of technology in such contexts. These include the delivery of courses online or in blended formats (which have been found to be even more effective than face-to-face courses (Eryilmaz, 2015)) to much wider audiences; creating online applications and tools to provide personalized information and support to students, such as online mentorship programs; developing online communities to connect students with each other, counselors, or potential employers; and using data analytics to track student experiences and progress in real-time to support them throughout their educational journey and ensure their success.

All of the above efforts are needed to better prepare Arab youth for university and their careers, however, should be coupled with a continued push among all stakeholders at all levels of education to improve students' content knowledge, a critical component of college and career readiness. This is especially important for the key academic subjects such as English, mathematics, and the sciences, which have been identified as being critical to improving students' academic and employment prospects (UNESCO & OECD, 2003; Hanushek et al, 2015; Lin et al., 2017).

Figure 16. Framework for investing in tomorrow's youth
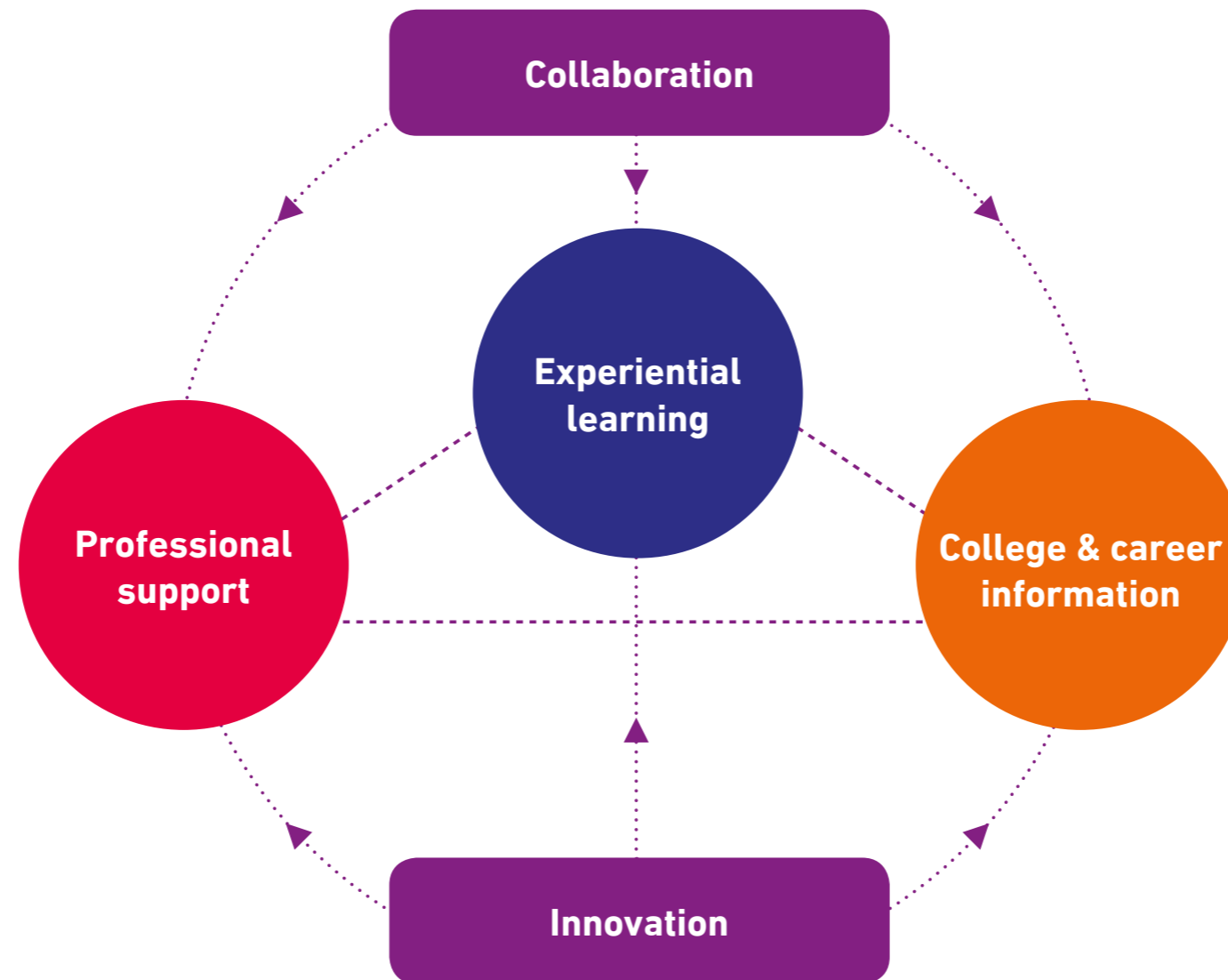
CONCLUSION

Although the concept of college and career readiness is still nascent in the Arab region, international studies provide strong evidence that it has a positive impact on students' transition from school to university and to employment, in particular for those from disadvantaged backgrounds. It has been associated with students having higher educational outcomes, making more informed career choices, higher university success rates, better employment opportunities, and higher income, among many other factors.

The Foundation's study on college and career readiness of Arab youth aimed to understand the perspectives of students about their level of preparation for university and for the world of work. It identified a number of gaps in the educational journey of Arab youth that are critical to their success, including the limited availability and quality of college and career information; the call from students for more practical activities and experiences to better prepare for their futures; and the lack of professional college and career support in the form of well trained counselors to ensure a smooth transition throughout the process. It also reinforced the findings from international assessments and employers that youth are not sufficiently prepared to be competitive in the current economic climate, let alone the future economy.

The report argues that key stakeholders have a responsibility to invest in the future talent of the Arab region by improving students' educational journeys to ensure they are pursuing the appropriate careers and are both qualified and competitive enough to take on leading positions in their economies. Given the scale of the need for college and career readiness in the region and the interconnected nature of education and employment, this can only be achieved through collaboration and innovation among the key players. Although these two concepts have so far been missing in the educational context in the region, the time is ripe to support Arab youth in achieving their ambitious academic, career, and life goals, and to provide them with the opportunity and responsibility to contribute to their region's development.

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