



Qataris' Perceptions of University Degree

Executive Summary Report of the Joint project between Qatar University-SESRI and The Chair of the State of Qatar for Islamic Area Studies-WASEDA University

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This report presents the key findings of the survey titled Qataris' Perceptions of University Degree study, which was conducted in collaboration between the Social and Economic Survey Research Institute (SESRI) of Qatar University and the Chair of the State of Qatar for Islamic Area Studies, WASEDA University in Japan. The survey aimed to capture the perspectives of Qataris regarding university degrees.

The survey was designed and carried out in accordance with the highest scientific and ethical standards. SESRI assured respondents that their answers would be confidential and presented in an aggregate format. This project was funded by Qatar University and the Chair of the State of Qatar for Islamic Area Studies, WASEDA University. The statements made herein are solely the responsibility of the authors.

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This executive report presents the results of a survey related to the Qataris' Perceptions of University Degree, which was conducted as a joint research project between the Social and Economic Survey Research Institute (SESRI) at Qatar University and the Chair of the State of Qatar for Islamic Area Studies, WASEDA University in Japan. We extend sincere thanks to the Qatari respondents who have contributed their time and effort to participate in this survey research.

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The views expressed in this report are those of the authors and do not necessarily reflect the views of the Social and Economic Survey Research Institute (SESRI), Qatar University or WASEDA University. The SESRI project team is responsible for any errors or omissions in this report.

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Introduction

This study aimed to investigate the perceptions of Qataris over the age of 18 regarding the value of a university degree. Qatar's National Vision 2030 emphasizes the goal of increasing the role of Qataris in all sectors of the country's economy and promotion of world-class education. The number of Qataris enrolled in universities and higher education institutions has increased by 2.4 times between 2011 and 2021.

However, there is a gap in higher education enrollment between men and women; the percentage of women in the total student population has remained around 70% for the past 10 years. This situation suggests a disparity in the perception of a university degree between men and women.

This study also examines the perceptions of university degrees among Qatari parents' generation who did not typically have access to higher education when they were young. In doing so, we aimed to explore various aspects of perceptions of university degrees across genders and generations.

Although the expansion of higher education is crucial for Qatar's aspirations to develop a knowledge-based economy, there is a lack of surveys or studies on Qataris' perceptions towards the value of university degree. This study serves as an initial step towards filling this research gap. Data collection for this study was completed over 4 weeks covering the period from 13, October to 6, November, 2022.

The survey for this study was made possible by the support from the Social and Economic Survey Research Institute (SESRI) at Qatar University and the Chair of the State of Qatar for Islamic Area Studies at WASEDA University.

Literature Review

Reviewing the history of the education system in Qatar reflects a remarkable journey of transformation from traditional Arabic education to a modern, internationally recognized system. Qatar, is a rapidly developing country, which recognized the significance of education in achieving its ambitious goals. In 2001, the Qatari government commissioned the US-based think- tank- RAND, to assess the education system and provide recommendations for improvement. Accordingly, in 2004, the first batch of independent schools were opened, and by 2011 all MoE schools were converted according to the new system. In 2008, Qatar unveiled the Qatar National Vision 2030, which outlines a comprehensive development plan for the country, Education is a main pillar of this vision, with a focus on building a knowledge-based economy, fostering innovation, and preparing Qatari youth for leadership roles. Today, Qatar's education system is characterized by well-structured education system that combines modern infrastructure, internationally recognized schools and universities.

This literature review aims to explore the dynamics of education in Qatar, focusing on youth attitudes toward education and how education aligns with Qatar's development demands. As Qatar strives the transition to a knowledge-based society, a main challenge it faces is the shortage of skilled professionals in STEM domains, which is identified as crucial to the country's economy and well-being. However, Qatar's investment in education has been substantial in recent years.

The recognition of the significance of the skills deemed essential for developing a knowledgeable and qualified personnel prompted the government to make substantial investments in the educational system, research studies and STEM education field in particular ^{1,2}. To this end, the country has established a world-class education system comprising independent schools, universities, and research institutions.

Qatar's educational system also seeks to strike a balance between preserving its cultural heritage and fostering global engagement. Previous research study by Al Thani, 2012 ³ discusses how Qatar emphasizes the importance of national identity through its education system while encouraging international collaboration. Furthermore, the education system in Qatar is viewed as a mean of fostering the growth of a knowledge-based economy. Research study conducted by Gangi

(2017)⁴ highlights the importance of entrepreneurship education to foster innovation and entrepreneurship, aligning with Qatar's economic goals.

Education in Qatar is a dynamic field with a lot of potential to determine the future of the country. Despite the positive perceptions, challenges still persist, for instance, Qatari youth voice concerns about rigid educational systems and limited opportunities for creativity and critical thinking. These sentiments reflect a desire for more progressive teaching methods. However, the low performance of Qatari students in mathematics and science on national and international assessments, such as PISA and TIMSS, persists despite the tremendous efforts and resources Qatar has committed to reforming education ⁵.

Youth in Qatar aspire to a variety of professions, with a growing interest in STEM disciplines. Al Razzaz (2013) research demonstrates that STEM education is growing in prominence due to the belief that it offers improved employment prospects and contributes to Qatar's technological development⁶. Qatar's youth's positive attitudes and evolving aspirations constitute a valuable asset in the country's journey towards becoming a knowledge-based society. However, at the center of the efforts to develop high-quality STEM education programmes is the requirement to increase student interest and motivation in STEM disciplines and careers⁷. According to research study in Qatar, the study results revealed that Qatari youths are generally positive regarding the quality of education, However potential gender and nationality differences in attitudes towards school still exist⁸. Multiple research studies revealed that students tend to form their attitudes toward education, STEM education particular, early in life and long before they reach higher education levels ^{9, 10}.

Summary of Methods

Research Problem and Questions

The purpose of this survey is to examine the views of the Qatari citizens towards university degrees. In recent years, a rising number of Qatari citizens have been seeking to obtain a university degree. With this study, we hope for a better understanding about why and for what reasons these individuals pursue higher education.

Hypothesis

1. Qataris have high perceived value toward university education
 - 1.1. Younger Qataris have a higher perceived value toward university education.
 - 1.2. Qatari females have higher perceived values toward university education than Qatari males.
2. Qatari parents' expect their children to have a university degree.
 - 2.1. Qatari parents' have higher expectations for their daughters' level of education compared to their sons.

Sample design

Sampling is an essential component of conducting surveys. It is important that the sample be constructed with a strong theoretical framework and is representative of the target population. This ensures that the conclusions drawn from the survey are accurate and can be generalized to the larger population under investigation. In the next section, we will address matters pertaining to the sample design used in this study.

The target population for the study was Qatari nationals, 18 years or older, who lived in Qatar during the survey timeline period. Respondents were surveyed by cellular telephone interview using a Computer Assisted Telephone Interviewing -CATI system at SESRI. The study sample excludes individuals who live in buildings such as military barracks, hospitals, university accommodation, and prisons. Furthermore, the scope of this study exclude non-Qatari nationals, since the main objective of the study is to research the perceptions of academic degrees among Qataris. The average length of the survey interview was 30 minutes, The total sample size used for recruitment was around 1000 Qatari citizens.

Working with local cell phone providers in Qatar, SESRI developed a cell phone frame suitable for the survey. As the vast majority (98%) of adults in Qatar have at least one cell phone, the frame was expected to

provide excellent coverage for this target population. The frame included supplemental data that was used to improve the efficiency of the sampling process. The development of the sample frame was a collaborative effort between the Social and Economic Survey Research Institute (SESRI) and the Qatar General Electricity and Water Corporation (Kahramaa). Within this conceptual framework, comprehensive data pertaining to housing units in Qatar is provided, including essential details such as the home location as well as relevant information for the identification of residents' nationalities, distinguishing between Qatari citizens and non-Qatari inhabitants.

Data collection process

Respondents were surveyed by cellular telephone using CATI system. The phone numbers in the sample were released for interviewing in batches to ensure that the complete call procedures were followed for all numbers. For every phone number in the sample, there were up to eight attempts to complete the interview. The phone calls were made over different times during the day and different days of the week to maximize the chances of making contact with respondents.

For phone numbers with break-off and soft refusal, dedicated interviewers would try to contact and convert them to participate/complete the interviews. Supervisors remotely monitored a proportion of calls to ensure quality control and adherence to strict protocols for reading the survey instrument. In accordance with Qatar's cultural customs, male interviewers did not interview females. Female interviewers continued interviewing a male respondent if willing to go through the survey. Otherwise, they would transfer the case to the "male only" group of interviewers.

SESRI is strongly committed to the idea that knowledge of interviewing techniques and field procedures should be supplemented with the basics of survey research to reinforce the necessity for quality data collection. This is achieved through on-going interviewers and supervisors training by adhering to the study protocol, using technology and strict quality control monitoring.

Data analysis process

Data analysis and processing are critical steps in preparing a survey report. Properly conducted data analysis ensures that the information collected through the survey is transformed into meaningful insights and

conclusions. At SESRI, after the data collection phase was completed, all individual interviews were merged and saved in a single BLAISE data file. This dataset was then cleaned, coded and saved in STATA formats for analysis. After weighting the final responses to adjust for probability of selection and non-response, the data were analyzed using STATA, the statistical software for the social sciences.

Descriptive analysis to understand the basic characteristics of the data, along with cross tabulation to explore relationships between variables were conducted by the research team at SESRI. Furthermore, the data analysis results were integrated in the study report by clearly presenting the findings using different figures and tables. WASEDA report was written, reviewed and completed by the research team, Lead PI and WASDEA team following a structure that flows from the introduction to the methodology, results and conclusion.

Reliability and validity

Perceived Value of University Degree:

The Cronbach's alpha coefficient for this section is 0.6192, indicating a moderate level of internal consistency among these statements. In simpler terms, the survey items in this section collectively demonstrate a reasonable degree of agreement, reinforcing the perceived value of a university degree among our participants.

Perceived Value of an Academic Degree:

In this section, the Cronbach's alpha coefficient is 0.5549. This suggests a moderate level of internal consistency among the items related to the perceived value of an academic degree. While there is some consistency among the responses, it may be beneficial to further refine the items for greater reliability.

Perceptions of University Graduates:

For this section, the Cronbach's alpha coefficient is 0.6658. This indicates a relatively higher level of internal consistency among the statements concerning perceptions of university graduates. The items in this section appear to align more closely in measuring the intended construct.

Perceived Advantage of University Degree:

The highest Cronbach's alpha coefficient, 0.7962, is observed in this section. This suggests strong internal consistency among the statements assessing the perceived advantages of obtaining a university degree. The items in this section exhibit a high degree of agreement, implying that they reliably measure the same construct.

Education and Career Prospects:

It is worth noting that Cronbach's alpha is not calculated for this section because it does not consist of scaled statements.

Table 1: Studying the Reliability of the Study Variables

Dimensions	Cronbach Alpha
Perceived Value of University Degree	0.6192
Perceived Value of an Academic Degree	0.5549
Perceptions of University Graduates	0.6658
Perceived Advantage of University Degree	0.7962

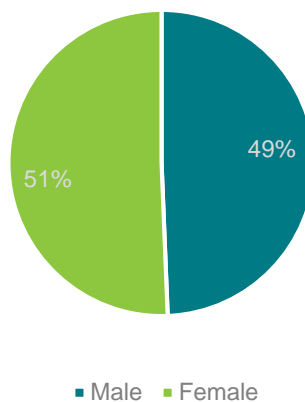
Demographics Characteristics of Respondents

To better understand the demographic composition of the respondents that participated in this study, this section provides a summary of the personal and social characteristics of the Qatari respondents. The sample consisted of 1,298 respondents.

Gender of the Respondents

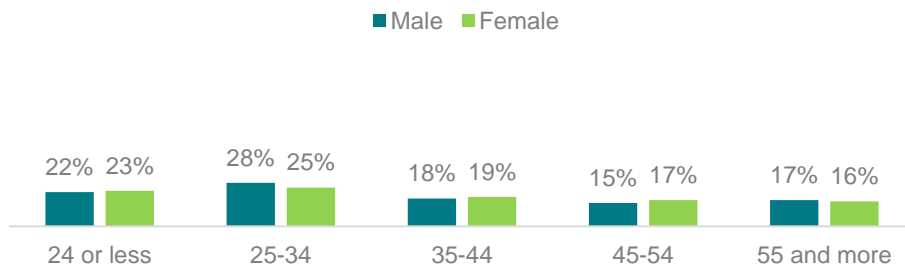
(Figure 1) below displays the distribution of the respondents by gender where (51%) are reported as female and (49%) male.

Figure 1: Distribution of Respondents, by Gender



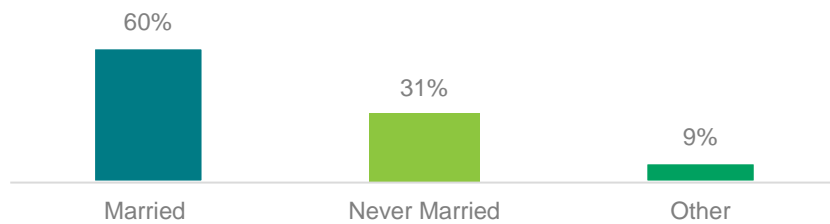
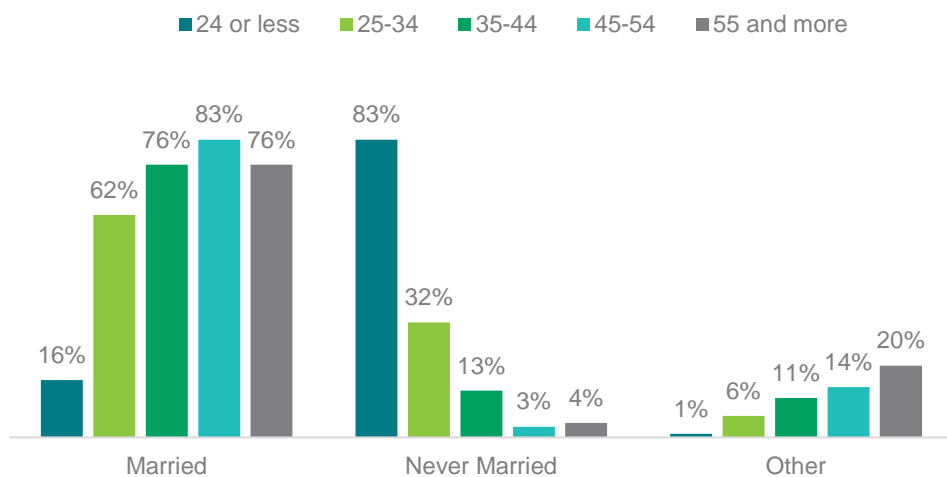
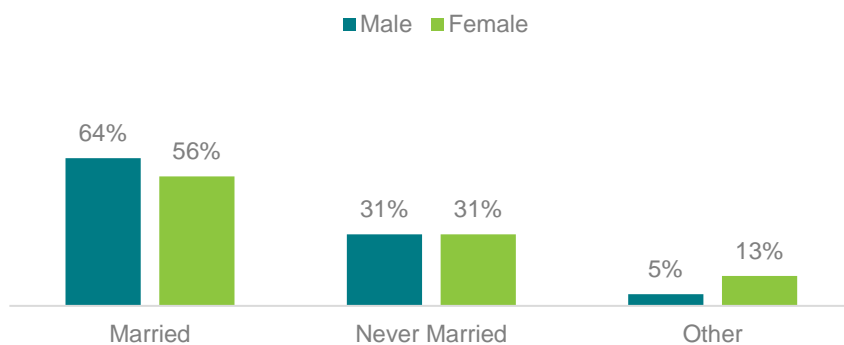
Age of respondents

Based on the age group, the majority of the participants (27%) fall within the 25-34 age category followed by individuals aged 24 or younger (22%) and those aged 35-44 (19%). In terms of gender, the age distribution remains mostly constant with (1%) variation in each age group (Figure 2).

Figure 2: Age distribution of respondents, by gender

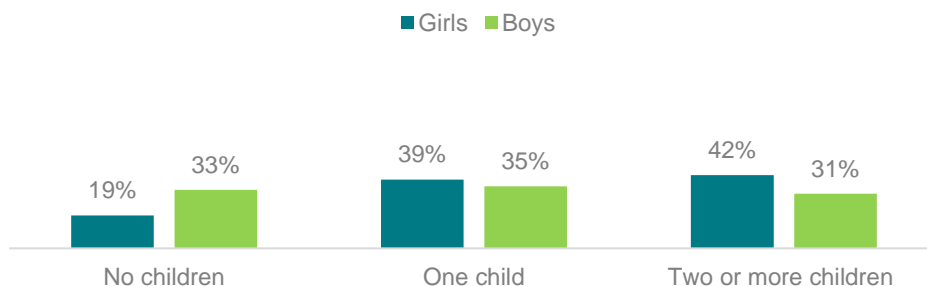
Marital status and number of children

At the time of the survey, nearly two-thirds (60%) of the respondents were married while 31 percent had never been married (Figure 3). Regarding the number of children, the majority (90%) of the respondents said that they have children, whereas (10%) of the respondents said they do not have any. Out of those respondents with children, slightly more than three-quarters (78%) had children under 18 years old. The number of children among respondents was fairly evenly distributed, with slightly more than one third of the respondents (37%) reporting having one child (either a boy and or girl) under 18 years of age, 40 percent having two or more girls under the age of 18 and slightly less than half (45%) having two or more boys under 18 years old. From the youngest respondents (18-24 years), 83 percent of respondents reported having never married (Figure 4). This is considerably higher than the other age groups. While among the older age groups (25 years and over), the majority of respondents were married. Looking at gender differences, 64 percent of male respondents were married and more than half of female respondents were married (56%): however, one third of respondents from both genders were never married (31%) as shown in (Figure 5).

Figure 3: Marital Status**Figure 4: Marital Status, by age****Figure 5: Marital Status, by gender**

A follow up question was asked to the respondents about their children's education and whether they are currently attending university or they were in the past. The majority of respondents (68%) stated that they do not have any children currently attending universities either in Qatar or abroad, whereas (64%) reported that they never had any children attended universities inside or outside Qatar in the past. For those who reported having children currently attending universities, they were asked about the number of children, their gender, and other related details. Of the respondents, (42%) stated that they had two or more daughters currently attending university, while (31%) had two or more sons. Additionally, (39%) reported having only one daughter attending university, while (19%) stated having no daughters attending university. Conversely, (35%) reported having one son attending university, while (33%) reported having no sons attending university (Figure 6).

Figure 6: Number of children at university, by gender



Respondents' level of education

According to the findings, the majority of the sample reported having an undergraduate degree, followed by a high school degree or less (46%, and 45%, respectively), while 9 percent of the respondents reported having a postgraduate degree (Masters or PH.D.) (Figure 7). When asked about their satisfaction level with their education, the majority of respondents expressed being either very satisfied (44%) or somewhat satisfied (36%). In contrast, 20 percent of the respondents said they were dissatisfied with their level of education (Figure 8). Individuals aged 25-34 were significantly more satisfied with their level of education (86%) compared to the other age groups (81% of those aged 24 years or less, 79% of 35-44 years, and 77% for older age 45-54 as well as 55 and above) (P-value = 0.0073). The majority of both gender respondents were satisfied with their level of education. Precisely, female respondents were more satisfied (82%) compared to male individuals (79%).

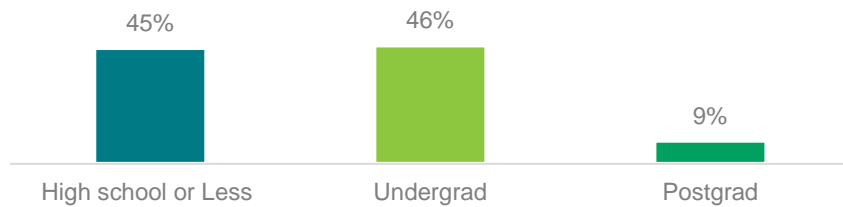
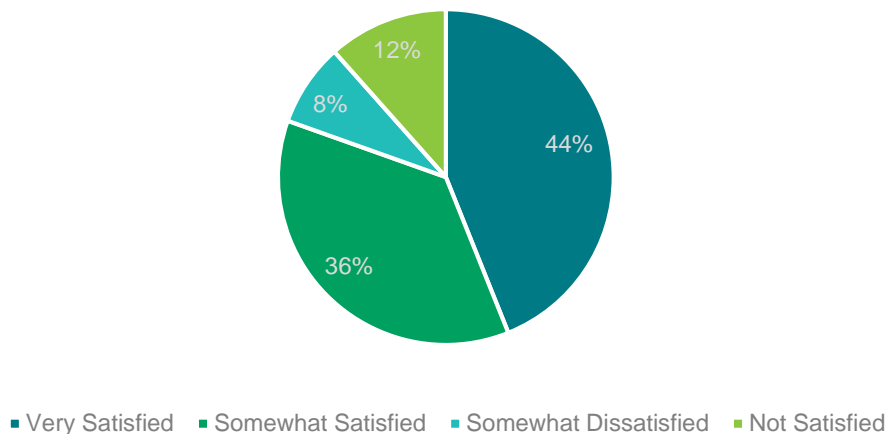
Figure 7: Respondents' level of education**Figure 8: Respondents' satisfaction about their level of education**

Figure 9: Respondents' satisfaction about their level of education, by age

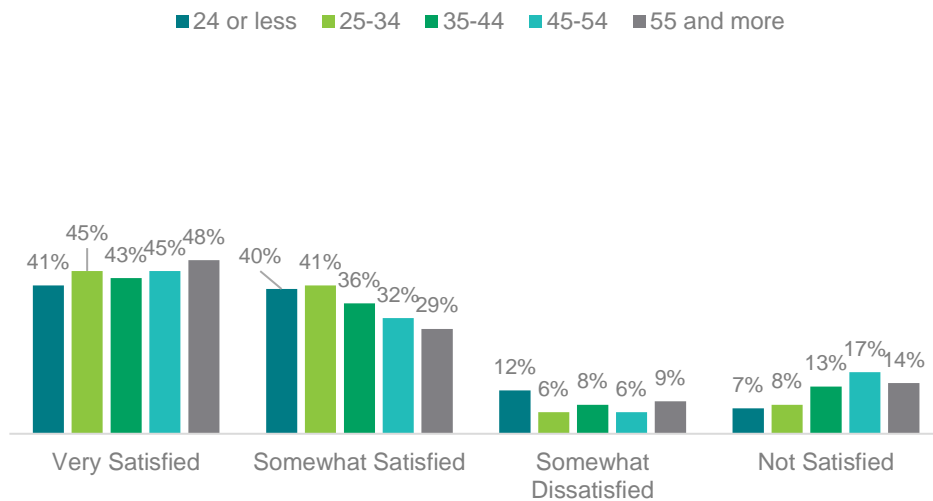
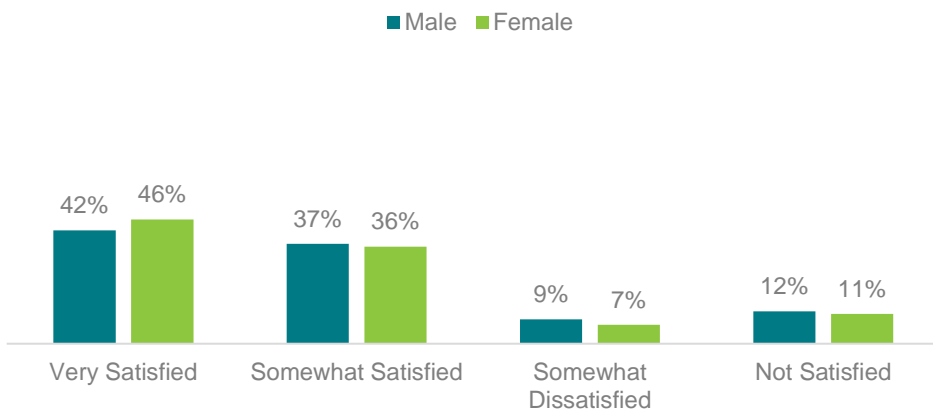


Figure 10: Respondents' satisfaction about their level of education, by gender

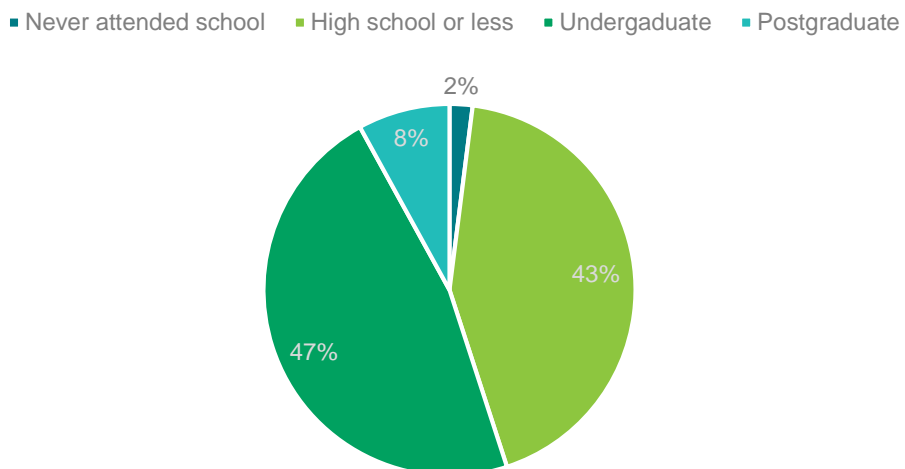


Level of education of the Respondents' spouses

In addition, the survey asked respondents to report their spouse's highest level of education. The majority of respondents said their spouses have achieved some level of education, of which 47 percent of respondents said their spouses hold an undergraduate degree and

(43%) of respondents reported that their spouses have completed high school or less. A minority of respondents (8%) reported having a spouse with a graduate degree (Master's or Ph.D.), while 2 percent of respondents reported that their spouse had never attended school (see Figure 11).

Figure 11: Distribution of respondents' spouses, by level of education



Respondents' academic field

From a list of the academic fields provided in (Table 2), respondents with higher education were asked to select their field of study. The findings reveal that the most frequently chosen academic field was "Business/Economics/Management/Accounting/Finance/Marketing," accounting for (29%) of the responses. The second most popular field was "History, Sociology/Anthropology/English/Arabic Literature," with (11%) of the respondents choosing it. "Engineering (civil, mechanical, electrical, etc.)" and "Law" were both selected by (9%) of the participants, tying for the third most popular field of study.

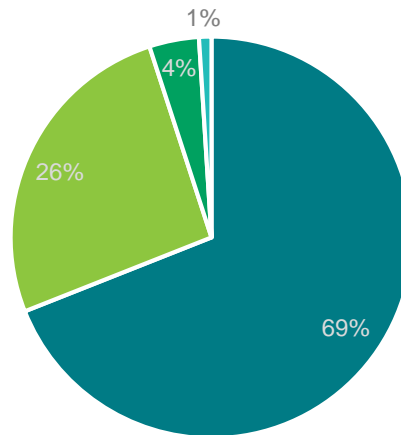
Table 2: Distribution of respondents, academic field

Academic field	(%)
Architecture	0
Engineering (civil, mechanical, electrical etc.)	9
Medicine (md program)	1
Other health related program (nutrition, pharmacy, nursing, physical therapy, health technology etc.)	1
Mathematics/statistics/ basic science (physics, chemistry etc.)	3
Computer programming/ computer engineering/it	4
Business/ economics/ management/ accounting/ finance/ marketing	29
Psychology	0
Law	9
Education/library science	8
History/ sociology/ anthropology/ English/ Arabic literature	11
Journalism/ media	2
International relations/ international affairs/ political science	5
Religious studies	2
Sports science	1
Other	15

According to the findings presented in Figure 12, the vast majority of participants (95%) reported satisfaction with the academic field they pursued, with 69 percent reporting being very satisfied and 26 percent indicating they were somewhat satisfied. Conversely, 5 percent stated their dissatisfaction with their academic field (4 percent of respondents were somewhat dissatisfied and 1 percent of respondents were not satisfied at all). The survey results did not indicate any correlations between the following respondents' characteristics age, gender, income, marital status, level of education and employment status.

Figure 12: Respondents' satisfaction with their academic field

■ Very satisfied ■ Somewhat satisfied ■ Somewhat dissatisfied ■ Not satisfied at all



Employment status

Regarding the employment status of the respondents and their spouses, nearly two-thirds (61%) of respondents reported being employed whereas about one-third (31%) were unemployed. Concerning respondents' spouses, more than half (59%) of the respondents said their spouses were employed, and slightly more than one-third (36%) said their spouses were unemployed (see Figure13). On a closer examination within subgroups and employment status, it was observed that the majority of respondents with a postgraduate degree were significantly employed (83%) compared to their counterparts of respondents with undergraduate degree (74%) and high school degree or less (43%) (P-value = 0.0000). The data also showed a significant difference between employment status and respondents' gender. Specifically, 73 percent of male respondents were employed, while 49 percent of females reported the identical employment status (P-value = 0.0000).

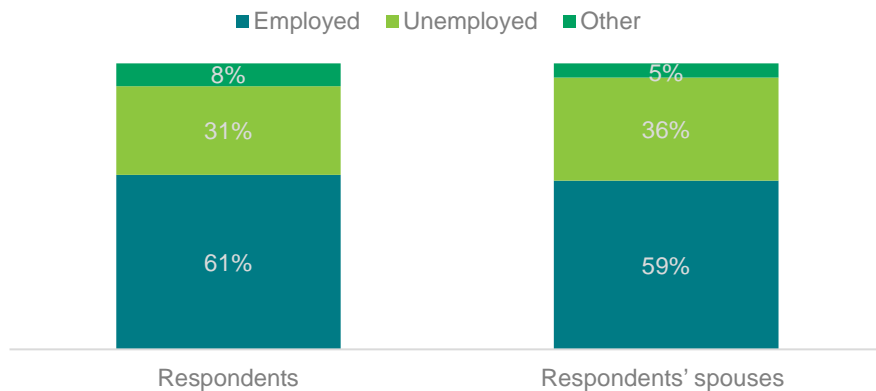
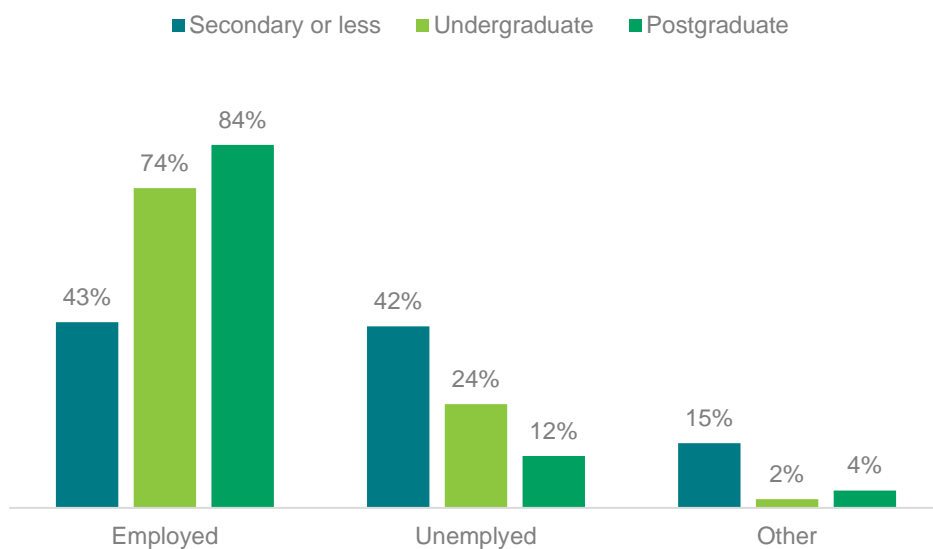
Figure 13: Employment status**Figure 14: Employment status, level of education**

Figure 15: Employment status, by gender

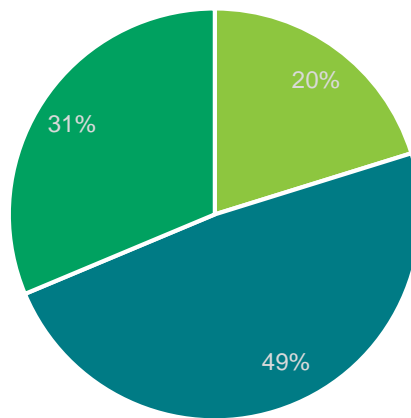
Income

Regarding the income of the participants, approximately half of the respondents (48%) stated a monthly income of QR 30,000* to less than QR 70,000. Slightly less than one-third (31%) of respondents reported that their monthly income was QR 70,000 or more, while approximately (21%) of the respondents said that their income was less than QR 30,000 (see Figure 16). Further analysis had conducted to investigate the correlation between the following demographics gender, income, marital status and employment status. The results did not show any correlation between those variables.

* The conversion rate to USD, 1\$=3.6502 QAR.

Figure 16: Income level

■ Less than QR 30,000 ■ QR 30,000 to less than QR 70,000 ■ QR 70,000 or more



Perceived Value of University Education

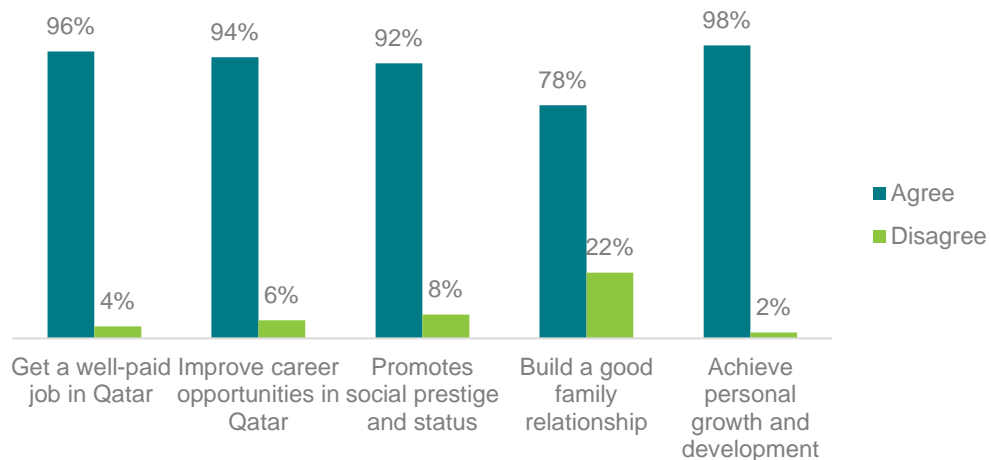
Preceding their entry into practical and professional life, acquiring advanced degrees is a crucial milestone for young individuals, to improve their income and social status, also the higher education will enabling them to make significant contributions to their communities, and fostering sustainable development across various sectors through the application of the knowledge and skills gained throughout their academic journey, particularly at the university level. As of 2021, there were 34 higher education institutions in Qatar, a considerable increase from the 16 institutions in 2014. In the academic year 2019-2020, around 2,300 Qatari¹¹ students were enrolled in these institutions.

This section discusses the Qataris' perceptions of the value of a university degree, and their expectations, especially its impact on personal, economic or financial wellbeing, career choices, social prestige, family relationships and personal growth. We asked respondents to indicate whether they agree or disagree with a set of statements about the perceived value of university degree. The majority of respondents (98%) agreed with the statement "University education helps achieve personal growth and development" (strongly agree 78%, somewhat agree 20%). Moreover, 99 percent of females agreed to that statement compared to 97% of men (p-value = 0.0219). The results also

show that 96 percent agreed (strongly agree 72%, somewhat agree 24%) with the statement “University education helps to get a well-paid job in Qatar”.

The vast majority of Qataris (94%) agreed that pursuing university education can enhance career opportunities, while 6 percent disagreed. The data did not reveal any significant differences in responses with respect to the demographic characteristics. Similarly, the vast majority (92%) of the respondents believed that university education contributes to social status and prestige in the society, with more women (95%) than men (89%) agreeing with this statement ($p\text{-value}=0.0006$). In terms of family relationships, slightly more than three quarters (78%) of the respondents agreed that pursuing university education is beneficial, while less than one quarter (22%) disagreed and there was no discernible gender difference.

Figure 17: Perceived Value of University Education



Perceived Value of an Academic Degree

An academic degree is a credential awarded by a college or university to recognize a person's successful fulfillment of a specific course of study or their accomplishment of scholarly work considered deserving of admission to the degree program. Bachelor's, Master's, and Doctoral degrees are the most often awarded levels of higher education. Worldwide, the rapid expansion of specialization produced a growing variety of specific academic degrees in higher education systems in the 20th century.

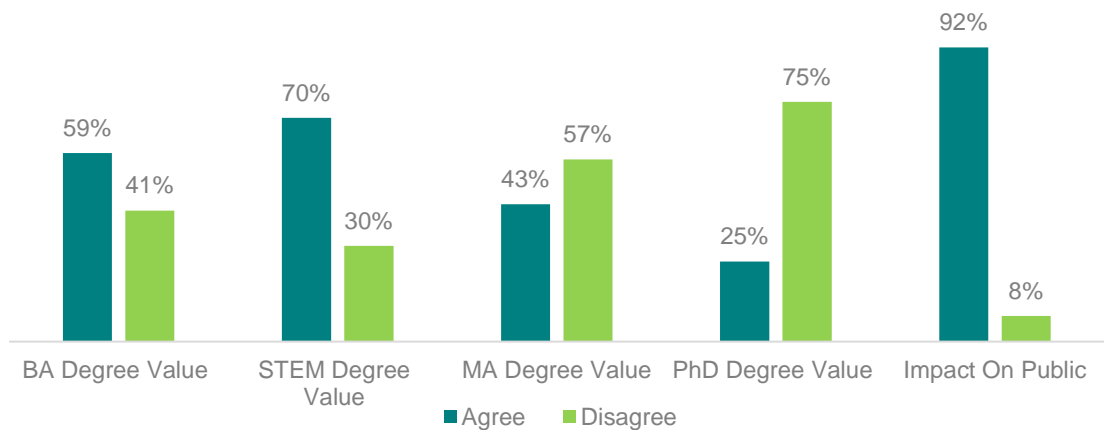
Continuing from the preceding section of this report, the upcoming segment will depict Qataris' perceptions of the significance of the academic qualifications. The purpose of the inquiries was to gauge the participants' level of agreement or disagreement with specific assertions. These assertions pertain to Bachelor's, Master's, and PhD degrees, STEM qualifications, and the influence that earning an academic degree has on the advancement, growth, and sophistication of Qatari society.

A STEM degree is a degree in the fields of science, technology, engineering, or mathematics. Recently, STEM degrees have been growing in popularity, according to the US Bureau of Labor Statistics¹², occupations in STEM fields are projected to grow by 8 percent by 2029, compared with 3.7 percent for all occupations. Acquiring a degree in any of the STEM fields can equip one with the necessary skills to pursue a multitude of lucrative and sought-after professions¹³. In fact, the National Association of Colleges and Employers list of 10 top-paid majors among the class of 2020 graduates comprised only STEM fields¹⁴.

Respondents to this survey were requested to provide their general opinions and attitudes regarding the worth of a Bachelor's degree in light of the growing number of individuals possessing it, as illustrated in Figure 18 below. Overall, more than half (59%) of the respondents agreed that the bachelor degree is not as valuable as it used to be. Nonetheless, it appears that a Master's degree still holds a more advantageous position than a Bachelor's degree, as less than half (43%) of the respondents concurred that the value of a Master's degree has decreased, whereas three-quarters (75%) of the respondents disagreed with the assertion that a Ph.D. degree is no longer as valuable as it once was. The findings of this study could have implications for the public perceptions and decisions related to higher education and career opportunities, which could influence the individuals decisions about pursuing advanced educational degrees or entering the job market directly after obtaining bachelor's degree. Furthermore, 70% of the

study's respondents concurred that Qataris still value STEM degrees and that such degrees have a significant impact on the development of their professions.

Figure 18 : Perceived Value of Academic Degree among Qatari Nationals



Diverse response patterns were detected across various statements when analyzing the data from the respondents, taking into account their gender, age, education level, income, and other relevant variables. For example, male respondents (64%, 74%, 46%, 27%) showed a highly significant level of agreement ($p=0.000$) compared to female respondents (55%, 66%, 39%, 22%) when asked about the increased number of degree holders and their perceptions of the value of a Bachelor's degree, STEM degree, Master's degree, and PhD degree, respectively.

Participants' responses varied significantly with their marital status. Interestingly, married people were more likely to report high level of agreement on the value of Bachelor and STEM degrees (63%, 75%, respectively). However, in the case of Master's and Ph.D. degrees, a majority of married respondents, namely 54 percent and 62 percent respectively, expressed disagreement over their perceived worth. Furthermore, the vast majority of the respondents (94% married, 87% never married and 94% from the other groups which included people who are separated, divorced and widowed), agreed that an increase in the number of people with higher academic degrees would have a positive impact on the society development and the maturity of the community in Qatar.

With regards to age, 70 percent of the respondents among all age groups agreed that a STEM degree retains its value, with the highest percent (81%) among those aged 55 and older, and 79 percent among those aged 45-54 years. Additionally, less than half (42%) of the respondents from all age groups reported that a Master's Degree is still considered as valuable as it was before, with the lowest percent (28%) among those aged 24 or younger and the highest percent (57%) among those aged 55 or older. The study also revealed that 75 percent of the Qataris across all age groups disagreed with the statement about the value of a PhD, with the level of disagreement gradually decreasing with increasing age. The highest percent of disagreement (88%) was reported among those aged 24 or younger, while the lowest percentage (58%) was reported among those aged 55 or older.

Respondents' income plays no significant role on Qatari nationals' agreement or disagreement with the following statement "The greater the number of people with higher academic degrees, the more developed and mature our society will become". Regardless of the income range (< 30K, 30K- 70K, >= 70k), Qataris have high level of agreement with the above statement (95%, 93%, and 89% respectively).

Similarly, employment status of the respondents' and their spouses play no significant role on Qataris' perceptions of the value of a Bachelor and PhD degrees, almost two third of the employed and unemployed respondents' and their spouses reported that Bachelor degree and PhD degree are still as valuable as it used to be. However, respondents with employed spouses reported significant results (72%) when asked about the value of a Master's degree.

Moreover, the educational level of the respondents' spouse showed a significant effect on their responses ($p=0.004$); in general, 63 percent, 60 percent, and 54 percent of respondents' spouses were educated to the secondary level, bachelor's level, or beyond. Also, significant findings were reported ($p=0.02$) when respondents were asked about the value of a STEM degree in relation to the educational level of their spouses.

Perceptions of University Graduates

In essence, 21st-century university students pursue higher education for a variety of reasons, including intrinsic or personal motivations such as experiencing personal-growth as well as extrinsic objectives such as securing and/or preparing for a future employment¹⁵.

Chan (2016) believes that university graduates develop advanced knowledge, improved health and life expectancy, higher salaries and work benefits, increased personal status, greater rates of employment, personal and professional mobility, improved working conditions, improved ability to adapt to new technologies, and are more likely to raise children with higher IQ levels. Moreover, university graduates are better equipped for the job market as they are able to think clearly and articulate their thoughts in any profession¹⁶.

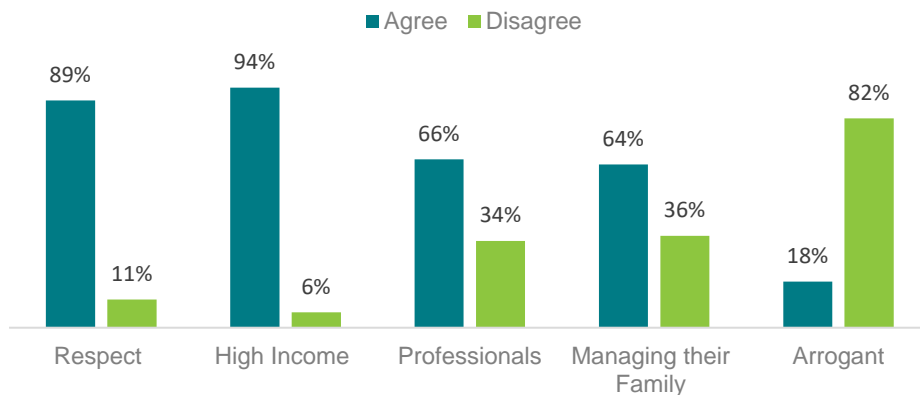
The survey inquired about respondents' perceptions of university graduates and asked them to indicate their level of agreement or disagreement with a set of statements. The results indicate that the majority (89%) of respondents believed that university graduates deserve respect, as shown in Figure 19. Moreover, 91 percent of married respondents agreed with this statement, compared to 87 percent of unmarried respondents ($p=0.0140$). Additionally, the majority (94%) of respondents expressed that university graduates deserve a high income (see Figure19). However, female (96%) respondents were more supportive of this statement than male (92%) respondents ($p=0.0052$).

While two-thirds (66%) of the respondents reported that university graduates are professionals (see Figure19), the opinion on the statement differed depending on the gender and the education level of the respondents. Around 70 percent of females agreed with that statement, compared to 63% of men ($p=0.0078$). Moreover, 72 percent of respondents who do not hold a university degree agreed with the statement, compared to 62 percent of university degree holders ($p=0.0002$). Similarly, just less than two-thirds (64%) of the respondents indicated that university graduates are good at managing their families (see Figure19). Amongst the respondents, female respondents were more in agreement with this statement (69%) when compared to male (59%) respondents ($p= 0.0004$). Age also had a noticeable influence, respondents aged 35 and above (68%) reported a higher agreement level than those aged 34 and below (59%) ($p=0.0008$). There was also a marked difference between the responses of those with a university degree (61%) and those without a university degree (68%) ($p=0.012$). Lastly, the opinion expressed in regard to the statement was significantly

prevalent ($p=0.0001$) among those who had four or more children (72%) compared to those who had three or less children (59%).

Notably, only 18 percent of the respondents indicated that university graduates are arrogant (see Figure 19). Female respondents (15%) were less supportive of the statement in comparison with male (20%) respondents ($p= 0.0383$).

Figure 19: Perceptions of University Graduates

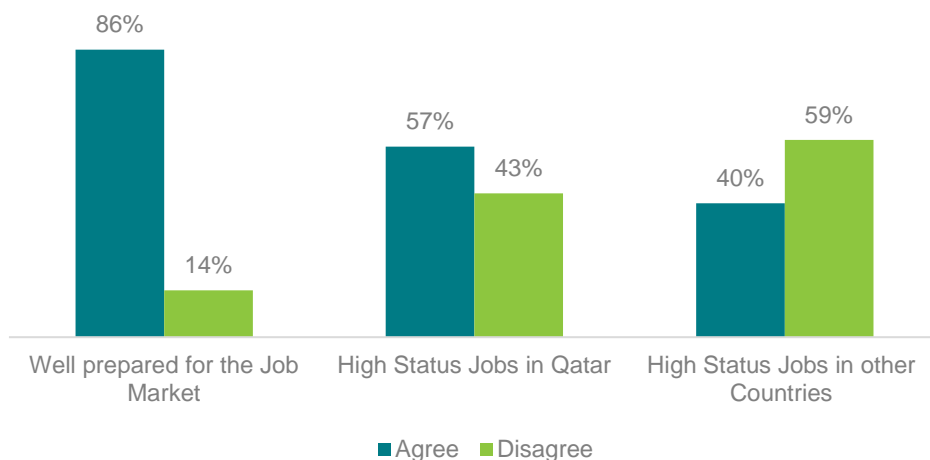


The growing economic disparity and employment gap between those with and without bachelor's degrees over the past few years have led students to consider higher education as a pathway for future employment¹⁷. The majority (86%) of respondents in this survey reported that university graduates are well prepared to enter the job market in Qatar, as shown in Figure 20. Responses varied depending on the educational backgrounds of the respondents, 82 percent of those with a university degree and 91 percent of those who do not hold a university degree expressed agreement with the statement ($p=0.0000$).

It is worth noting that just more than half (57%) of the respondents believed that university graduates can secure high-status jobs easily in Qatar (see Figure 20). Response rates varied depending on the respondent's educational level, those who do not hold a university degree (66%) reported a higher agreement level than holders of a university degree (50%) with this statement ($p=0.0000$). Moreover, only 40 percent of the respondents believe that university graduates can secure high-status jobs easily in other countries (see Figure 20). Age was a significant factor impacting the results, as 46 percent of those aged 34 or younger agreed with the statement, in contrast to only 34

percent of those aged 35 and older ($p=0.0001$). Furthermore, respondents who held a university degree (35%) had a lower rate of agreement than those without a university degree (46%) with this statement ($p=0.0005$). Also, married (36%) respondents reported a lower rate of agreement than unmarried (47%) respondents ($p=0.0005$). Lastly, the responses significantly varied ($p=0.0418$) by the number of children each respondent had, respondents with three children or fewer (41%) indicated higher levels of agreement with the statement than those with four children or more (33%).

Figure 20: Preparation for the Job Market & High Status Jobs



The lower percentage of respondents indicating that university graduates can secure high-status jobs easily in Qatar or in other countries is an eye-opener for policymakers in Qatar. Universities must equip their graduates with the information, abilities, and moral principles necessary to satisfy society's labor needs and to fully engage in the global economy, which expects diverse skills and capacities from university graduates in the very competitive labor market. Universities in Qatar must adapt pedagogy, college curriculum, and assessment practices to meet modern societal requirements and equip all graduates with the skills necessary to participate in the global economy. Moreover, universities should offer career development courses and resources to help students develop their resumes and equip them with the skills and knowledge needed to prepare them for any interview. Furthermore, universities should foster a culture of professional networking through job fairs. Additionally, universities in Qatar should establish strong worldwide alumni associations in order to create a powerful network of former

students. Alumni associations foster a sense of pride and loyalty among university graduates and can be a fantastic tool for professional networking and career support for university students.

Perceived Advantages Of A University Degree

It is widely acknowledged that a higher level of education not only provides greater freedom in occupational choice but also leads to higher social prestige. In light of this perspective, one could presume that the educational level of spouses is a critical factor for Qataris in choosing a marriage partner. Thus, this section explores the extent to which Qataris value the education level of their marriage partner.

The majority of Qataris perceived the education level of their spouses as a non-significant factor in their decision to marry

Respondents were asked about their perceptions of the combination of brides' and grooms' education levels. shows that about 16 percent of men and 11 percent of women agreed that the education level of the bride should be lower than that of the groom ($p=0.0073$). In comparison, about 8 percent of men and 6 percent of women agreed that the education level of the groom should be lower than that of the bride ($p = 0.1354$). Furthermore, about 74 percent of women and 66 percent of men thought that it was ideal for brides and grooms to have the same level of education ($p = 0.0039$). Meanwhile, about 60 percent of women and 68 percent of men answered that their spouse's education had nothing to do with their marriage ($p= 0.0036$). These results suggest that while many Qataris prefer couples with the same education levels, they also do not consider spouses' education level a significant factor in their decision to marry. However, this tendency was observed more frequently among men than women, suggesting that women prefer assortative mating more than men.

Table 3: Perceptions of university degree and marriage, by gender

Dimensions	Male		Female	
	Agree	Disagree	Agree	Disagree

The spouse's educational level has nothing to do with marriage.	68%	32%	60%	40%
The groom's educational level should be lower than that of the bride.	8%	92%	6%	94%
The bride's educational level should be lower than that of the groom.	16%	84%	11%	89%
It is ideal for the bride and the groom to have the same level of education.	66%	34%	74%	26%

Most Qatari women saw a positive effect of a university degree on finding a favorable spouse and fulfilling their family role

The respondents were asked about their perceptions regarding the advantages of having a university degree in finding an ideal wife or husband. As Table 3 shows, 63 percent of women and 60 percent of men agreed that having a university degree would be advantageous in the process of finding a good wife ($p= 0.3783$). Similarly, 52 percent of women and 52 percent of men agreed that having a university degree would be advantageous in the process of finding an ideal husband ($p= 0.8434$). These results do not reveal any significant differences between men and women with regard to either question.

The survey participants were also queried on whether a university degree helped in being good wives or husbands. In total, 57 percent of women and half of men responded that having a university degree helps women be good wives ($p= 0.0104$). Furthermore, 66 percent of women and 62 percent of men agreed that having a university degree helps men be good husbands ($p= 0.2817$).

Similarly, 53 percent of women and 49 percent of men agreed that having a university degree helps women be good mother ($p= 0.1919$), and 60 percent of women and 56 percent of men agreed that having a university degree helps men be good fathers ($p= 0.1247$).

With respect to each question, slightly more women responded positively about the advantages of having a university degree than men. It is clear from all the responses that both male and female respondents believed that the advantage of having a university degree is greater for men than for women.

These results indicate that respondents, with a percentage of more than half of the sample, are aware of the importance of education in supporting parents' ability to raise children properly. However, given that more than 40 percent of respondents answered "disagree" to many of the questions, it is necessary to examine the mediating factors that influence local residents' opinions on education.

Table 4: Perceptions of university education, marriage & family role, by gender

	Male		Female	
	Agree	Disagree	Agree	Disagree
In order to be a good wife, in general, it is better to have a university degree.	50%	50%	57%	43%
In order to be a good husband, in general, it is better to have a university degree.	63%	37%	66%	34%
In order to be a good mother, it is better to have a university	49%	51%	53%	47%
In order to be a good father, it is better to have a university degree.	55%	45%	60%	40%
In order to find a good wife in Qatar, in general, it is better to have a university degree.	60%	40%	63%	37%
In order to find an ideal husband in Qatar, in general, it is better to have a university degree,	52%	48%	52%	48%

The majority of Qataris felt that a university degree is needed for good female careers and empowerment

Figure 21 and Figure 22 shows that more than 90 percent of both men and women felt that it is important for women to have a university degree to have a good career ($p= 0.0883$ for women, $p= 0.0701$ for men). Likewise, 95 percent of women considered a university degree is giving women more empowerment. On the other hand, a small percentage of men about 12 percent disagreed, indicating a gender difference in perceptions of the advantages of receiving a higher education and

obtaining a degree ($p= 0.0000$). This positive evaluation of women's degree-holding may be related to the fact that in recent years, the employment of university-educated women has financially enriched their parents' families or their marriages.

Figure 21: Perception on “in order, to have a good career it is better to have a university degree”, by gender

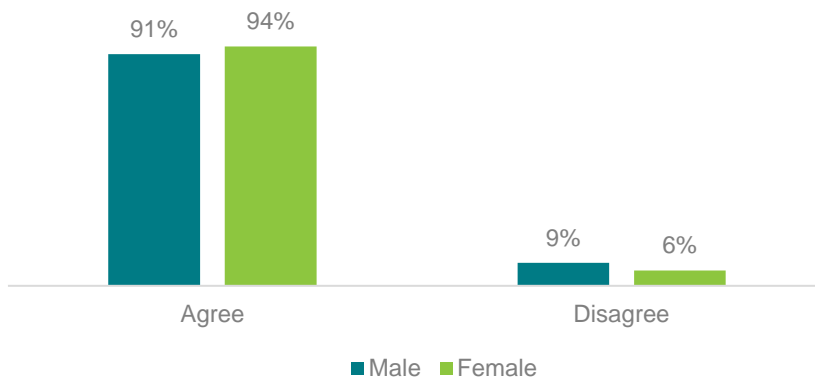
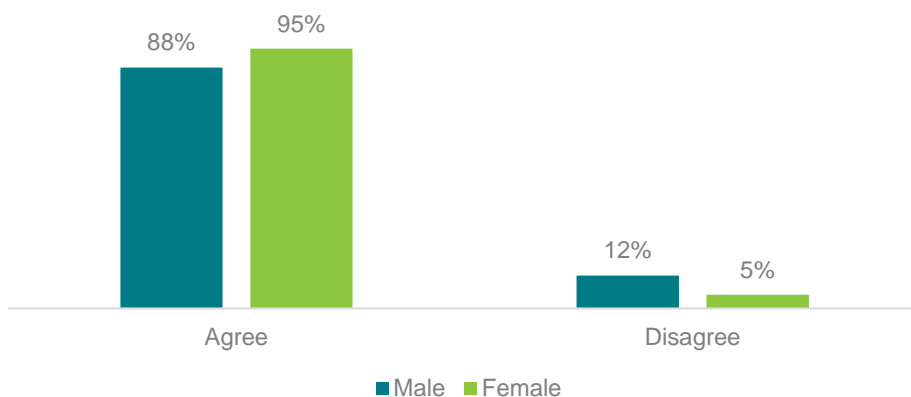


Figure 22: Perception on “high level of education gives women more empowerment”, by gender



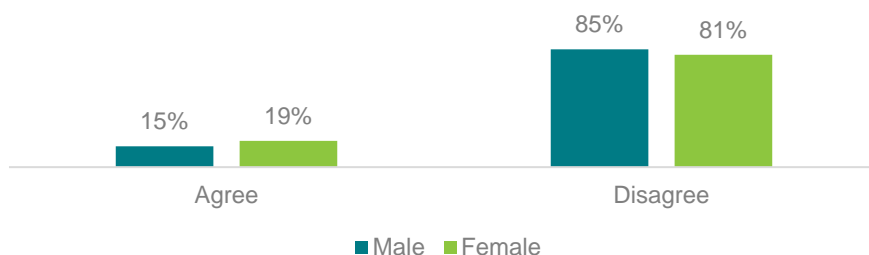
A bride's possession of a university degree does not significantly impact the amount of mahr

The perceived relationship between a university degree and “mahr” shows the characteristics of Qatari society. Studies show a strong

relationship between a bride's level of education and "mahr" in Middle Eastern societies. For instance, in Egypt, as the bride's level of education increases, the bride price¹⁸ paid by the groom and his family increases, thus favoring highly educated women¹⁹ In Iran, it has also been observed that "mehrieh" (the Persian version of mahr) increases as the bride's educational level rises²⁰ indicates that 85 percent of men and 81 percent of women disagreed, showing that in Qatar the relationship between the bride's level of education and the amount of "mahr" is not pronounced ($p=0.0708$). Additionally, it suggests that the possession of a university degree by the bride does not significantly affect the amount of mahr. Which indicates that the value of the mahr may be affected by other factors such as the social status and economic level of the bride. This issue needs researchers to examine it in the future.

This suggests that the value of the Mahr may be influenced by other social factors, such as the bride's and her family's social status and economic level. This topic warrants further investigation in the future.

Figure 23: Perception on “university graduate deserve a higher Mahr”, by gender



While the majority of Qataris agreed that a degree would lead to a good career, a significant number were more conscious of men having a job than a degree.

Figure 24 and Figure 25 shows that more than 95 percent of female and 92 percent of male respondents perceived that it was better for men to have a university degree to have a good career, indicating that most Qataris perceive that a university degree leads to a good career ($p=0.0701$). On the other hand, 68 percent of women and 65 percent of men agreed that, for men, having a job is more important than having a degree ($p=0.2616$). This indicates that most Qataris are more conscious

of the importance of having a job for a man, although having a degree would lead to a better career, and this consciousness was stronger among women than among men.

Figure 24: Perception on “in order to have a good career it is better to have a university degree”, by gender

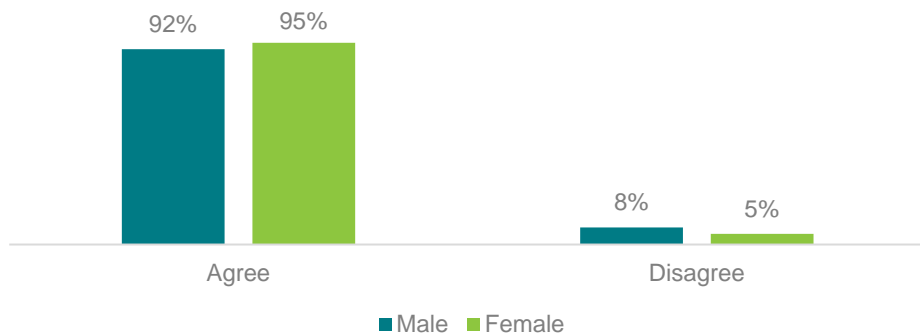


Figure 25: Perception on “having a job for men is more important than having a degree”, by gender

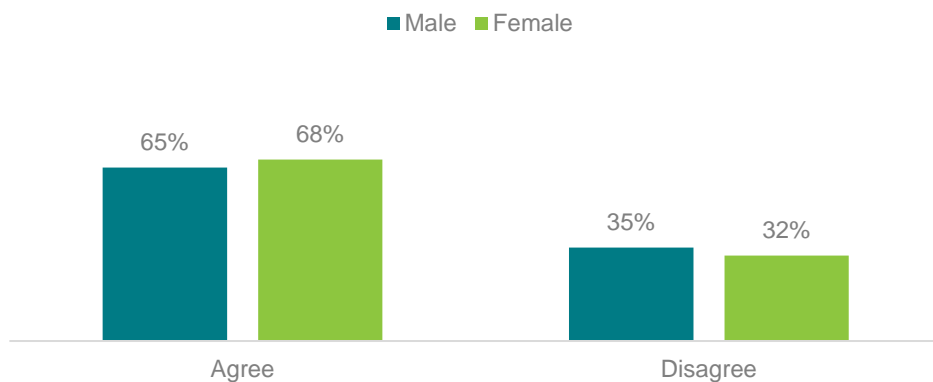
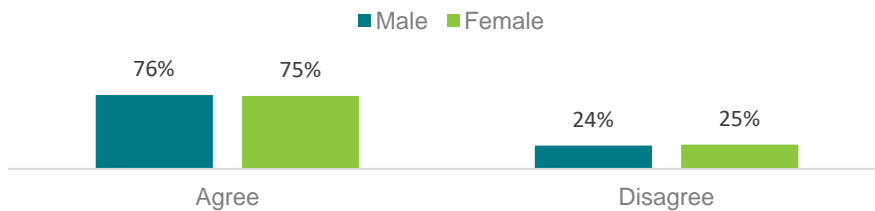


Figure 26 indicates that 75 percent of respondents, both men and women, believed that a high level of education gives men more authority in society ($p=0.7413$).

Figure 27: Perception on “in general, a high level of education gives men more authority in society”, by gender



Education and Career Prospects

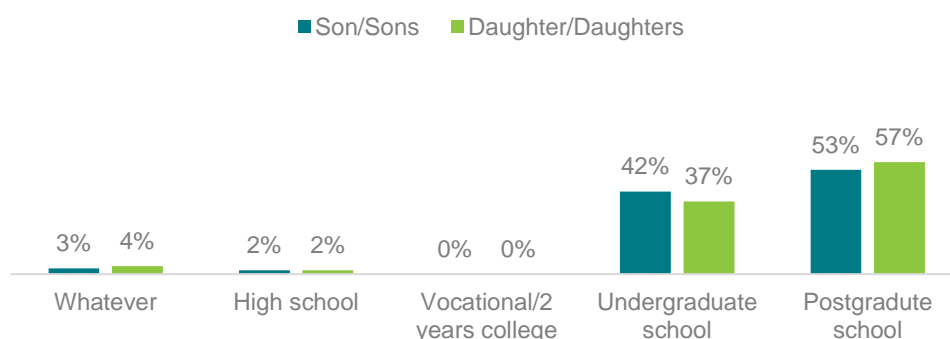
Over the past decade, percentage of Qataris (10 years and above) who obtained a university degree or higher has increased from 20percent in 2010 to 34 percent in 2020 ²¹ .However, as of 2020/2021, the enrollment of Qatari female students in universities within Qatar was 2.7 times that of male students.²²

Studies suggest that male students' low participation rate in higher education is mainly because Qatari men can obtain well-paid public sector jobs without a degree ²³ . In light of this situations, this section examines the responses to questions about Qataris' expectations of education and job prospects.

Qataris wanted their children to get advanced degrees

Respondents with son(s) and daughter(s) under the age of 18 were asked about their children's expected academic level. Figure 27 indicates that 95 percent of respondents expected their daughters and sons to attain higher education, and over 50 percent expected their children to complete a graduate education, such as a master's degree or doctorate. This result is a considerable discrepancy from reality, where 97 percent of Qatari students at Qatar University, the only national university, are undergraduates. In comparison, only about 2 percent were enrolled in master's programs and less than 1 percent in doctoral programs in 2020 ²⁴ . Further research is required to determine the causes of this large discrepancy between the ideal and reality.

Figure 28: Parents' Expectations of Educational Attainment for Children



Qataris considered important work to be in the non-military government sector, the military/police sector, and the private sector, in that order

The respondents were asked to what extent they thought jobs in different sectors were important for their children or the Qatari youth. Both men and women considered the most important jobs for their children and young Qataris to be in the non-military public sector, military/police sector, and the private sector, in that order (Figure 28).

The vast majority of Qatari men (85%) and of women (89%) responded that it was very important or important to obtain a job in the non-military public sector ($p=0.0401$) (Figure 29). This indicates a shared belief among both genders regarding the significance of securing employment in this sector.

This was followed by about 75 percent of women and 68 percent of men who responded that it is very important to get a job in the military or police ($p=0.0073$). While more than half of both genders considered it important, there was a higher emphasis among women on the significance of obtaining a job in the military or police.

Slightly less than two-thirds (65%) of Male and 63 percent of female respondents agreed that getting a job in the private sector is important ($p=0.5010$), but it was clearly not a priority when compared to public sector jobs (Figure 30). The findings highlight the high importance placed on the non-military public sector and the military/police sector, while the private sector is considered less of a priority. This is consistent with the actual Qatari labor force participation patterns. Qataris working in the private sector represented less than 10 percent of total the Qatari labor

force in 2019 ²¹ . Moreover, an interesting finding was that gender differences were not identified in the responses on preferred occupational fields in Qatar.

For decades, the occupational preferences of Qataris have remained unchanged, resulting in a lack of diversity in the human resources across various sectors. There is a need for an in-depth investigation into the reasons behind their consistent preference for working in the government sector and their reluctance to explore opportunities in the private sector. This investigation should encompass research into labor conditions and environments in both sectors, perceptions of Qataris job seekers, and societal perceptions of occupations in both sectors.

Figure 29: Job importance in military or police, by gender

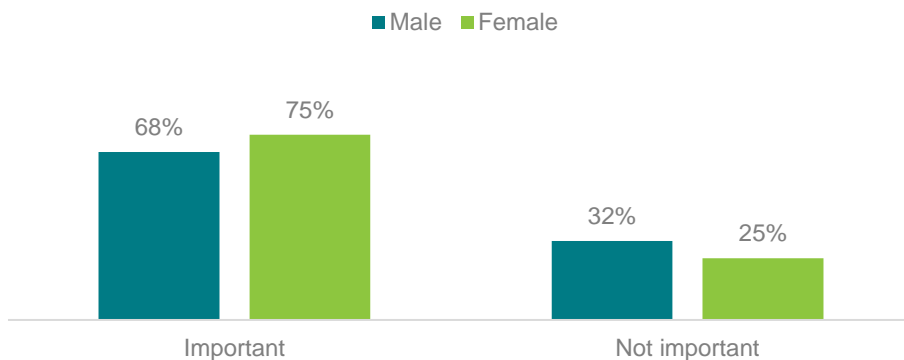


Figure 30: Job importance in a non-military public or government sector, by gender

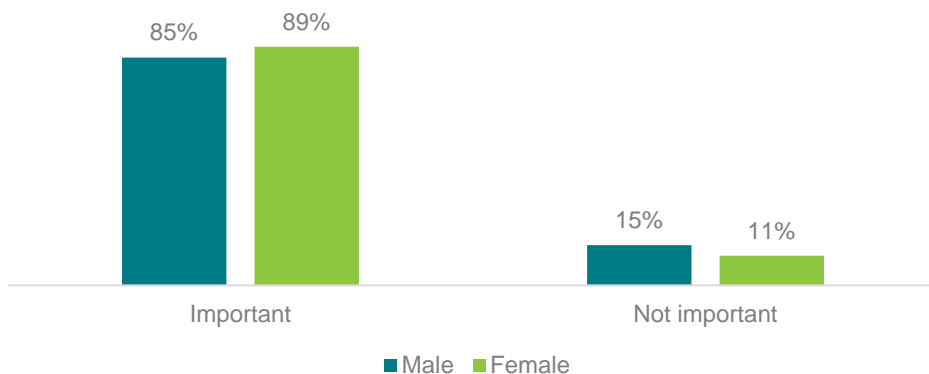
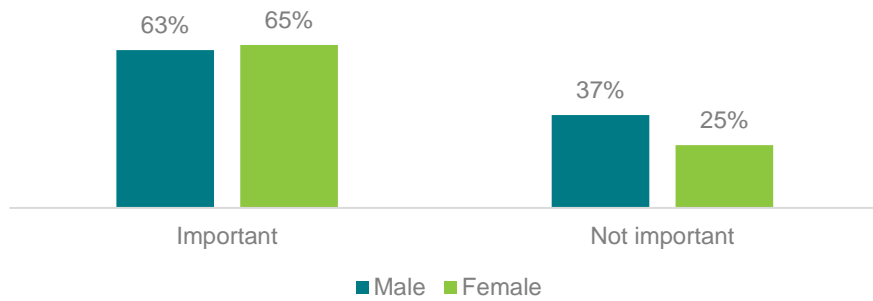


Figure 31: Job importance in the private sector, by gender

Conclusion & Recommendations

This research study aimed to investigate the perceptions of Qataris over the age of 18 regarding university degrees, as well as their expectations of higher education and career prospects. The survey results shed light on how Qataris perceive the value of a university degree in relation to employment, society and family relationships.

Despite the existing gender and generational disparities in higher education enrollment in Qatari society, respondents overwhelmingly held positive perceptions of the value of a university degree. The majority agreed that a university education helps individuals achieve personal growth, development, and secure well-paid jobs in Qatar. These perceptions were consistent across genders, with some variations based on demographic characteristics such as age, marital status, and educational level.

The study also examined perceptions of different academic degrees, including Bachelor's, Master's, and PhD degrees, as well as STEM qualifications. Respondents generally believed that higher degrees hold greater value, with advanced degrees (Master's and PhD degrees) seen as more advantageous than a Bachelor's degree. Notably, the perceived advantages and expectations associated with advanced degrees, particularly PhD degrees, were distinct characteristics of Qatari society. It is essential to continue investigating the factors that shape perceptions of a university degree and strive to close the gap between expectations and actual enrollment in higher education.

Furthermore, the research explored perceptions of university graduates and their roles in society. The majority of respondents believed that university graduates deserve respect, high income, and possess qualities that make them valuable professionals, family managers, and contributors to society. These perceptions were slightly more pronounced among female respondents.

The research contributes to understanding how higher education is valued in Qatari society, particularly in the context of marriage and gender roles. It reveals that the education level of a spouse is not considered a significant factor in the decision to get married. Additionally, the findings highlight the perception that having a job is more important than having a degree for men, with women placing a stronger emphasis on this. These insights provide valuable information about Qataris' perception of the education level of their marriage partner, the advantages of a university degree, and the relationship between education and gender roles.

The study also highlighted the expectations of Qatari parents concerning their children's education and career prospects. It revealed a strong desire for their children to attain higher education, including graduate degrees. However, a noticeable discrepancy existed between these expectations and the current reality, emphasizing the need for further investigation into the factors influencing educational outcomes.

Moreover, the research identified the importance placed on various employment sectors in Qatar, with the non-military public sector, military/police sector, and private sector being regarded as significant. While public sector jobs were prioritized, the role of the private sector was considered important but less prominent. These findings provide valuable insights into understanding the dynamics of Qatar's job market.

This study significantly addresses the dearth of research on the perceptions of Qatari nationals regarding the worth of a university degree, and their anticipated outcomes from education and employment prospects. The knowledge derived from this study is valuable for policymakers and stakeholders, enabling them to devise strategies to rectify the disconnect between higher education and employment opportunities, as well as the gender imbalance in university enrollment and workforce participation.

The research findings also underscore the necessity for Qatari universities to adopt proactive steps to amplify their graduates' employment opportunities. By modifying their pedagogical practices, providing career growth resources, encouraging professional networking, and establishing robust alumni networks, universities can better prepare their graduates for success in the job market, thereby boosting the country's economic growth. These initiatives would not only benefit the graduates but also promote the progression of Qatar's knowledge-based economy, bringing the country closer to realizing its future vision. In conclusion, this research enhances our understanding of Qataris' perceptions of higher education, gender roles, and career prospects. The findings provide valuable insights that can guide policy decisions and initiatives aimed at promoting educational attainment, bridging gender gaps, and fostering a prosperous and inclusive society of Qatar.

Appendix: Methods

Sample design

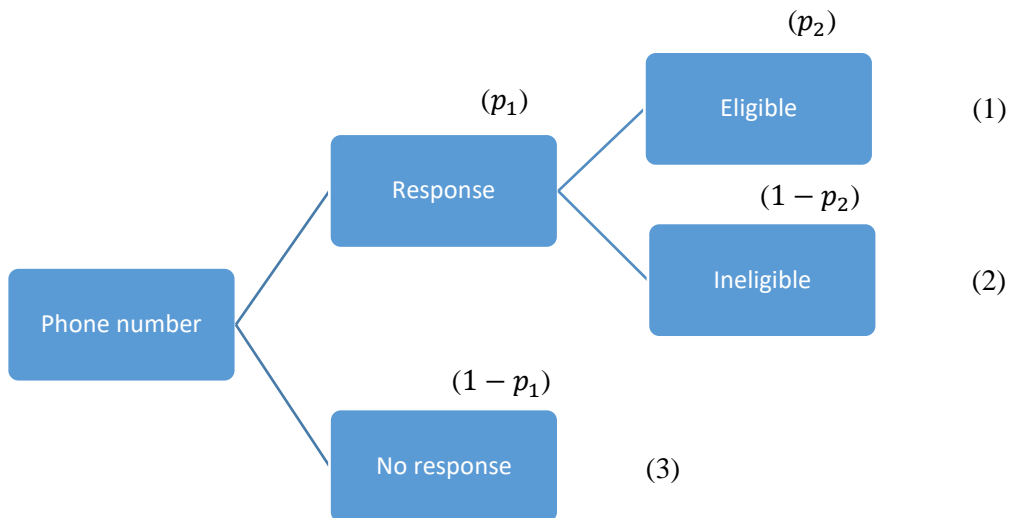
Like other countries in the Arab Gulf region, there are three distinct groups of population in Qatar: the Qatari nationals, the white-collar expatriates, and the blue-collar expatriates. The last two groups are locally known as

expatriates and labors. The expatriate group includes people who usually perform professional, managerial, or administrative work in an office, cubicle, or other administrative setting. Meanwhile, people in the labor group usually work in construction, customer interaction, sales, or other service-oriented work. Due to the difference in the nature of the work, white expatriates usually get much higher pay and better benefits than blue-collar expatriates. In this survey, the target population only include Qatari nationals who are 18 years or older. This target population excludes both expatriate and labor population, people who are less than 18 year old, and those who do not live in Qatar during the survey reference period.

Respondents were surveyed by cellular telephone using a Computer Assisted Telephone Interviewing (CATI) system. As the vast majority (98%) of adults in Qatar have at least one cell phone, the survey is expected to provide an excellent coverage for this target population.¹ Working with local cell phone providers in Qatar, SESRI is able to develop a cell phone sample suitable for the survey. In the following, we will discuss the sampling process.

In a phone survey, the result (or disposition) from dialing a phone number can be described in two stages. First, we can get a response or no-response (e.g., non-working or disconnected numbers, immediate hang up or refusal) from the dialing. Then, in the second stage, a phone number with a response can be identified as eligible (Qatari adult) or ineligible (e.g., less than 18 years old, expats or labors) as shown in figure 1. In this figure, p_1 is the probability of having a response, and p_2 is the probability of being an eligible respondent conditional on having a response.

¹ This number is based on a face-to-face Omnibus survey conducted by SESRI in 2019.

Figure 31: Dialing result (phone number states and probabilities)

According to figure 1, there are three possible states for a phone number. A phone number can be (1) an eligible person for the survey, (2) an ineligible person, or (3) a phone number with no-response. Since we do not know the state of a phone number prior to the survey (prior to dialing), the sampling process is conducted while the state of the phone number is unknown. Accordingly, a simple random sampling (SRS) can be quite inefficient and associated with high survey cost as a large number of sampled phone numbers may end up in ineligible or no-response states.

Based on the sampling literature originally developed to target rare population (e.g., racial or ethnic minorities, low-income households)²⁵, SESRI has developed a sampling process to address this issue. First, using previous phone surveys, in which the states of the phone numbers have been identified after dialing, we apply a two-stage (or nested) logistic regressions corresponding to figure 1. In the first stage regression, the dependent variable is response or no-response, and in the second stage regression, the dependent variable is eligible or ineligible. For both stage-regressions, the independent variables are derived from auxiliary information. Following these regressions, the probabilities p_1 and p_2 in figure 1 can be calculated as follows:

$$p_i = \frac{e^{x_i \beta_i}}{1 + e^{x_i \beta_i}}$$

where i is 1 or 2, x_i is a vector of independent variables, and β_i is a vector of estimated coefficients from the nested logistic regressions.

The probability for each state will be the product of these two probabilities; that is, $p_1 p_2$ for eligible, $p_1(1 - p_2)$ for ineligible, and $1 - p_1$ for non-response. Since the independent variables are derived from the auxiliary information, these probabilities can be extrapolated to all phone numbers in the frame. In other words, for every phone number in the frame, we can calculate its probability of belonging to state 1, 2, or 3.

Next, using these probabilities we divide the frame into three strata in descending order of probability. The first stratum includes phone numbers that are most likely to be eligible while the last stratum consists of phone numbers that are least likely to be eligible (most likely including ineligibles and no-responses).

Finally, we constructed a disproportionate stratified sample from these strata. The disproportionate allocation is important to achieve efficiency whereby a higher sampling fraction is applied to the stratum with a higher probability of eligibility. With this allocation, we can reduce the survey cost as the sample is more likely to contain eligible phone numbers. In fact, we can achieve an optimal allocation of the sample into these strata by solving the optimization problem in which the objective function is the variance of an estimated mean $Var(\bar{Y})$ and the constraint is the survey cost. The optimal sampling fraction derived from this optimization is:

$$f_h \propto \sqrt{\frac{P_h}{P_h(c - 1) + 1}}$$

where P_h is the proportion of the eligible phone numbers in stratum h , and c is the ratio of the data collection cost for eligible phone numbers to that of the ineligible phone numbers. Further details of this optimization problem and its solution can be found in Kalton (2009), Chen and Kalton (2010), Barron et al (2015)²⁶.

The phone numbers in the sample were released for interviewing in batches to ensure that the complete call procedures were followed for all numbers. For every phone number in the sample, there were up to eight attempts to complete the interview. The phone calls were made over different times during the day and different days of the week to maximize

the chances of making contact with respondents. For phone numbers with break-off and soft refusal, dedicated interviewers would try to contact and convert them to completed interviews. Supervisors remotely monitored a proportion of calls to ensure quality control and adherence to strict protocols for reading the survey instrument. In accordance with Qatar's cultural customs, male interviewers did not interview females. Female interviewers continued interviewing a male respondent if willing to go through the survey. Otherwise, they would transfer the case to the "male only" group of interviewers. The following table shows the disposition of all dialed phone numbers during this survey.

Table 5: Calling dispositions

Disposition	Freq.
Completed	1298
Not completed	6402
Eligible	1316
Ineligible	3814
Unknown eligibility	1272
Raw response rate (RR1)	33.4%
Adjusted response rate (RR2)	41.5%

On the basis of table 1, the response rates were calculated using standardized coding and interpretation procedure for different calling dispositions as set by the American Association for Public Opinion Research (AAPOR 2015). Completed responses included those who finished the whole survey questionnaire. Those who did not complete the survey interview were divided into three categories: eligibles, ineligibles, and unknown eligibilities. Eligibles included Qatari nationals who refused to participate in the study and those who agreed to an appointment, but the appointment was not fulfilled upon follow-up. People who completed part of the interview were also included in this category. Ineligibles included mostly expatriates and labors, and those under 18 year olds. Unknowns consist of phone numbers with no answer. People, who immediately refused to participate in the survey and interviewers were unable to identify their eligibility, were also included in this category.

We report two response rates in the last two rows of table 1. First, the raw response rate is the ratio between the number of completes and

total sample sizes after excluding ineligible: $RR1 = \frac{C}{C+E+UE}$ where C is the number of completes, E is the number of eligible responses, and UE is the number of unknown eligibility. Second, the adjusted response rate is $RR2 = \frac{C}{C+E+eUE}$ where e is the estimated proportion of eligibilities which is given by this expression $e = \frac{C+E}{C+E+IE}$ where IE is the number of ineligible.

With the numbers of completes presented in table 1, the maximum margin of error for a percentage is +/-2.8%. The calculation of this error takes into account the design effects. One possible interpretation of sampling errors is: if the survey is conducted 100 times using the exact same procedure, the margin of error would include the "true value" in 95 out of the 100 surveys. Note that the margin of error can be calculated in this survey since the sample is based on a sampling scheme with known probabilities.

Hypothesis Testing

1. Qataris have high perceived value toward university education

Results has shown that Qataris in general have a high-perceived value toward university education (see Figure I-17), and that was measured using five different statements, in all five statements that either related to job and career opportunities, social status or personal growth Qataris have high level of agreement.

1.1. Qataris youth have a higher perceived value toward university education, compared to the older generation.

To test the hypothesis we divided the study sample into two groups based on their age, we defined the youth group as those who are (18 – 39 years old) as it is the age that define the youth in Qatar based on the Ministry of sports and youth, and the older group from 40 to 84 years old. The perceived value toward university education were measured using five different statements. We tested the two age groups cross each statement using chi-square test. Results shows that there is no significant difference between the two age groups when asked “university education helps to get well-paid job in Qatar” ($p = .179$). Also, there was no significant difference between the two age groups when asked “university education helps to improve career opportunities in Qatar” ($p = .19$). Moreover, there was no significant difference between the two age groups when asked “university education helps achieve

personal growth and development" ($p = .075$). In the other hand, two significant results were found while comparing the two age groups. Results shows that there is a significant difference between the youth (92% agree) and the older generation (95%) when asked, "university education promotes social prestige and status in Qatar" ($p = .025$). Furthermore, Results shows that there is a significant difference between the youth (76% agree) and the older generation (89%) when asked "university education helps to build a good family relationship" ($p = .001$).

The hypothesis was rejected, as it was not proved by the results, since three statements were not significant and the two others shows that the older generation have a higher perceived value toward university education. This could be explained by the possibility that the older generation could perceive that the university education promotes social prestige, and build a good family relationship, based on their experience and by the possibility that they are parents' and that is university education is something they would wish for their children.

1.2. Qatari females have higher perceived values toward university education than Qatari males.

To examine the hypothesis and to compare between males and females we used chi-square test. There was no significant different between females and males when asked "university education helps to get well-paid job in Qatar" ($p = .34$). In addition, there was no significant difference between the two age groups when asked "university education helps to improve career opportunities in Qatar" ($p = .76$). However, there was a significant difference between males (90%) and females (96%) when asked "university education promotes social prestige and status in Qatar" ($p = .001$). Moreover, results shows that there is a significant difference between males (78%) and females (84%) when asked, "University education helps to build a good family relationship" ($p = .025$). In addition, there was a significant difference between males (97%) and females (99%), when asked, "University education helps achieve personal growth and development" ($p = .008$).

We could partially accept the hypothesis, as the results shows there some difference between Qatari females and males in the perceived value toward university education. There was no differences when it comes to well-paid jobs and improving career opportunities. However, when it comes to the social and personal aspects there was a significant difference, were females seems to perceive that the university education may enhance those aspects.

2. Qatari parents' expect their children to have a university degree.

In general, Qatari parents', have high expectations for their children either their daughter or their sons, as most of them will either expect them to have a bachelors' degree or even graduate degree (masters or PhD).

2.1. Qatari parents' have higher expectations for their daughters' education compared to their sons.

Parents' with children under 18 years old were asked about their educational expectations for their daughters and sons. Table I-1 below represents the joint distribution of parents' responses. Results shows that there is a significant difference between the parents' expectations for their daughters and sons ($p = .0001$). While 18 percent expect their sons to have a graduate degree compared to those who expect their daughters to have a bachelors' degree, 27 percent expect their daughters to have graduates degree compared to those who expect their sons to have a bachelors' degree.

We could accept the hypothesis, as the results were significant and showed that Qatari parents' have higher expectations for their daughters' education compared to their sons.

Table 6: Joint distribution of parent's expections to their children eduction

Daughters	Sons		
	Bachelors'	Graduate Studies	Does Not Matter
Bachelors'	72%	18%	0
Graduate Studies	27%	79%	27%
Does Not Matter	1%	3%	73%

Calculation of data weights

Following the data collection, we calculate the weight for each completed response. There are three components in this calculation: (1) the base weights reflecting the sample selection probability, (2) the adjustment factors to account for the non-response, and (3) the calibration to make the survey results in line with the population parameters. Additionally, we use weight trimming since highly variable weights can introduce undesirable variability in statistical estimates.²⁷

First, the base weights are the inverse of the selection probability of the unit in the sample. Due to the disproportionate sampling as described in the sample design, the selection probabilities are needed to ensure unbiasedness in the analysis.

$$W_{base} = 1/p$$

where W_{base} is the base weight for the phone number, p is the probability of selection.

Second, assuming the responding and non-responding units are essentially similar with respect to the key subjects of the investigation, the base weights can be adjusted to account for the non-response by this formula:

$$W = \alpha W_{base}$$

where α is called the adjustment factor for non-response which is derived from the propensity that a sampled unit is likely to respond to the survey.²⁸

Third, calibration is used to make results in line with the population parameters. This calibration can help reduce the effect from non-response and under-coverage of the sampling frame. SESRI uses a “raking” method in the calibration to adjust the weights of the completed responses so that the proportions of the adjusted weights on certain characteristics (such as marital status, gender, and age groups) agree with the corresponding proportions for the population.²⁹

Questionnaire development

The questions were initially designed in English and then translated into Arabic by professional translators. After the translation, the translated versions were carefully checked by researchers who are fluent in both English and Arabic. Next, the questionnaire was tested internally inside SESRI. This allows the project team to learn whether respondents were able to understand and answer the questions, and to identify important concerns that affect responses to the questions.

After making necessary changes to the questionnaire based on this internal pre-test, the survey was programmed into CATI (Computer Assisted Telephone Interview) system using the software BLAISE. After debugging the program, a face to face pre-test on a small number of people was conducted. This pretest gives valuable information to refine question wording, response categories, introductions, transitions, interviewer instructions, and interview length. Based on this information, the final version of the questionnaire was created and then programmed into CATI for the fieldwork.

Survey Administration

The survey was administered in CATI (Computer Assisted Telephone Interview) mode. SESRI is strongly committed to the idea that knowledge of interviewing techniques and field procedures should be supplemented with the basics of survey research to reinforce the necessity for quality data collection. This is achieved through on-going interviewer training; the provision of a strong interviewer support during the field production; adherence to a strict quality monitoring protocol; and the use of technology that allow supervisors to monitor as well as evaluate all interviewing activities during the survey production phase. In fact, prior to roll out of this survey, each interviewer received an orientation to the CATI system and participated in a training program. Fundamentals of interviewing with CATI, standard protocols for administering survey instruments, and practice with phone interviews were among the topics covered during the training sessions. During the period of data collection, the operational management of the call center at SESRI entailed the application of rigorous quality monitoring protocol to ensure that questions were asked appropriately and responses were accurately recorded by interviewers.

Data Management

After the data collection, all individual interviews were merged and saved in a single BLAISE data file. This dataset was then cleaned, coded and saved in STATA formats for analysis. After weighting the final responses to adjust for probability of selection and non-response, the data were analyzed using STATA, the statistical software for the social sciences, where both univariate, bivariate and multivariate analyses were performed.

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