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Constrained School Choice in Egypt[1]

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Abstract

This paper examines patterns of school choice in Egypt from primary through higher education. We use a mixed-methods approach that combines survey data with qualitative in-depth interviews to explore schooling decisions. Some private and religious schools exist, but we find that in most geographic areas school "choice" at the pre-university level is effectively limited to public schools—despite their inadequate quality. Although there has not been much change in the attendance of private schools at the pre-university level, we find that attendance of private higher education institutions has increased over time. Azhari (Islamic religious) school attendance at the pre-university level has increased over time as well, possibly indicating a reaction to the low quality of public schools. Overall, when choices are available, families still tend to prefer public schools due to their low cost, though private and religious schools are generally perceived to be of higher quality.

Keywords: education; school choice; private schooling; religious education; inequality of opportunity; Egypt

JEL codes: I21, I22, I23, I24, N35

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1 Introduction

Private and religious education are often framed as important alternatives to public schooling in a diverse and high-performing education system. Having a broad set of school choices may allow young people and their families to select the education options that best meet their personal and academic needs. Resulting competition among schools may also improve the quality of schooling (Adnett 2004; Henig 1995; Hoxby 2000; Thapa 2013; Barrera-Osorio, Patrinos, and Wodon 2009; Plank and Sykes 2003). Particularly where public education is low quality, private and religious schools may play an important role in offering children opportunities to attend higher quality educational institutions (Alderman, Orazem, and Paterno 2001; Anand, Mizala, and Repetto 2009; Neal 1997). Low-cost private schools may even improve equity in education by providing quality options for families with modest resources (Tooley 2013). Yet a wider set of educational options has not led to improvements in quality or access in some contexts and can generate substantial inequality in education systems (Asadullah, Chaudhury, and Dar 2007; Carnoy 1998). The advantages and disadvantages of private schooling across low- and middle-income countries (LMICs), where public education systems often face substantial constraints, have thus been a subject of considerable debate.

Egypt is one middle-income country in which an increasing array of schools and school types has become available, such that young people today may have more choices as to where they study than did previous generations (Assaad and Krafft 2015a; Elbadawy 2015). Although public schooling is the predominant form of education in Egypt, the percentage of young people who attend alternatives such as religious and private schools has been growing (Elbadawy 2015). Islamic religious (Azhari) education has a long history in Egypt, and recently a rising share of students have been attending Azhari schools (Elbadawy 2015). Aside from these overall trends in

the landscape of school choice, however, relatively little is known about who chooses different types of education and why they do so in Egypt.

In this context, we seek to answer the following research questions: (1) How prevalent is attendance at different school types across different levels of the school system? (2) Has there been a shift towards private education or religious education over time in Egypt? (3) What are the profiles of youth joining different school types? (4) Do households in Egypt make an "active" schooling choice between public, private, and Azhari (Islamic religious) schools, or are they constrained in their choices? And, finally, (5) What are the differences in quality of education across school types, and how does quality factor into households' decision-making about where to enroll their children in school?

The paper uses a mixed-methods approach in order to examine both the trends and patterns of school types in Egypt, as well as household decision-making around school choice. Our primary data source is a nationally-representative panel survey, the Survey of Young People in Egypt (SYPE) 2009/2014. We supplement the quantitative analysis of SYPE with qualitative data from in-depth interviews with current and former students in Cairo who were a similar age to the SYPE respondents. The interviews aimed to understand perceptions of educational quality and factors influencing school type decisions, in order to help interpret the quantitative findings. Throughout the paper, we use the term "school choice" to refer to the type of school (public, private, religious) attended. However, as our results show, a number of practical constraints (especially financial and geographical constraints) often effectively limit students' and parents' choices to public schooling.

2 Global literature on school choice

When parents and young people are considering whether and where to attend school, a number of different factors affect their decision. Economic models of school choice tend to frame decisions around schooling as an attempt to maximize human capital (the quantity and quality of education, which can later generate income) or utility, where schooling affects income and thus utility (Glewwe and Jacoby 1994; Newhouse and Beegle 2006). Families may also derive utility from, and thus select schools based on, features of the school such as quality, safety, proximity, and fees. Families also face a number of important costs and tradeoffs in selecting their school type and school. In particular, the inability to borrow against future income means that families may be constrained by fees or other costs when making their school choices..

The choices available to young people and their parents also vary enormously across and within countries. The richest literature on school choice in LMICs focuses on South Asia, especially Pakistan and India, where in addition to the relatively standard options of public schools and expensive, elite private schools, there also low-fee private schools, which are accessed by the middle class and even some of the poor (Alderman, Orazem, and Paterno 2001; Andrabi, Das, and Khwaja 2008; Tooley and Dixon 2007). Low-fee schools in low-income areas have also become increasingly common in parts of Sub-Saharan Africa (Oketch et al. 2010; Tooley, Dixon, and Olaniyan 2005). Faith-based and religious education has likewise had an evolving role across Asia, Africa, and Latin America (Andrabi et al. 2006; Barrera-Osorio, Patrinos, and Wodon 2009; Wodon 2014). Relatively less is known about the schooling options available to families in the Middle East and North Africa region.

Families' reasons for choosing private or religious schools and the impact of school choice on both educational outcomes and equity are hotly debated in the literature (see, for

example, Ashley et al. 2014; Tooley and Longfield 2015). The debate is often linked to political arguments around the role of the state and privatization (Henig 1995; Power and Taylor 2013). The existence of alternatives to a single local public school may create pressure and competition for students that improves educational outcomes (Hoxby 2000; Thapa 2013). Education quality may also be better in private or religious schools than in public schools, because such schools may face stronger incentives for, or have greater resources with which to deliver, quality education. In contexts where alternative school types are higher quality, families' preference for quality may drive school choice (Alderman, Orazem, and Paterno 2001; Nishimura and Yamano 2013).

However, the evidence on the impact of school type on educational outcomes, a key dimension of quality, is mixed. Compared to public schools, private schools improve educational outcomes in some contexts (Anand, Mizala, and Repetto 2009; Bold et al. 2013), perform worse in others (Newhouse and Beegle 2006), and in some cases are no different (Asadullah, Chaudhury, and Dar 2007; Chudgar and Quin 2012). Likewise, compared to public schools, religious schools have been found to be no different (Asadullah, Chaudhury, and Dar 2007; Elder and Jepsen 2014), better (Altonji, Elder, and Taber 2005; Neal 1997; Wodon 2014), or worse (Asadullah, Chaudhury, and Dar 2007; Newhouse and Beegle 2006). Vouchers allowing students to choose private schools have also shown a mix of no and positive impacts on educational outcomes (Angrist et al. 2002; Carnoy 1998; Muralidharan and Sundararaman 2015; Patrinos and Sakellariou 2011; Barrera-Osorio, Patrinos, and Wodon 2009).

The wide array of estimated impacts of school types and school choice on educational outcomes may also be driven by selection into different types of education. A number of important patterns have been noted in terms of who attends private and religious schools. On the

household level, income plays a particularly important role, especially in relation to school fees (Alderman, Orazem, and Paterno 2001; Ashley et al. 2014; Glick and Sahn 2006; Nguyen and Raju 2014). School choice is also affected by the education of the parents or household head (Andrabi, Das, and Khwaja 2008; Glick and Sahn 2006; Nguyen and Raju 2014). Family religiosity plays an important role in selecting religious schools (Asadullah, Chakrabarti, and Chaudhury 2015; Wodon 2014).

Qualitative studies have also highlighted that school "choice" is not a meaningful concept to many households even where alternative forms of schooling do exist. For poor households, even low-fee private schools are often prohibitively expensive or require substantial financial sacrifice (Akaguri 2014; Fennell and Malik 2012; Härmä 2013, 2016; Rao 2010; Singh and Bangay 2014; Woodhead, Frost, and James 2013; Zeitlyn et al. 2015). In some contexts, students may also be selected out of (preferred) public schooling due to poor performance and limited spaces (Zeitlyn et al. 2015), leaving them with no effective choice between private and public education. The qualitative literature also highlights some of the less quantifiable aspects of alternative schools that may be attractive to households. For example, in addition to perceived higher quality (Härmä 2013; Zeitlyn et al. 2015), private schools may convey certain prestige, mannerisms, or other social markers that are valued beyond knowledge gained (Rao 2010).

3 Background on education in Egypt

3.1 The school system in Egypt

In Egypt, most students enter the school system at the primary stage, although some attend pre-primary (Elbadawy 2015). Figure 1 shows the structure of the Egyptian education system. Primary education (grades 1–6) is followed by preparatory education (grades 7–9).

Together, primary and preparatory schooling comprise compulsory, basic education. At the end of preparatory, students track into either vocational secondary, which is almost always a terminal degree, or general secondary, which has near-universal transition rates into higher education (Assaad 2013), depending on their test scores at the end of the preparatory stage. Those students who go on for higher education primarily attend four-year university programs, with a smaller percentage attending four-year higher institutes or two-year post-secondary institutes, which are less selective and less prestigious than universities (Barsoum 2014; Krafft, Elbadawy, and Assaad 2013).

[Figure 1 near here]

In Egypt, as in many Arab countries, rapid expansion in the quantity of education was achieved primarily through the provision of free public education (Rugh 2002), which is guaranteed by the constitution (Egypt State Information Service 2014). Today, primary enrollment is nearly universal, and gender gaps in education have narrowed substantially (Elbadawy 2015). However, while the public education system has expanded rapidly, important challenges remain in regards to school quality and learning (Elbadawy 2015; Krafft 2015). Since high-stakes exam performance determines school progress and access to limited seats in public universities, and since the teaching quality at school is often insufficient, parents who can afford to do so make various forms of private investments to enhance their children's chances of academic success (Assaad and Krafft 2015a). Investments may include choosing higher quality but more expensive school types, and investing in private tutoring to supplement formal schooling, which is common across school types and levels (Elbadawy 2015).

3.2 School types and school choice

Education in Egypt has been publicly provided free of charge even at the higher education level. Nonetheless, even the public education landscape comprises several school types. Public schools include public regular schools and experimental (*tagreebi)* schools. Experimental schools, renamed "public language" schools as of 2014, represent about 5 percent of public schools and were introduced in 1985 as a pilot aiming to expand the study of foreign languages. Instruction in this type of school is conducted in a foreign language, typically English, and the schools are semi-public in the sense that they charge tuition fees. The fee level is about half that charged by regular private schools and a quarter of what private language schools charge, but remains a substantial expenditure; these schools are primarily attended by children of the wealthiest families (Assaad and Krafft 2015b). In higher education, the public experimental school track does not exist. However, there are "foreign language sections" of certain public university faculties, which, like public experimental schools, charge higher fees than the Arabic-language faculties (OECD/The World Bank 2010).

Against the background of economic reforms in the 1990s and the privatization schemes that went hand in hand with these reforms (Sayed 2006), the government moved to encourage private provision of education, particularly in higher education, in part to alleviate the pressure on public universities. Private higher education in the form of private post-secondary and higher institutes was permitted by law 52 of 1970, but private universities were not permitted until law 101 of 1992 (El Baradei and El Baradei 2004). This law led to a sharp increase in the number of private universities and other private higher education institutions (CAPMAS 2013).

Currently, private schools represent about 13 percent of all pre-university schools (Ministry of Education of Egypt 2014). Private schools are divided into private "regular" schools, with instruction in Arabic, and private (foreign) language schools; language of instruction in the latter is not Arabic. About 50 percent of private schools were offering instruction in Arabic in the school year 2003/2004 (Information and Decision Support Center 2005a). Language private schools are particularly elite and charge the highest tuition fees (Assaad and Krafft 2015b). A small number of private language schools are "international" schools, which offer an international curriculum and foreign credential.

Running parallel to the public and private schools, Egypt also has Azhari schools, which are government-supervised Islamic religious schools. These religious schools are managed by the Supreme Council of Al-Azhar, the highest religious authority in the country (UNESCO International Bureau of Education 2012). The curriculum of Azhari schools is mainly religious but also contains non-religious subjects found in the public school curriculum. Azhari schools charge nominal administrative fees that are similar to administrative fees in public schools (Assaad and Krafft 2015b). At the pre-university level, approximately 10% of students are in Azhari schools (CAPMAS 2015). Additionally, there are private (foreign language) Azhari schools, which are supervised but not managed by Al-Azhar. At the university level, there is Al-Azhar university, which has both religious and non-religious branches.

Very little evidence is available on how young people and their families in Egypt choose between these different school types; indeed, there are few studies of school choice in the Arab world more broadly. The multivariate evidence on selection into different school types in Egypt is limited to higher education (Assaad, Krafft, and Salehi-Isfahani 2017; Buckner 2013), the sector in which a greater role for private education has primarily been proposed (Barsoum 2014;

El-Araby 2013; Information and Decision Support Center 2005b; OECD/The World Bank 2010). Investing in private higher education can also allow students to get around the test score requirements of public universities (Barsoum 2017), effectively opening up higher education opportunities only to the lower-performing students who can afford to pay for them.

Even less evidence is available with regards to student and family preferences or school characteristics that may drive school choice. National polls have demonstrated that public schools are the preferred type of schools, primarily due to their low cost (Information and Decision Support Center 2011). In the same polls, public schools were cited as the worst type of school, with deficiencies in school quality being the most cited reasons, specifically the lack of teaching, the lack of teacher accountability, and overcrowded classes. These contrasting findings further emphasize the need for more in-depth, nuanced understanding of school choice in Egypt, complemented by analysis of the implications for equality in educational opportunity.

4 Data and methods

This paper is based on mixed-methods analysis of quantitative data from the Survey of Young People in Egypt (SYPE) and qualitative, in-depth interviews with youth in the Greater Cairo Metropolitan Area. Our analysis uses the qualitative data to provide insights into possible mechanisms driving the quantitative trends. Since factors shaping school choice decisions could vary by school level, we disaggregate our analysis by level whenever possible.

4.1 Quantitative data and analysis

The SYPE consists of an initial round fielded in 2009 and a subsequent follow-up round in 2013/2014. The initial round in 2009 included a nationally representative sample of 15,029

youth aged 10–29 (Population Council 2011). The second round successfully followed up 10,916 of those youth, aged 13–35 in 2013/2014, and incorporated weights to account for attrition as well as the initial sampling strategy, which had over-sampled older youth (Roushdy and Sieverding 2015). Both rounds collected rich data on the individual and household characteristics of youth, as well as a detailed set of questions on education experiences from the pre-primary through tertiary levels. Of specific focus for this paper is the data SYPE collected on school type, as reported by young people for each level they previously or currently attended. For each level of schooling, youth reported whether their school was public regular, public experimental (or, for higher education, public language), private regular (Arabic language), private foreign language, international, Azhari regular (Arabic language), or Azhari foreign language (private), allowing for a detailed analysis of enrolment in different school types across the educational trajectory.

The quantitative analyses employ both bivariate and multivariate techniques. Descriptive statistics are presented on, for instance, patterns of school types over time. Additionally, we examine the relationship between school type and young people's characteristics. These characteristics include cohort of birth, age, gender, place of residence (urban, rural, or informal urban housing [slums]), and region of residence. Other characteristics related to schooling are also examined; for instance, the type of secondary or higher education for those who attend such levels. Students' opinions and reports about school quality are examined descriptively by type of school.

The key multivariate model for this paper is a model for the type of school attended, which is estimated separately for each level of schooling (primary, preparatory, secondary, and tertiary). As the standard method for modeling a categorical choice, a multinomial logit model is used. This paper presents the marginal effects (changes in probability) for different individual

and household characteristics. Covariates included in the model are sex, residence, father's and mother's education, father's work status, and cohort of birth.

An important consideration in the SYPE data is the age of the respondents. Because the sample was aged 13–35 at the time of the 2014 round, the sample is composed primarily of past attendees (as opposed to current or very recent students) for earlier levels of schooling. To overcome potential challenges with recall, particularly in terms of measures of school quality, data from the initial 2009 round (when the youth were aged 10–29 and more likely to have been current or very recent students) are used for some analyses. In addition, we would ideally use data from youth and their families at the point in time when school type decisions were being made, but many young people had moved out of their natal households by the time of the surveys. The variables for father's work status when the young person was age 15 and parents' (categorical) education are used as proxies for the socio-economic status of young people's natal families.

4.2 Qualitative data and analysis

The qualitative data consist of individual in-depth interviews, which are particularly suited to exploring subjects' decision-making processes. Our primary population of interest was youth aged 19–32, paralleling the older cohorts captured in SYPE who were of an age to be enrolled in tertiary education or to have completed their schooling in 2014. We chose to focus on the age range of the older SYPE cohorts because these cohorts would be able to reflect on their school choices over all levels of schooling, potentially providing important insights into how different factors affect these choices at different levels of the school system. Although parents likely make school choices for their children at younger ages, and may have a strong influence

on school choices even at the secondary and tertiary levels, in order to parallel the SYPE data as closely as possible, we chose to interview only the (former) students themselves. This provides for more comparable data across the qualitative and quantitative methods, particularly in terms of more subjective measures such as perceived school quality, which were self-reported by youth.

Twenty-four interviews were conducted in the Greater Cairo Metropolitan Area, as previous literature indicated that there is a greater diversity of school types available to students in Cairo as compared to other areas of Egypt (Elbadawy 2015). Due to the low prevalence of attendance at private schools even in Cairo, and particularly among youth from poorer households, we adopted a purposive sampling strategy for the qualitative data collection. Sampling for students was based on the highest level of education they had attended (secondary or tertiary), as well as the type (private, public, Azhari) of that education. The educational trajectories of the qualitative sample, by school type and level, are shown in Table 1. Given the lack of background data on private schools and their characteristics in Cairo, in order to achieve variation in the types of private schools that respondents attended, we sampled for private school students from different socio-economic backgrounds. Similarly, for common types of education (e.g., public regular university), we attempted to sample students of different socio-economic levels. We also sampled a mix of male (N=7) and female (N=17) youth. Fifteen were current students, mostly enrolled at the university level, three (all young men) had dropped out of the highest level in which they had enrolled, and the remaining six had completed their education. The average age of respondents was 21.

Respondents were identified using a snowball sampling strategy with several entry points to incorporate young people of different socioeconomic backgrounds. Finding willing respondents who met the desired criteria, particularly for less common school types, proved

difficult given the uncertain political and security situation in Egypt at the time of the data collection. For this reason, the final distribution of the sample did not exactly match the frame set out at the beginning of the data collection; in particular, there were more women respondents and fewer private Arabic language school respondents.

[Table 1 near here]

Interviews were conducted between April and July 2014 by an Egyptian interviewer trained by the authors. The interviews were extensive, typically taking between 60 and 100 minutes, covering students' educational experiences and reasons for choice of school at each level, perceptions of the quality of the schools they attended, and perceptions of the advantages and disadvantages of different types of schools generally. The interviews were recorded in the field and transcribed into the original language, Egyptian Colloquial Arabic, before being analyzed. The analysis was conducted using a thematic approach, in which common categories and patterns were identified across the interviews. However, the analysis was deductive in that we focused on specific points and hypotheses derived from the quantitative analysis in the analysis and presentation of the qualitative data. In particular, we focused the qualitative analysis on questions related to availability and perceived quality of school types, and how respondents related these factors to their school choices.

5 Results

5.1 Patterns of school attendance by level and type

The majority of students in Egypt attend public regular schools in all levels of schooling (Table 2). Similar patterns of school types were observed across the primary through preparatory stages. During the primary stage of schooling, 89 percent of students attended public regular schools. This share rose to 91 percent during the preparatory stage and 90 percent during secondary. One percent or less of students attended public experimental schools at the primary through secondary levels. Private regular (Arabic language) school was slightly more common at the primary level (3 percent) than the preparatory (2 percent) or secondary (2 percent) levels of education. The share of students attending private language schools was constant and low at around 1 percent across primary through secondary. International schools served less than 0.05 percent of students from primary through secondary.

[Table 2 near here]

After public regular schools, the second most common form of schooling was Azhari education, with around 6 percent of primary through secondary students attending Azhari schools (almost all in regular Azhari; at most 0.1 percent in Azhari foreign language). As outlined in previous sections of this paper, there are two tracks in public secondary education in Egypt: general secondary education and vocational secondary education. While 98 percent of vocational secondary education was public regular school and 1 percent public experimental, in general secondary education only 92 percent of students attended public regular schools, around

1 percent attended public experimental schools, and 6 percent attended private schools (3 percent in private regular schools and 3 percent in private language schools).[5]

The share of students attending public schools for higher education was not as high as the share of students attending public schools for lower levels, with 80 percent of those in higher education in public regular schools and 1 percent in public language programs. In higher education, private schools were particularly common in the categories of two-year post-secondary schooling (21 percent) and four-year higher institutes (47 percent). Azhari schools were attended by a similar share of students (6 percent) at the higher education level and at lower levels. Since the share of youth attending certain types of schools is relatively small, we hereafter aggregate public experimental schools with public regular schools, aggregate together private regular, international, and private language schools, and aggregate Azhari regular with Azhari language schools. We maintain these distinctions in the qualitative data.

Although public education has been and continues to be the most common type of schooling at all levels, there have been some noteworthy trends over time. Figure 2 shows trends in private and Azhari schooling by birth cohort and school level. For the cohorts born in the early 1980s to the end of the 1990s, the share of primary students in Azhari schools rose from around 5 percent to 7 percent, with a similar increase occurring at the preparatory level. While there were very slight increases in private schooling at the primary level (from just below to just above 4 percent), the share of private schools remained relatively flat for preparatory schooling (at around 3 percent). At the secondary level, Azhari schooling increased in prevalence from 4 percent to 6 percent, while private schooling's share fluctuated around 3 percent. Although the share of youth attending Azhari higher education fluctuated around 6 percent across cohorts,

[5] Difference by type of secondary education is not shown in Table 2.

there was a clear increase in the share of youth attending private higher education (almost 14 percent for recent cohorts).

[Figure 2 near here]

5.2 Factors associated with type of school attended

A variety of factors are likely to affect the type of school students attend, including the availability of different school types and families' preferences and resources. In the appendix, Table 6 shows the share of youth respondents with different characteristics who were currently attending or previously attended different types of schools at each level. While numerous dimensions of students' circumstances are clearly associated with the types of schools they attend, many of these characteristics are linked. For instance, youth from wealthier families also tend to have more educated parents, but it may be wealth alone that drives school choice. To disentangle the associations between young people's characteristics and the types of school they attend, we estimate multinomial logit models for the type of school attended at each level (for youth who attended that level). In Table 3 we present the marginal effects of these models, which show the changes in probability of attending different school types for different characteristics, after taking into account the other characteristics in the model.

[Table 3 near here]

There are statistically significant differences by gender in attending public and Azhari schools at the primary and preparatory levels, but not in attending private schools. In primary through secondary, female youth are significantly less likely to attend Azhari schools than male youth (by about two percentage points). At all levels of education, female youth are significantly more likely to attend public schools. Only in secondary and higher education are female youth significantly less likely to attend private schools, but the difference is small (0.7 percentage points) in secondary and much larger (5.8 percentage points) in higher education.

Compared to youth living in an urban area in the Urban Governorates, youth are more likely to attend public schools in all other locations. Differences are statistically significant in most cases, especially in the primary through secondary levels. Similarly, youth are less likely to attend private schools in all other locations, usually significantly so. The regional differences in Azhari attendance are less clear, with a mix of negative and positive marginal effects and only some statistical significance. Youth in rural Lower Egypt and rural and urban Upper Egypt do show significantly higher probabilities of attending Azhari school throughout their schooling.

Mother's and father's education only affect type of school at a certain level of parental education. Specifically, having parents with secondary education or higher (whether mother or father) predicts a significantly lower probability of public school and higher probability of private school. A highly educated father (but not mother) also predicts a significantly higher probability of Azhari school in the pre-university levels. For university, highly educated parents predict a lower probability of Azhari. Even after accounting for other characteristics, father's work, which is likely to represent income, is a significant predictor of school type. In comparison to public wage worker fathers, employer fathers show the clearest pattern, with significantly

higher probabilities of private school in all levels, with marginal effects between 3.1 and 5.4 percentage points.

The only statistically significant differences by birth cohort are for the most recent cohort, born between 1993 and 1999, as compared to the cohort born in 1978 through 1982. The most recent cohort is significantly more likely to attend Azhari schools across all levels (increases of 2.2 to 3.8 percentage points). In higher education, compared to those attending two-year post-secondary institutes, youth attending four-year higher institutes are significantly less likely (18.4 percentage points) to be in public education, while youth attending university are significantly more likely (8.0 percentage points) to be in public education. In other words, the non-university types of higher education (higher institutes and post-secondary institutes) are much more privatized than university education. Those attending university are significantly less likely to be in private education, but significantly more likely to be in Azhari education than those in post-secondary institutes.

5.3 Why do people choose different school types?

Although socio-economic status is clearly an important driver of the type of schools that young people attend, there is also variation within socio-economic classes in terms of who chooses to attend private schools as opposed to public or Azhari education. In the following subsections, we examine some of the additional factors that may influence school choice, namely availability of private schools and perceptions of school quality.

5.3.1 Availability of private schools

One crucial factor that affects whether young people attend different types of school is whether they even have a choice of schools available locally; many areas of Egypt may only have public schools as options. Unfortunately, the sample size of the SYPE is not sufficient to analyze local availability of private and Azhari schools, particularly given the relatively low attendance levels of these school types. However, we obtained administrative data on the location (governorate) of all of the primary and preparatory private schools in the 2012/2013 school year from the Egyptian statistical agency CAPMAS (and sourced from the Ministry of Education prior to CAPMAS). This allows some assessment of the variation in supply of private schools, in terms of the number of students, schools, and relative availability of private school slots (seats per thousand population), which is presented in Table 4.[6] It is important to keep in mind that these governorates are sizeable and, with a few exceptions, include both rural and urban areas, so even if a private school is available within a governorate it may not be easily accessible. Overall, there is enormous variation in the availability of private schools. Cairo has the greatest number of students, schools, and seats per thousand population in private schools. Compared to a national primary school average of 10.7 private school seats per thousand population, Cairo has 32.7 at the primary level. Giza (28.2), and Alexandria (23.8), which are also large urban areas, have the next highest rates. In a number of governorates, availability is quite low; there are no private schools in the data for El-Wadi El-Gidid, and only 1.5 private school seats per thousand population in Qena. Many governorates have ratios in the 3–7 seats per thousand population range, consistent with the low rates of private school attendance outside the urban governorates found in the SYPE data.

[6] Because the data are only for private schools, only for one year, and a point in time with a different geographic division of governorates than the SYPE data, we do not include this supply data in our presented multivariate models. Inclusion of private school supply using 2012/2013 data was statistically significant in predicting private school attendance for geographic areas that overlap and assuming current levels are the same as historical levels (models not shown).

[Table 4 near here]

The qualitative respondents' discussions of school availability supported the quantitative data. Most stated that there were private, public, and Azhari schools available in their areas for the primary through secondary stages, although some noted that there had been fewer options when they were younger. Nevertheless, proximity was still a factor affecting school choice, particularly for girls. The majority of respondents who had attended public school explained this decision in terms of the public school being the closest school to the house. However, a few who had attended private schools also said that this was because of the school's proximity; as one young woman who attended a private Arabic language primary school explained, "My father always wanted to make sure that our school was close to home." Another young woman explained that she switched from a private foreign language school that she enjoyed to a public school she disliked in part because of transportation issues:

> *I switched to the public school because it was close, and my mother was always worried about me taking public transportation. My mother was working near my private school and she would take me there …* – Female public university graduate

Proximity was also an issue for young women at the tertiary level, as their scores sometimes secured them placements at universities or institutes in distant neighborhoods of the city. Several young women from lower class backgrounds said that their families refused to let them accept these placements because of the distance. Among young men, those who attended public schools at the primary level also explained this in terms of convenience, but none described their secondary or tertiary educational choices as being limited by geography.

5.3.2 Perceptions of school quality

Some of the reasons that individuals who have different choices available to them choose different school types may relate to the characteristics and qualities of different schools at different levels. It is important to note on this point that the *perceived* qualities of schools may be as relevant to decision-making about school choice as objective measures of quality, given that, for most individuals or households, complete or objective information about school quality is not available. Using a series of questions answered by current students from the SYPE 2009, Table 5 investigates various measures of reported school quality by school level and school type. Although the SYPE 2009 included a larger number of current students than the 2014 round, including many at the primary level, the sample sizes for private and Azhari schools at each level are still modest (in the range of 60–209 students), and must be interpreted with some caution in terms of precision.

[Table 5 near here]

The dimensions of quality we can assess are primarily school inputs, such as facilities and resources, as well as student opinions on factors such as pedagogy and disciplinary practices.[7] Results suggest that one of the reasons private schools are chosen, for those who can afford them, is that these schools have better facilities and resources.[8] Multiple-shift schools, which cater to two or more entirely separate groups of pupils during a school day, dilute learning because the school day for each pupil group is usually shortened and the school's physical and

[7] Because these characteristics are observed only for current students for the type of school chosen, we cannot assess the role of the varying quality of potential choices available to youth in the multivariate models of school choice.
[8] The differences in quality dimensions by school type did not show systematic variation by gender.

human resources tend to be fatigued by this model. Public schools are much more likely to operate in shifts (32 percent at the primary level) than Azhari schools (16 percent at the primary level) or private schools (5 percent at the primary level). The pattern of public schools being the most likely school type to operate in shifts holds at higher levels as well.

Physical facilities tend to be better in both Azhari and, especially, private schools. At the primary level, compared to 42 percent of students in public schools, 35 percent of students in Azhari schools and just 7 percent of students in private schools reported broken seating. At the primary level, other facility problems were cited at levels of 5 percent or below in private schools, but problems such as crowding, bad lighting, illegible blackboards, broken windows, and bad ventilation range from 33 percent to 13 percent in public schools and 33 percent to 10 percent in Azhari schools, which tended to have only slightly lower levels of facility problems than public schools. Similar patterns prevailed at the preparatory and secondary levels. In higher education, there were relatively smaller disparities, with, for instance, 10–11 percent of students reporting broken seats across types. Crowding is more common in public higher education (19 percent) than Azhari (14 percent) or private (9 percent). Generally, public higher education offers a more comparable experience to alternatives in terms of facilities than public education at other levels.

The resources available to students and used by students vary substantially by school type, as well. Here, Azhari schools performed the worst, with the lowest shares of students reporting that they have—and have used, visited, or participated in—various resources such as a library, computer lab, science lab, school clinic, playground, music, and field trips. These resources are substantially more available in public schools than Azhari schools, but were by far the most commonly available and used in private schools across all types. For instance, 92 percent of

students in private primary schools reported that their school has a computer lab and they have used it, compared to 69 percent of students in public primary schools and 49 percent in Azhari primary schools. Resource disparities persist throughout pre-university education and are particularly stark at the secondary level. In higher education, the facilities of private and public schools are more comparable, though Azhari universities lag behind. Students of public higher education institutions were more likely to report having and using the library (74 percent) than private school students (66 percent) or Azhari students (58 percent). Private school students were more likely to have access to and to have actually used a computer lab in higher education (63 percent) than public school students (46 percent) or Azhari students (30 percent).

Student opinions about their school experiences suggest differences in pedagogy and student treatment across school types, as well—also with generally more positive reports of private schools at the pre-university level. Students reported that their opinions are more likely to always be encouraged at private schools (33 percent) than at public (18 percent) or Azhari (16 percent) schools at the primary level. This pattern holds at other pre-university levels, but not in higher education, where student reported their opinions to be more encouraged at public (19 percent) than at private (16 percent) or Azhari (7 percent) schools. Students in private schools were more likely to report that their teachers' explanations are clear than students in public schools, and students in Azhari schools were least likely report that teachers explain clearly. Private schools during pre-university were the most likely to have students report that teachers care about their personal problems, least likely to have reported corporal punishment, and most likely to have reported social worker intervention, more equitable treatment by gender, and more

equitable application of the rules. Differences in quality of teacher pedagogy and treatment were smaller at the university level.[9]

In contrast to those students who attended public schools for basic education, for whom school "choice" was essentially a default to the closest, least expensive option, students who attended other forms of education explained choice in terms of the school meeting certain desired qualities. Many qualitative respondents mentioned the issues of pedagogy and teachers' attention to students as factors differentiating public and private schools.

> *My mom did a tour of the school and she saw that the teachers were taking good care of the students, and they knew each student's problems, and strengths and weaknesses.* – Female private university graduate, on private foreign language primary school

In addition to better language instruction, students described their private schools as offering art classes, recess, extracurricular activities, trips, and other enrichment activities that were rarely reported by public school students.

Students who attended experimental (*tagreebi*) and Azhari schools similarly provided explanations related to school quality, with those students who attended Azhari schools emphasizing the holistic nature of the curriculum.

> *It was the best school available in the neighborhood, and my father preferred Azhari. He always said that Azhari was better than regular schools, because it gives you the regular scientific aspect, plus the cultural aspect, plus the religious aspect.* – Male Azhari university student, on private Azhari primary school

[9] Almost all of the differences discussed in Table 5 were statistically significant for at least one and usually all types. The only exceptions were (1) no significant differences for not being on good terms with teachers during primary, preparatory, and secondary; (2) no significant differences in opinions about teacher explanations, teachers' care for personal problems, social workers, gender equity, or rule equity at the secondary level; and (3) no significant differences in opinions about seats, lighting, ventilation, science labs, corporal punishment, social workers, rule equity, or liking instructors at the university level.

> *We chose tagreebi because [foreign] languages are the most important thing, and the school was well known and had a good reputation.* – Female public university language section student

Households who could afford to do so, or who were willing to send their children to an Azhari school, could thus look for a particular school that would offer their children the pedagogical approach, skills, and environment that met their preferences.

The search for better quality instruction and attention to students that led some families to private schools was framed against the generally poor quality of public education. Public school students described attending schools of widely varying quality, but overall instruction in public schools was described as poor to nonexistent, with inadequate facilities, large class sizes, and ineffective teaching methods. The quality of vocational secondary education was described as particularly poor, with some students reporting that they found school so useless that they stopped attending and simply paid the teacher to pass them on the exams. One male graduate of a public higher institute summed up, "*It's called practical vocational education, but there's nothing practical and nothing vocational about it*."

Cheating, frequent absences, and bad behavior among students were widely perceived to be characteristics of public schools. Public school students themselves often noted that they skipped class frequently, with one vocational secondary school graduate saying of his public preparatory education, "*The best thing about it was that we didn't go to school.*" Accordingly, an important perceived quality of private schools was that there was more attention paid to and control over students, which respondents felt led to better behavior. As one young woman who had attended a private Azhari school said, "*Private schools control a bit, even if it's a boy's school; the families may not have perfect manners (*akhlaq*) but the school controls the students'*

behavior because of its reputation." The greater attention paid to students was attributed to the school administration as well as teachers.

However, in contrast to lower levels of schooling, qualitative respondents indicated that public universities are generally considered the more prestigious option, whereas private universities are considered a fallback for those with poor exam scores.

> *I never thought about going to a private university, because I don't like them. People who go to private universities pay money because they didn't get a high enough exam score.* – Male public university language section student

Thus, when available to them, public university education was the preferred option for the majority of young people who continued to this stage of education. The few who chose private universities – rather than being relegated to them due to poor scores – were from upper class families, and made this decision based more on social milieu than academics.

The main difference that interviewees perceived between Azhari and other forms of education was curricular content, rather than quality of instruction. Some youth perceived Azhari schools to be of better quality than public regular schools, particularly in terms of religious subjects and Arabic language, while still being low-cost.[10] At the same time, Azhari education was widely noted to be very difficult, to such an extent that families might choose against Azhari schools for this reason. The difficulty of Azhari schools was largely attributed to the fact that, in addition to the standard curriculum, students took religious subjects that required memorization and extensive studying. On the other hand, several respondents noted that the career progression

[10] Discussions of cost in the qualitative interviews should be interpreted with great caution, as the interviews are not a representative sample and, in many cases, discussions of cost were based on respondents' perceptions rather than actual experiences. In general, the qualitative respondents said that school fees for Azhari education were, like the fees for public education, "symbolic" (*ramzeiya*). Other studies have shown that Azhari fees nationwide are very similar to those for public education (Assaad and Krafft 2015b).

from the Azhari educational track was unclear, as this type of education was not in much demand in the labor market.

6 Conclusions and discussion

Having a diverse set of school choices available to students and their families may allow for selection of the education option that best meets their needs. It is highly debatable, however, whether some types of school are likely to be of better quality and yield better educational outcomes than other types; different contexts have provided different findings on this issue (Altonji, Elder, and Taber 2005; Anand, Mizala, and Repetto 2009; Asadullah, Chaudhury, and Dar 2007; Elder and Jepsen 2014; Newhouse and Beegle 2006; Srivastava 2013). As Egypt increasingly focuses on issues of school quality, enlarging the role of the private sector and diversifying school choice has been proposed as one avenue to improve the low quality of education. Yet there has been little evidence on the current landscape of school choice in Egypt, much less whether diversifying school choice will improve educational outcomes. This paper set out to investigate the school choices available to families in Egypt, and how they have evolved over time.

Private education has not increased much over time at the pre-university level and overall private school choices appear to be very limited prior to university. The scale of private schooling in Egypt is smaller than other countries such as India and Pakistan, where private schools are widespread and may be affordable to even some lower-income families (Alderman, Orazem, and Paterno 2001; Andrabi, Das, and Khwaja 2008; Tooley and Dixon 2007). In Egypt, whether a youth attends private school is strongly determined by his or her location and socio-economic circumstances. Private education fees are currently such that private education is

beyond the reach of all but the wealthiest families (Assaad and Krafft 2015b). The majority of households are constrained by the unaffordability or geographic inaccessibility of private schooling options, and these constraints may be particularly limiting factors for girls. Likely because private education is perceived as higher quality, families who can afford to invest in this alternative and have it locally available are much more likely to choose private education, which they tend to seek out due to specific pedagogical approaches, closer attention from teachers, and/or future advantage in Egypt's competitive university placement system. A somewhat different situation exists within the field of higher education, where private education has increased considerably. This pattern may be driven by the increase in the supply of private higher institutes and universities. Egyptian households that can afford it may be more likely to invest in expensive private education at the higher education level to circumvent public higher education's minimum test score standards, a rationale articulated in the qualitative responses and other studies (Barsoum 2017).

In contrast, there are limited differences in terms of who attends Azhari as compared to public schools, but our results indicate that Azhari education is perceived to be of higher quality, while the cost remains within the means of most families. In the absence of quality public schooling and without affordable private options, families may select Azhari schooling to ensure that young people receive more formal foundation in religious subjects than they would in other types of schools. These results suggest that while the motivations for sending young people to Azhari school may be complex and difficult to measure, private schooling is a choice constrained by families' access—both geographical and financial. Overall, school choice in Egypt is limited, and most families effectively have no choice aside from public schools, due to geographic and/or financial access barriers to alternative types of schooling.

Other countries that have achieved substantial diversification of school types have done so in a context of private or religious schooling becoming increasingly financially and geographically accessible (Andrabi, Das, and Khwaja 2008). It is possible that in the future private education in Egypt will include widely available low-fee models as well. Similar to countries where low-fee private schools have recently expanded rapidly, the Egyptian education landscape is characterized by traits such as overcrowded and low-quality public schools (Andrabi, Das, and Khwaja 2008) and an increase in female education amidst very limited labor market opportunities for women, providing a supply of potential teachers (Assaad and Krafft 2015c). Even families of modest means are also already investing substantially in private tutoring (Assaad and Krafft 2015a; Elbadawy 2015).

Although a certain level of education spending is guaranteed in the constitution (Egypt State Information Service 2014), expanded private education could provide some fiscal relief by allocating the available resources to fewer students. Furthermore, due to population and fertility trends, Egypt expects demographic pressure on the school system to increase in the near future (Assaad and Krafft 2015c; Elbadawy 2015; Krafft and Assaad 2014); a wider array of alternatives could reduce pressure on public schools.

A substantial private sector, particularly if it continues to be accessed only by the better off, could also create an unequal and two-tiered system, which might undermine broad public support for education. In higher education, a greater role of private education or cost-sharing has been recommended (Assaad 2013; El-Araby 2013; Fahim and Sami 2010); this strategy may not exacerbate inequality since higher education is already accessed primarily by the well-to-do (Krafft and Alawode 2016). A broader array of education options may, however, differentially

benefit male students as compared to female students, as young women articulated greater accessibility constraints and were notably less likely to access private forms of higher education.

Egypt needs to improve the quality of education while continuing to expand the size of the education system in response to demographic pressures. In this context, it is particularly critical for policy makers to consider the roles of public, private, and religious education in the education system and society. Private schooling is certainly perceived to be of higher quality, although empirical support for that belief remains ambiguous (Assaad, Badawy, and Krafft 2016; Assaad, Krafft, and Salehi-Isfahani 2017). Additionally, our results and those of others (Assaad and Krafft 2015a; Buckner 2013) demonstrate that any increase in the role of private schooling is likely to exacerbate equity issues in an education system already suffering from inequities. Therefore, it is important that any expansion of private schooling include strategies to mitigate inequality and ensure equitable access to education for everyone. Given that private school fees are comparable to public per pupil expenditures (Assaad and Krafft 2015b), a voucher system, particularly targeting poorer families, might be a cost-effective approach to increasing equity in access to private education (OECD 2012). It should be emphasized that the success of such a model is country-specific and should be piloted and evaluated in terms of education quality, outcomes, costs, and equity before implementation on a wide scale.

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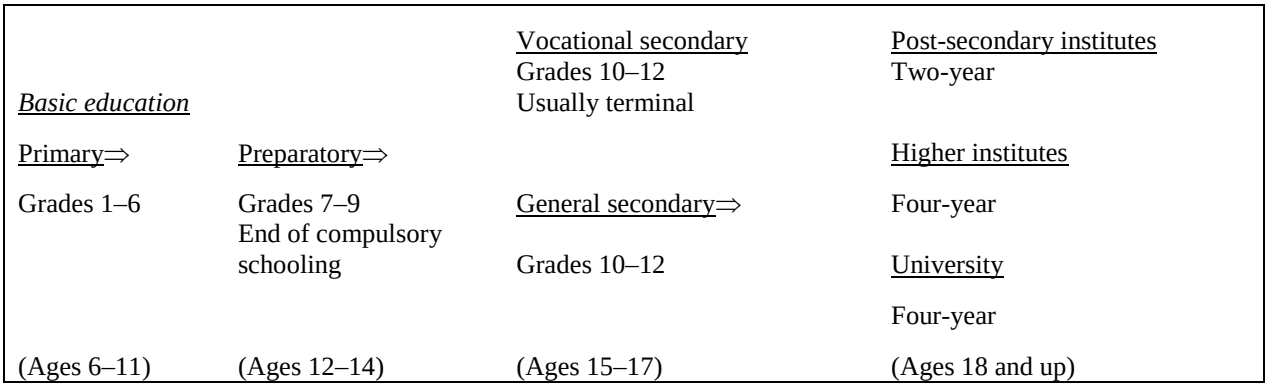
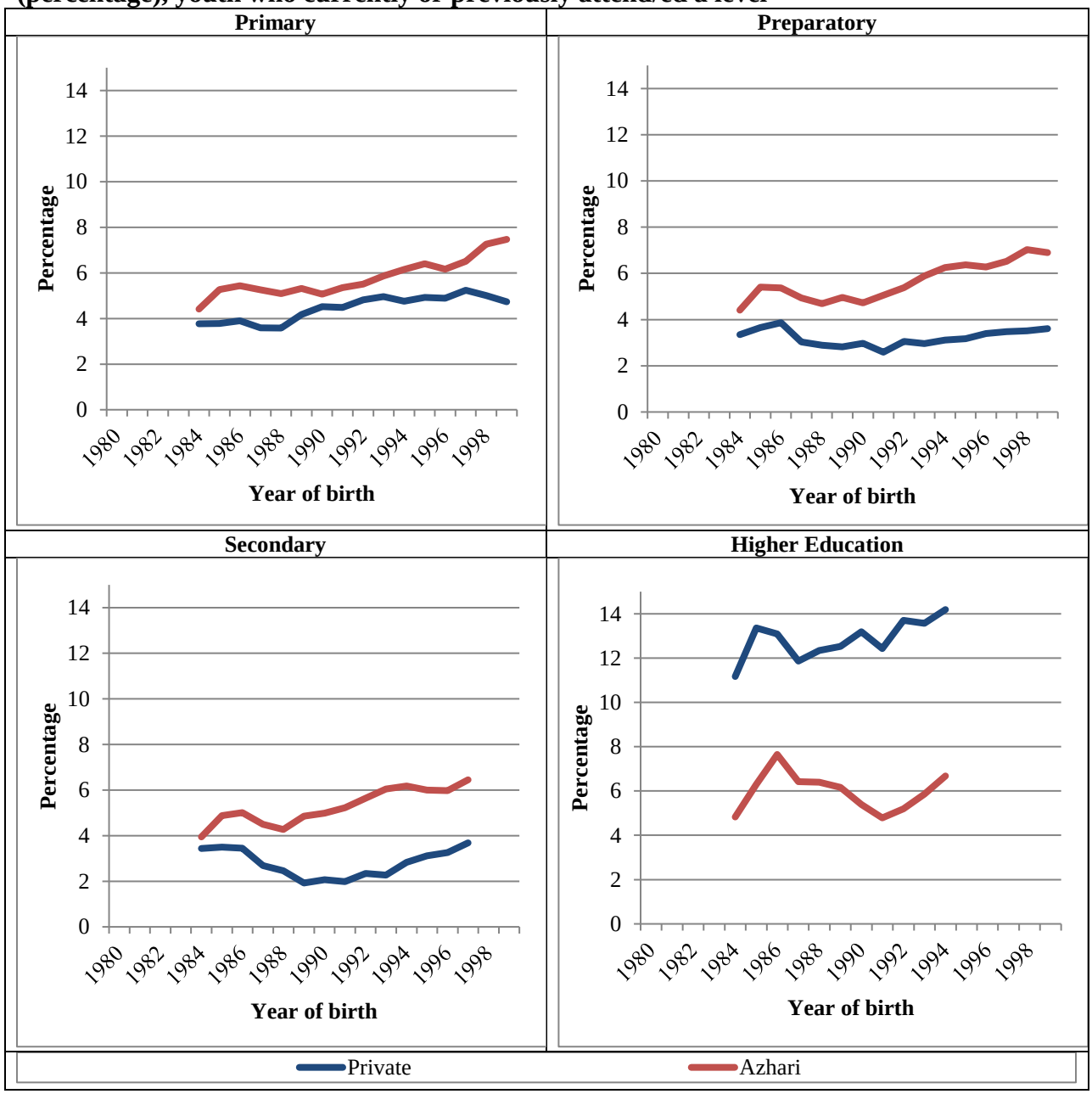
Figures

Figure 1. Structure of the Egyptian Education System



Source: Authors' construction
Note: Ages in parentheses are ideal, assuming on-time entry and no repetition.

Figure 2. School type trends by year of birth and by school level, five-year moving averages (percentage), youth who currently or previously attend/ed a level



Source: Authors' calculations based on SYPE 2014
Note: Years of birth restricted to 1997 and below for secondary, and 1994 and below for higher education, as younger respondents would not have reached these levels.

Tables

Table 1. Educational trajectories of the qualitative student sample

	School type	Number of students
Primary	Public (regular)	10
	Public (experimental)	2
	Private (Arabic language)	3
	Private (foreign language)	6
	Azhari (public)	1
	Azhari (private)	2
Preparatory	Public	10
	Public (experimental)	3
	Private (Arabic language)	2
	Private (foreign language)	6
	Azhari (public)	1
	Azhari (private)	2
Secondary	Public (vocational)	9
	Public (regular general)	5
	Public (experimental)	2
	Private (Arabic language)	0
	Private (foreign language)	5
	Azhari (public)	1
	Azhari (private)	2
Tertiary	Post-secondary institute (public)	3
	Post-secondary institute (private)	2
	Public university (regular)	6
	Public university (language)	5
	Private university (language)	2
	Azhari (public)	3
	No tertiary education	3
Total		24

Table 2. Type of school by level of school (percentage), youth who currently or previously attend/ed a level

Primary type	
Public regular	89.0
Public experimental	0.6
Private regular	3.3
Private language	1.1
International	0.0
Azhari regular	5.8
Azhari language	0.1
Total	100.0
N (Obs.)	9,669
Preparatory type	
Public regular	90.5
Public experimental	0.5
Private regular	2.2
Private language	1.0
International	0.0
Azhari regular	5.8
Azhari language	0.0
Total	100.0
N (Obs.)	8,784
Secondary type	
Public regular	90.3
Public experimental	1.0
Private regular	1.8
Private language	1.1
International	0.0
Azhari regular	5.7
Azhari language	0.0
Total	100.0
N (Obs.)	7,264
Higher education type	
Public regular	79.6
Public language	0.9
Private regular	11.6
Private language	1.7
Azhari regular	6.0
Azhari language	0.1
Total	100.0
N (Obs.)	2,257

Source: Authors' calculations based on SYPE 2014

Table 3. Models of school choice by level (multinomial logit marginal effects), youth who currently or previously attend/ed a level

Dependent variable: type of school (three categories) within a level

	Primary:			Preparatory:			Secondary:			Higher Ed.:		
	Public	**Private**	**Azhari**	**Public**	**Private**	**Azhari**	**Public**	**Private**	**Azhari**	**Public**	**Private**	**Azhari**
Sex (male omit.)												
Female	0.016**	0.001	-0.017***	0.021***	-0.004	-0.017***	0.022***	-0.007*	-0.015**	0.069***	-0.058***	-0.012
	(0.006)	(0.004)	(0.005)	(0.006)	(0.003)	(0.005)	(0.006)	(0.004)	(0.005)	(0.016)	(0.013)	(0.010)
Area of residence (Urban govs. urban omit.)												
Urban gov. informal hous.	0.085***	-0.054*	-0.031***	0.017	0.009	-0.026***	0.003	0.016	-0.019	0.024	-0.031	0.007
	(0.024)	(0.023)	(0.007)	(0.029)	(0.029)	(0.008)	(0.033)	(0.032)	(0.010)	(0.083)	(0.072)	(0.046)
Lower Eg. urban	0.079***	-0.091***	0.012	0.070***	-0.085***	0.015	0.066***	-0.083***	0.017	0.077**	-0.098***	0.021
	(0.013)	(0.008)	(0.010)	(0.012)	(0.007)	(0.010)	(0.013)	(0.009)	(0.010)	(0.029)	(0.024)	(0.017)
Lower Eg. informal hous.	0.108***	-0.107***	-0.000	0.087***	-0.095***	0.008	0.081***	-0.094***	0.014	0.142***	-0.122***	-0.020*
	(0.012)	(0.008)	(0.009)	(0.012)	(0.007)	(0.009)	(0.013)	(0.008)	(0.010)	(0.028)	(0.027)	(0.010)
Lower Eg. rural	0.079***	-0.120***	0.041***	0.052***	-0.095***	0.043***	0.042***	-0.090***	0.048***	0.109***	-0.150***	0.041**
	(0.010)	(0.007)	(0.007)	(0.009)	(0.007)	(0.007)	(0.011)	(0.008)	(0.007)	(0.022)	(0.019)	(0.013)
Upper Eg. urban	0.037*	-0.075***	0.037**	0.032*	-0.087***	0.056***	0.012	-0.085***	0.073***	-0.020	-0.153***	0.173***
	(0.015)	(0.011)	(0.012)	(0.015)	(0.008)	(0.013)	(0.017)	(0.009)	(0.015)	(0.043)	(0.028)	(0.034)
Upper Eg. informal hous.	0.118***	-0.102***	-0.015	0.103***	-0.097***	-0.006	0.103***	-0.091***	-0.012	0.137**	-0.109*	-0.027***
	(0.015)	(0.011)	(0.011)	(0.013)	(0.007)	(0.011)	(0.013)	(0.009)	(0.010)	(0.047)	(0.047)	(0.008)
Upper Eg. rural	0.080***	-0.118***	0.038***	0.055***	-0.094***	0.040***	0.048***	-0.089***	0.041***	0.051	-0.108***	0.057***
	(0.010)	(0.007)	(0.007)	(0.010)	(0.007)	(0.008)	(0.011)	(0.008)	(0.008)	(0.027)	(0.023)	(0.015)
Frontier urban	0.126***	-0.112***	-0.014	0.084***	-0.085***	0.001	0.083***	-0.085***	0.001	0.070	-0.054	-0.016
	(0.019)	(0.011)	(0.015)	(0.022)	(0.012)	(0.019)	(0.023)	(0.013)	(0.019)	(0.075)	(0.071)	(0.026)
Frontier rural	0.143***	-0.124***	-0.019	0.109	-0.097***	-0.011	0.097	-0.094***	-0.002	0.185*	-0.219***	0.034
	(0.018)	(0.007)	(0.017)	(8.805)	(0.007)	(0.020)	(23.592)	(0.008)	(0.025)	(0.088)	(0.015)	(0.087)
Mother's educ. (illit. omit)												
Read and write	-0.004	0.013	-0.009	-0.003	0.003	0.000	0.007	-0.002	-0.005	0.016	0.025	-0.042
	(0.014)	(0.008)	(0.012)	(0.015)	(0.007)	(0.014)	(0.015)	(0.007)	(0.014)	(0.039)	(0.031)	(0.025)
Primary	-0.002	0.009	-0.007	0.002	0.005	-0.007	-0.010	0.016*	-0.006	-0.028	0.058*	-0.030
	(0.010)	(0.005)	(0.009)	(0.010)	(0.005)	(0.009)	(0.012)	(0.006)	(0.010)	(0.029)	(0.024)	(0.018)
Preparatory	0.006	0.021**	-0.027**	0.026*	0.003	-0.030**	0.007	0.011	-0.018	0.064*	0.003	-0.067***
	(0.012)	(0.007)	(0.010)	(0.011)	(0.006)	(0.010)	(0.014)	(0.007)	(0.012)	(0.031)	(0.026)	(0.018)
Gen. sec.	-0.050	0.047***	0.002	-0.023	0.022*	0.001	-0.046	0.033*	0.013	0.050	0.036	-0.086***
	(0.033)	(0.014)	(0.030)	(0.031)	(0.010)	(0.029)	(0.035)	(0.014)	(0.033)	(0.045)	(0.043)	(0.011)
Voc. sec. and post-sec.	-0.032**	0.040***	-0.008	-0.010	0.022***	-0.012	-0.011	0.015*	-0.004	-0.010	0.041	-0.031
	(0.011)	(0.006)	(0.009)	(0.010)	(0.005)	(0.009)	(0.011)	(0.006)	(0.009)	(0.027)	(0.021)	(0.017)
Higher ed.	-0.070***	0.077***	-0.007	-0.041**	0.053***	-0.012	-0.040*	0.041***	-0.002	-0.014	0.070*	-0.056**

	Primary:			Preparatory:			Secondary:			Higher Ed.:		
	Public	**Private**	**Azhari**	**Public**	**Private**	**Azhari**	**Public**	**Private**	**Azhari**	**Public**	**Private**	**Azhari**
	(0.017)	(0.010)	(0.013)	(0.015)	(0.009)	(0.013)	(0.017)	(0.010)	(0.014)	(0.033)	(0.028)	(0.018)
Father's educ. (illit. omit)												
Read and write	-0.001	0.007	-0.006	0.014	0.000	-0.014	0.024*	0.002	-0.027**	0.043	-0.002	-0.041*
	(0.011)	(0.008)	(0.008)	(0.010)	(0.006)	(0.008)	(0.012)	(0.008)	(0.009)	(0.037)	(0.031)	(0.021)
Primary	0.012	0.005	-0.017*	0.014	0.004	-0.018*	0.025*	0.003	-0.028**	0.036	-0.012	-0.024
	(0.009)	(0.006)	(0.007)	(0.009)	(0.005)	(0.008)	(0.011)	(0.006)	(0.009)	(0.032)	(0.024)	(0.022)
Preparatory	-0.026	0.015	0.011	-0.003	0.002	0.001	0.001	-0.005	0.003	-0.088*	0.072*	0.016
	(0.013)	(0.008)	(0.011)	(0.012)	(0.006)	(0.011)	(0.014)	(0.007)	(0.013)	(0.042)	(0.034)	(0.029)
Gen. sec.	-0.104**	0.067***	0.037	-0.042	0.028*	0.013	0.019	0.008	-0.027	0.040	0.018	-0.057
	(0.034)	(0.018)	(0.030)	(0.029)	(0.012)	(0.027)	(0.024)	(0.012)	(0.022)	(0.056)	(0.046)	(0.034)
Voc. sec. and post-sec.	-0.020	0.026***	-0.006	-0.016	0.018***	-0.002	0.008	0.002	-0.010	0.030	0.003	-0.033
	(0.010)	(0.006)	(0.008)	(0.010)	(0.005)	(0.009)	(0.011)	(0.006)	(0.010)	(0.030)	(0.024)	(0.020)
Higher ed.	-0.091***	0.057***	0.033*	-0.082***	0.050***	0.032*	-0.052**	0.035***	0.017	0.007	0.035	-0.042*
	(0.017)	(0.009)	(0.015)	(0.017)	(0.008)	(0.015)	(0.017)	(0.010)	(0.015)	(0.034)	(0.028)	(0.021)
Father's work status (public wage omit.)												
Private reg.	-0.013	0.002	0.011	-0.012	0.007	0.004	-0.013	0.016**	-0.002	-0.043	0.045	-0.002
	(0.012)	(0.006)	(0.010)	(0.012)	(0.005)	(0.011)	(0.012)	(0.006)	(0.011)	(0.031)	(0.024)	(0.021)
Private irreg.	0.038***	-0.014*	-0.025***	0.028**	-0.004	-0.024***	0.016	0.013*	-0.029***	-0.012	0.030	-0.017
	(0.009)	(0.006)	(0.007)	(0.009)	(0.005)	(0.007)	(0.010)	(0.006)	(0.008)	(0.029)	(0.024)	(0.016)
Employer	-0.035**	0.048***	-0.012	-0.019	0.031***	-0.012	-0.028*	0.043***	-0.016	-0.018	0.054*	-0.036*
	(0.012)	(0.009)	(0.009)	(0.012)	(0.008)	(0.009)	(0.014)	(0.010)	(0.010)	(0.028)	(0.024)	(0.015)
Self-emp. or UFW	-0.025	0.015	0.010	-0.027*	0.023**	0.004	-0.010	0.005	0.006	-0.052	0.037	0.015
	(0.013)	(0.009)	(0.010)	(0.013)	(0.008)	(0.010)	(0.013)	(0.008)	(0.011)	(0.037)	(0.030)	(0.023)
No job/DK/Miss.	0.013	0.004	-0.017*	0.009	0.006	-0.015	0.001	0.007	-0.008	-0.003	0.031	-0.028*
	(0.009)	(0.005)	(0.008)	(0.009)	(0.004)	(0.008)	(0.010)	(0.005)	(0.009)	(0.022)	(0.018)	(0.014)
Birth cohort (1978-1982 omit.)												
1983-1987	-0.005	-0.006	0.011	0.004	-0.006	0.003	0.011	-0.012	0.000	-0.022	0.004	0.018
	(0.010)	(0.007)	(0.008)	(0.011)	(0.006)	(0.009)	(0.011)	(0.007)	(0.009)	(0.026)	(0.021)	(0.015)
1988-1992	-0.017	0.005	0.012	-0.002	-0.005	0.007	0.002	-0.013	0.011	-0.024	0.016	0.008
	(0.010)	(0.007)	(0.008)	(0.010)	(0.006)	(0.008)	(0.011)	(0.007)	(0.009)	(0.025)	(0.021)	(0.014)
1993-1999	-0.029**	0.001	0.028***	-0.019	-0.003	0.022**	-0.022	-0.002	0.024**	-0.067*	0.029	0.038*
	(0.010)	(0.007)	(0.008)	(0.010)	(0.006)	(0.008)	(0.011)	(0.007)	(0.009)	(0.028)	(0.023)	(0.017)
Form of higher ed. (post-sec. inst. omit)												
Higher inst.										-0.184***	0.189***	-0.005
										(0.041)	(0.041)	(0.004)
University and above univ.										0.080**	-0.155***	0.075***
										(0.029)	(0.028)	(0.007)
N (Obs.)	9592	9592	9592	8715	8715	8715	7236	7236	7236	2246	2246	2246

Source: Authors' calculations based on SYPE 2014
Notes: *p<0.05; **p<0.01; ***p<0.001
Omitted, reference category is a male, living in urban areas of the urban governorates, who had an illiterate mother and an illiterate father, a father who was a public wage worker when he was 15, who was born in the 1978-1982 birth cohort. In the models of higher education type, he attends a post-secondary institute.

Table 4. Supply of private schools in primary and preparatory by governorate

	Primary			Preparatory		
	Students	Schools	Seats per 1000 pop.	Students	Schools	Seats per 1000 pop.
Alexandria	107,085	234	23.8	35,261	194	7.8
Aswan	2,742	8	2.1	355	6	0.3
Assuit	16,750	33	4.3	3,130	12	0.8
Behera	14,832	40	2.8	2,202	25	0.4
Beni Suef	10,438	25	4.0	2,616	19	1.0
Cairo	286,513	582	32.7	108,542	510	12.4
Dakahlia	21,846	33	3.9	5,180	25	0.9
Damietta	8,200	18	6.6	1,809	12	1.5
El-wadi El-gidid	0	0	0.0	0	0	0.0
Fayoum	16,011	24	5.6	4,180	18	1.5
Gharbia	22,480	41	5.1	4,306	18	1.0
Giza	196,527	389	28.2	66,538	352	9.5
Ismailia	8,143	19	7.6	2,148	13	2.0
Kafr-El-sheikh	1,428	7	0.5	160	4	0.1
Kalyoubia	50,383	102	10.3	15,769	81	3.2
Luxor	2,983	7	2.8	530	3	0.5
Matrouh	2,076	5	5.3	644	5	1.7
Menia	30,628	68	6.5	5,173	35	1.1
Menoufia	15,726	36	4.3	4,144	25	1.1
North Sinai	1,438	8	3.6	390	8	1.0
Port Said	6,674	19	10.6	1,997	13	3.2
Qena	4,309	11	1.5	524	3	0.2
Red Sea	3,572	17	11.2	779	12	2.4
Sharkia	16,849	39	2.8	4,478	28	0.7
South Sinai	723	6	4.5	111	5	0.7
Suez	8,138	10	14.1	2,843	10	4.9
Souhag	16,679	31	4.0	2,964	18	0.7
Total	873,173	1,812	10.7	276,773	1,454	3.4

Source: Authors' calculations based on 2012 population projections and 2012/2013 listing of private schools from CAPMAS.
Note: The fact that primary is six years and preparatory is three must be kept in mind if comparing students and seats per thousand population across the levels.

Table 5. School quality measures by school type and level, youth currently in school

	Prim. public	Prim. priv.	Prim. Azhari	Prep. public	Prep. priv.	Prep. Azhari	Sec. public	Sec. priv.	Sec. Azhari	Higher Ed. public	Higher Ed. priv.	Higher Ed. Azhari
Shift schools	32	5	16	28	8	15	26	21	13			
Not on good terms with teachers	10	9	10	8	8	5	7	3	4			
Facilities												
Broken seats	42	7	35	41	10	33	38	19	31	11	10	11
Crowding	28	5	19	25	4	25	21	6	20	19	9	14
Bad lighting	15	3	11	16	3	11	18	4	13	8	11	6
Illegible blackboard	19	4	13	19	8	14	19	4	11	13	7	9
Broken windows	33	4	33	32	10	28	37	4	25			
Bad ventilation	13	4	10	14	8	8	14	4	10	9	11	5
Resources available and used												
Library	67	82	57	68	84	51	49	84	56	74	66	58
Computer lab	69	92	49	76	95	46	62	86	47	46	63	30
Science lab	54	73	40	69	86	42	37	71	49	15	13	6
School clinic	31	53	24	28	57	24	26	52	21			
Playground	65	76	61	64	83	54	58	79	43			
Music instruments/classes	13	45	6	14	50	4	9	45	1			
Field trips	27	57	20	28	69	28	18	58	26			
Opinions												
Teachers always encourage student opinions	18	33	16	16	29	23	13	22	19	19	16	7
Teacher explanations always understandable	12	19	6	13	19	10	15	11	10	11	17	7
Teachers always care about students' personal problems	17	33	15	17	33	21	13	22	15	15	18	6
Teachers never use corporal punishment	8	45	8	9	38	6	16	32	18	25	29	28
School social workers always help solve problems	16	35	10	17	33	19	15	24	15	17	17	9
School treats boys and girls equally	22	33	17	19	35	31	20	27	21	23	20	9
The rules apply equally to all students	21	39	17	19	27	35	20	23	25	20	20	15
Like instructors										87	87	88

N (Observations)	1,888	117	157	1,966	125	135	1,295	60	92	825	209	61

Source: Authors' calculations based on SYPE 2009

Note: Blank cells indicate the group was not asked about this dimension of quality.

Appendix: Additional Tables

Table 6. School type by background characteristics and level, youth who currently or previously attend/ed a level

	Primary			Preparatory			Secondary			Higher Education			
	Pub.	Priv.	Az.	Pub.	Priv.	Az.	Pub.	Priv.	Az.	Pub.	Priv.	Az.	Total
Sex													
Male	89	4	7	90	3	7	91	3	6	77	17	7	100
Female	90	5	5	92	3	5	92	3	5	85	9	6	100
Residence													
Urban	83	13	4	86	10	4	87	8	4	75	20	5	100
Rural	92	0	7	93	0	7	93	0	7	83	7	9	100
Informal urban housing	95	3	3	96	1	3	96	1	3	90	9	1	100
Region of residence													
Urban Governorates	80	17	3	83	15	3	84	13	2	73	26	2	100
Urban Lower Egypt	91	4	4	94	2	4	95	1	4	87	11	3	100
Rural Lower Egypt	92	0	8	92	0	7	92	0	8	86	6	8	100
Urban Upper Egypt	89	5	6	92	1	7	92	1	8	79	6	15	100
Rural Upper Egypt	93	0	7	93	0	7	93	0	7	80	9	11	100
Frontier Governorates	97	1	2	96	1	3	97	1	3	82	16	2	100
Mother's education													
Illiterate	93	1	6	94	0	6	93	1	6	81	9	10	100
Read and write	93	2	5	93	1	6	94	1	5	83	13	3	100
Primary	92	3	5	93	2	5	92	3	5	77	17	6	100
Preparatory	92	5	4	94	2	4	93	3	4	84	15	2	100
General secondary	75	20	5	84	12	5	82	13	6	79	21	0	100
Voc. sec. and post-sec.	84	10	6	88	6	6	90	4	6	81	14	5	100
Higher education	62	32	6	69	25	6	76	17	6	80	18	3	100
Father's education													
Illiterate	94	1	6	94	0	6	93	1	6	79	10	11	100
Read and write	94	1	5	95	1	5	95	1	4	87	9	5	100
Primary	94	2	4	95	1	4	94	3	3	82	13	5	100
Preparatory	90	3	7	93	1	6	92	1	7	72	20	9	100
General secondary	73	19	8	83	10	7	89	8	3	81	18	2	100
Voc. sec. and post-sec.	88	6	6	91	4	6	92	3	6	81	13	6	100
Higher education	70	22	8	76	17	8	80	12	8	81	16	4	100
Father's work status													
Public wage	88	5	7	90	3	7	91	2	7	84	10	7	100
Private regular	87	6	7	89	5	6	89	6	6	73	21	6	100
Private irregular	95	1	4	95	1	4	94	2	4	80	13	7	100
Employer	88	7	6	90	5	6	90	5	5	79	17	4	100
Self-employed or UFW	89	3	8	90	3	7	91	1	7	76	14	10	100
No job/DK/Miss	89	6	5	91	5	5	91	4	5	80	16	4	100
Secondary Type													
General/Azhar							81	5	14				100
Technical							99	1	0				100
Higher education form													
Post-sec. Inst.										78	21	1	100
Higher Inst.										53	47	0	100
University and above university										85	8	8	100
Total	90	5	6	91	3	6	91	3	6	81	13	6	100
N	8,721	402	547	8,024	272	488	6,667	202	396	1,808	311	138	

Source: Authors' calculations based on SYPE 2014