

MAX-PLANCK-INSTITUT FÜR SOZIALRECHT UND SOZIALPOLITIK MAX PLANCK INSTITUTE FOR SOCIAL LAW AND SOCIAL POLICY



Qualifications, potentials and life courses of Syrian asylum seekers in Germany

May Khourshed, Christian Hunkler, Romuald Méango, Axel Börsch-Supan

01-2019

MEA DISCUSSION PAPERS



mea – Amalienstr. 33_D-80799 Munich_Phone +49 89 38602-355_Fax +49 89 38602-390_www.mea.mpisoc.mpg.de

Qualifications, potentials and life courses of Syrian asylum seekers in Germany

May Khourshed, Christian Hunkler, Romuald Méango, Axel Börsch-Supan

Abstract:

This contribution outlines some of the main findings of the "Qualifications, potentials and life courses of Syrian asylum seekers in Bavaria" study conducted in the second half of 2017. Our study adds to the literature on asylum seekers in several ways. First, in addition to collecting information on educational qualifications we assess human capital stock using aptitude tests. We also gauge German language abilities using objective tests and interviewer assessments. Second, we assess labor market capabilities by tracing migrants' work experiences with a special focus on evaluating skill levels and skill acquisition over the years. Moreover, we measure subjective expectations to understand the investments migrants undertake in the host country. Lastly, we look at traumatic events which may hinder the successful structural integration of asylum seekers, given their often arduous journey to a host country. Therefore, we attempt to offer a broader understanding of Syrian asylum seekers in Germany.

Zusammenfassung:

In diesem Beitrag werden einige der wichtigsten Ergebnisse der Studie "Qualifikationen, Potenziale und Lebensverläufe syrischer Asylbewerber in Bayern", welche im zweiten Halbjahr 2017 durchgeführt wurde, skizziert. Unsere Studie ergänzt die Literatur zu Asylbewerbern in mehrfacher Hinsicht. Zum einen wird zusätzlich zur Erfassung von Informationen zu Bildungsabschlüssen der Humankapitalbestand anhand von Eignungstests bewertet. Außerdem beurteilen wir anhand objektiver Tests und Einschätzungen durch die Interviewer die Deutschkenntnisse der Studienteilnehmer. Zum anderen bewerten wir die Arbeitsmarktfähigkeiten, indem wir die Arbeitserfahrungen von Migranten mit einem besonderen Schwerpunkt auf die Bewertung des Qualifikationsniveaus und des Qualifikationserwerbs im Laufe der Jahre zurückverfolgen. Darüber hinaus messen wir subjektive Erwartungen, um zu verstehen, welche Investitionen Migranten im Aufnahmeland tätigen. Zuletzt betrachten wir traumatische Ereignisse, welche die erfolgreiche strukturelle Integration von Asylbewerbern aufgrund ihrer oft schweren Reise in das Aufnahmeland behindern könnten. Insofern versuchen wir ein breiteres Verständnis über syrische Asylbewerber in Deutschland zu vermitteln.

Keywords:

Migration, Refugees, Asylum Seekers, Integration, Health, Aptitude Tests, Subjective Expectations, Survey

JEL Classification:

I10, J15, J24, J61

Qualifications, potentials and life courses of Syrian asylum seekers in Germany

May Khourshed^{1,*}, Christian Hunkler^{1, 2, #}, Romuald Méango^{1, #}, Axel Börsch-Supan^{1, 3, 4}

¹Munich Center for the Economics of Aging (MEA) at the Max Planck Institute for Social Law and Social Policy, Amalienstraße 33, Munich, 80799, Germany.

²German Center for Integration and Migration Research (DeZIM), Mauerstr. 76, Berlin, 10117, Germany.

³ Technical University of Munich, Arcisstraße 21, Munich, 80333, Germany.

⁴ National Bureau of Economic Research (NBER), 1050 Massachusetts Ave., Cambridge, MA 02138, USA.

This author contributed equally to this work.

* Corresponding Author: khourshed@mpisoc.mpg.de, +49(0) 89-38602-345.

Abstract

This contribution outlines some of the main findings of the "Qualifications, potentials and life courses of Syrian asylum seekers in Bavaria" study conducted in the second half of 2017. Our study adds to the literature on asylum seekers in several ways. First, in addition to collecting information on educational qualifications we assess human capital stock using aptitude tests. We also gauge German language abilities using objective tests and interviewer assessments. Second, we assess labor market capabilities by tracing migrants' work experiences with a special focus on evaluating skill levels and skill acquisition over the years. Moreover, we measure subjective expectations to understand the investments migrants undertake in the host country. Lastly, we look at traumatic events which may hinder the successful structural integration of asylum seekers', given their often arduous journey to a host country. Therefore, we attempt to offer a broader understanding of Syrian asylum seekers in Germany.

Zusammenfassung

In diesem Beitrag werden einige der wichtigsten Ergebnisse der Studie "Qualifikationen, Potenziale und Lebensverläufe syrischer Asylbewerber in Bayern", welche im zweiten Halbjahr 2017 durchgeführt wurde, skizziert. Unsere Studie ergänzt die Literatur zu Asylbewerbern in mehrfacher Hinsicht. Zum einen wird zusätzlich zur Erfassung von Informationen zu Bildungsabschlüssen der Humankapitalbestand anhand von Eignungstests bewertet. Außerdem beurteilen wir anhand objektiver Tests und Einschätzungen durch die Interviewer die Deutschkenntnisse der Studienteilnehmer. Zum anderen bewerten die wir Arbeitsmarktfähigkeiten, indem wir die Arbeitserfahrungen von Migranten mit einem besonderen Schwerpunkt auf die Bewertung des Qualifikationsniveaus und des Qualifikationserwerbs im Laufe der Jahre zurückverfolgen. Darüber hinaus messen wir subjektive Erwartungen, um zu verstehen, welche Investitionen Migranten im Aufnahmeland tätigen. Zuletzt betrachten wir traumatische Ereignisse, welche die erfolgreiche strukturelle Integration von Asylbewerbern aufgrund ihrer oft schweren Reise in das Aufnahmeland behindern könnten. Insofern versuchen wir ein breiteres Verständnis über syrische Asylbewerber in Deutschland zu vermitteln.

Introduction

The Qualifications, potentials and life courses of Syrian asylum seekers (QPLC) survey was motivated by the necessity to understand the experiences, motivations and investment decisions that newly arrived Syrian asylum seekers in Germany have or undertake. With the rise of asylum seekers in 2014, public debate centered on three major question: who are those arriving in Germany, what are their future prospects in Germany and how can they best be integrated into the German society and labor market. Hence, several studies were initiated to answer these questions (Brücker, Rother, and Schupp, 2016; Brücker, Rother, Schupp, von Gostomski, Böhm, Fendel, Friedrich, Giesselmann, Kosyakova, Kroh, et al., 2016). These studies focused on collecting a narrative of asylum seekers' life-courses. We contribute to the discourse by adding several layers we deemed missing. First, we focus not only on the life courses and potentials of incoming asylum seekers but also on their actual ability. We do so through conducting several aptitude and German language tests. Our second research line addresses what may motivate or hinder asylum seekers to integrate. As integration of asylum seekers may differ from other types of migrants given their starting position, we directly ask about traumatic events they may have experienced, if they have precarious legal statuses and if they contend with uncertain familial and living situations. Our final research question focuses on how expectations relate to actual and intended integration outcomes, e.g. their influence on the decision to learn the host country's language or invest in host country education. We focused on the most numerous nationality present in the recent wave of asylum seekers in Germany, Syrians. The fieldwork was conducted in Bavaria and lasted from May to December 2017. We collected 275 interviews.

In what follows, we apply a commonly used concept of integration, which distinguishes structural, social, cultural and emotional integration (e.g., Esser, 2001, 2008; Kalter, 2008). The focus of our study is on structural integration, which refers to migrants' effort to take part in the labor and educational markets of the host country. Social integration refers to the individual's interaction with the host society's citizens such as having native acquaintances, friends and family members. The third dimension, cultural integration, measures if migrants are able to speak the host society's language and if the host society's norms are being incorporated. Finally, the last dimension, emotional, is often considered the "final" stage of integration, where an individual feels a sense of belonging in the host society and ethnic differentiation is blurred. Seeing as our sample consists of newly arrived Syrian asylum seekers, most of our analysis

focuses on investment into achieving structural integration in Germany; however, we also attempt to cover the other three mechanisms, where feasible.

We present five overarching results in this contribution. First, the demographic characteristics (age/ gender distribution and familial composition) of this population may be beneficial in bolstering the aging population of Germany; thus, partially alleviating the demographic challenge facing it, provided that these individuals are able to integrate into the society. Second, the labor skills present in the population would be in line with the German labor market; however, there is a skill/ knowledge gap between Syrian asylum seekers and host country residents that needs to be addressed. Third, there is also a skill gap between Syrian women and men that seem to be reproduced in the host country. Fourth, we find that traumatic experiences are prevalent in the population; however, contrary to our expectations persons who experienced traumatic situations do engage in integration activities to the same extend as those who did not. Finally, following the methods of Manski (2004) and Delavande (2008, 2011), we directly measured respondents' expectations about their ability to stay in Germany (as well as to get a secure job or to bring their family) given different educational investments. We find that where Syrians expect that investing in human capital increases their chance of staying in Germany, these investments are more often made; however, those who expect a secure job to be more beneficial more often focus on job seeking activities.

The structure of this paper is as such: section 1 describes the methodology of our study, section 2 focuses on the life courses of Syrian asylum seekers, including their educational careers and work experience. In section 3, we go beyond the usual descriptive statistics and present the results of several objective tests and focus on additional determinants of integration, namely health and potentially traumatic events. Section 4 focusses on future investments into integrating in the host country and on respondents' expectations. Section 5 outlines the major implications and concludes.

1 Materials and methods

1.1 Questionnaire development and translation procedure

The source questionnaire of the QPLC project was developed in English and German. We conducted several cycles of translation into Syrian Arabic using the Translation, Review,

Adjudication, Pre-testing and Documentation (TRAPD) method (Harkness, Vijver and Johnson, 2003).¹ We took great care in ensuring that the translation was as close as possible to the dialect spoken and understood by the majority of Syrians. Furthermore, we conducted several trial runs on the content of the questionnaire and the translation's tractability using a sample of individuals of Syrian descent. Items that required further elaboration by interviewers were addressed during interviewer training.

1.2 Fieldwork and validation checking

We implemented the survey using 17 interviewers who were from Syria or neighboring countries who spoke a similar Arabic dialect. All but one were proficient in the German language, the last had intermediate (B1) level German. Interviewers were distributed in Northern and Southern Bavaria, which aided in the process of covering facilities around the state. We made sure to recruit as many female interviewers as possible (seven out of the 17) in order to guarantee that there were enough to interview female respondents. This strategy seemed to work well as several female respondents asked to be interviewed only by a female interviewer.² The duration of the interviews ranged from 40 minutes to two and a half hours; however, on average the interviews lasted 107 minutes.³

Our fieldwork was split into two field periods. Due to time constraints, in the second half we simplified some modules in the questionnaire. This entailed merging all the questions on language and integration course attendance into one set asking on both type of courses, because we found several respondents could not report the type of course attended. Finally, to shorten interview length, we implemented a new expectations module that both expounded on the concepts and simplified the questions.

We ensured the quality of the fieldwork by conducting validation checks. We did so by recontacting five percent of the interviewees and asked about the interview dynamics and content. A less direct manner by which we were able to ensure quality resulted, haphazardly, from the

¹ The TRAPD approach advocates the use of at least two translators that produce parallel translations. The translations are then looked over by a reviewer who chooses and merges the translations that are closest to the aim of the survey. Finally, an adjudicator makes final decisions on all contentious outstanding items. Each individual in the process should have proficient knowledge of the languages involved. Moreover, while the translators should have past translation experience, the reviewer should also have survey experience and the adjudicator should also have a deep knowledge of the research subject at hand.

² Reasons given for this throughout fieldwork time were: that their male guardian or husband would not approve of a male interviewing them, that they feel more comfortable with conducting the interview with a woman and that certain topics were inappropriate to be otherwise discussed.

³ The median duration was 105 minutes with the mean at 106.96 minutes.

administrative tasks required in running this survey. As the day-to-day logistics of the interviews were implemented in house, we had a fist hand account of how interviews were conducted. All checks revealed no instance of any interviewer misconduct.

1.3 Sampling and response rate

The target population of the QPLC survey comprised of persons aged 18 or older with Syrian nationality who entered Germany starting from 2014, in order to apply for protection. For sampling we were not granted access to the federal foreigner register. Instead, we randomly drew towns and rural districts proportional to population size. Then, in most regions, with help from the regional governments, we obtained a full listing of group housing facilities for the drawn towns and districts. We evaluated the facilities according to a predefined set of rules then randomly selected a defined number of target facilities if more than the desired number of facilities matched the criteria. Within smaller facilities we invited all eligible persons. If more than 60 individuals matched the target population criteria, we randomly selected respondents, usually blocked by rooms to reduce the burden on families, who were often housed in the same room. In some regions and housing facilities, we were not fully supported by the authorities, i.e. the regional government did not help in listing the facilities or facilities did not provide a register of eligible persons.⁴ In such cases, we researched the necessary information ourselves, which was successful except for the region of Upper Bavaria. Within selected facilities, our interviewers to approach inhabitants and to screen for eligible individuals.

We conducted 275 interviews of which all but seven were complete. In the following analyses, we use all available information from the 275 interviews. That is if not specified otherwise, percentages refer to the full sample, and we report if more than 10% of respondents did not answer the respective question. The response rate was 46.8 percent; the cooperation rate was 55.3 percent.⁵

Table 1 shows the sampling plan for the eight regions of Bavaria, the actual procedures used and the results. Note that Munich is actually part of Upper Bavaria (Oberbayern), but was singled out as an extra region due to its large population. We distributed 15 sampling points

⁴ Data protection concerns were voiced, especially on facility level.

⁵ Rates reported are according to the American Association for Public Opinion Research minimum definitions, i.e., "Response Rate 1 (RR1)" and "Cooperation Rate 1 (COOP1)", i.e. both are based on complete interviews only (American Association for Public Opinion Research, 2008).

proportional to the size of the population across the eight regions. To compare the population housed in facilities, we conducted additional interviews with Syrian asylum seekers who had moved out of the facilities in a larger city in the region of Middle Franconia using a register sample.⁶ In several regions, we found that the number of persons in some facilities was lower than expected. Hence, we added facilities where feasible. Therefore, the number of actual facilities surveyed in these regions is larger than initially planned. In general, the response rate is higher in the regions where the regional government aided in facility sampling and, with their support, usually the facilities also provided individual lists. Especially in Upper Bavaria and Swabia, we had to research the facilities ourselves, which not only resulted in severe delays in field start but also in considerably lower response rates. Moreover, the difference between intended number of interviews and the number of realized interviews is largest in these regions. The discrepancies between intended and realized interviews in the region of Upper Palatinate and in the register sample are mostly due to shortages in interviewer time in these areas.

Region	Populat-	Planned	Sampling	Actual	Туре	N complete	Response
	ion	facilities (n)		facilities		interviews	rate
			Facilities				
Upper Franconia	8.3%	1 (30)	Reg. gov.	2	List	29	46.8%
Middle Franconia	13.5%	2 (60)	Reg. gov.	2	List	46	44.2%
Lower Franconia	10.2%	2 (60)	Reg. gov.	3	List	59	65.6%
Upper Palatinate	8.5%	1 (30)	Reg. gov.	1	List	11	52.4%
Lower Bavaria	9.4%	1 (30)	Reg. gov.	3	List	22	41.5%
Munich	11.3%	2 (60)	City	3	Screen	30	35.7%
Upper Bavaria	24.4%	4 (120)	Own research	2	List	23	71.9%
Swabia	14.4%	2 (60)	Reg. gov. &	3	Screen (2)	32	33.7%
			own research		& list (1)		
			Register				
Middle Franconia		50	City	(1)	List	16	50.0%
Total	100.0%	16 (500)		20		268	46.8%

Table 1: Sampling plan, procedures and realized interviews by region and sample type

Note: Table 1 is based on the 268 complete interviews. Population refers to the general population as of 2017 retrieved from official statistics (BLS, 2017). Facility sampling was assisted by either the regional governments ("Reg. gov."), the cities' statistical office or registration office ("City"); own research refers to expert interviews with regional/local officials, welfare agencies and other sources mentioned by the former. The (n) in planned facilities indicates the number of planned interviews in each region. Munich is a part of Upper Bavaria but is singled out due to its size. All other cities in the region fall under "Upper Bavaria". Interviews from the register in Middle Franconia were done in the city of Nuremberg.

⁶ We planned to conduct 50 interviews in this region; however, interviewer time constraints limited the number we were able to conduct to 16.

Although we restricted the study to Bavaria and predominantly sampled the population living in group housing facilities, the distribution of demographic variables is similar when comparing our sample to German national statistics and to the IAB/BAMF/SOEP study conducted in 2016 (see section 2.1 for more detail). The IAB/BAMF/SOEP study focused among other origin groups also on Syrian refugees, and they had the advantage of getting access to the foreigner register for sampling. We find that there are just minor differences in regards to the age or gender of Syrians in Germany as compared to German statistics on the national and Bavarian level or as compared to the IAB/BAMF/SOEP study. Moreover, regarding education and other demographic variables the distributions are similar. There are differences concerning the months spent in Germany (mean: 18 months in our sample, and mean: 11 months for the IAB/BAMF/SOEP study). However, these go back to our study being conducted 6 to 9 months later than the IAB/BAMF/SOEP study. Given the particularities of refugee distribution, it is not surprising that our smaller and regional sample compares well. Asylum seekers are distributed according to quotas based on tax revenues and size of population ("Königsteiner Schlüssel") between federal states. The same rules are also applied within states, i.e. towns or rural districts have to accommodate asylum seekers according to their economic strength and population size. Expert interviews⁷ revealed that the only exceptions to the random distribution of asylum seekers across Germany are family reunifications, and shortages in housing capacities. As Syrians were by far the largest group to immigrate from 2014 to 2017, there is no reason to assume that they could systematically have been housed in certain states or areas.⁸

⁷ We conducted short 5- to 15-minute-long interviews, mostly via telephone, with several persons in charge of the allocation of refugees in Germany, in Bavaria, and in the Bavarian regions. Moreover, we asked all persons involved in the actual sampling of facilities within the regions a standardized set of questions on the distribution of refugees within the region or within the respective town. This included regional/local officials, welfare agencies and other persons mentioned by the former.

⁸ In 2014 Syrians made up for 23 percent of all initial applications for asylum (n=39,332), in 2015 the number increased to 158,657 persons from Syria (36 percent of all initial applications), and peaked in 2016 when 266,250 persons applied (37 percent). Moreover, in 2017 when 48,974 Syrians applied for asylum, they were still the largest group (25 percent) (BAMF 2018).

1.4 Ethics

Our study deals with several sensitive topics such as health status and possible traumatization. We obtained permission to conduct this study from the Max Planck Society's Ethics Board. We are aware that in asking about traumatic episodes, we may cause an episode of post-traumatic stress.⁹ In order to minimize any stress to our respondents we trained interviewers on appropriate behavior and provided interviewees with information on where they may be able to seek help. There were two episodes that were detected by our interviewers and after referring them to institutions where they can get help, we found that in both cases the stress conditions were pre-existent.

2 The life courses of Syrian asylum seekers and the qualifications they bring to Germany

We start by identifying the basic characteristics of Syrian asylum seekers in our sample. We focus on their: social origin, current life-cycle position, education and labor market position. We compare our sample with results from other studies and population statistics.¹⁰ In doing so, we are able to determine if Syrians who came to Germany are selective when compared to the overall Syrian population.

2.1 Demographics and social origin

Figure 1 shows the composition of our sample in regard to the basic demographics age and gender. 58.4 percent of our sample is under the age of 30 (mean age is 30.9). We find that 47.1 percent of the women in our sample are younger than 30 compared to 62.1 percent of men. Generally, this distinguishes the sample as relatively young compared to the native population

⁹ The experiences from other studies that assess (potentially) traumatic encounters and events, e.g., rape or death of family members as a result of accidents, homicides or suicides with younger cohorts suggest no significant problems (Goodman, Corcoran, Turner, Yuan, and Green, 1998; van der Velden, Bosmans, and Scherpenzeel, 2013); they purport that interviews on such topics may result in temporary negative moods and stress for some respondents but do not harm them (Labott, Johnson, Fendrich, and Feeny, 2013).

¹⁰ We use: the IAB/BAMF/SOEP 2016 wave- M3/M4 sample, German Statistics Office data (Destatis, 2018; Brücker et al., 2016), studies on Syrian refugee populations in other countries (Saiid et al., 2015; AFAD, 2013; Masri and Srour, 2014) and general population statistics from Syria from the latest Syrian census and United Nations data (ICPD, 2011; World-Bank, 2018).

in Germany. It does however mirror the age structure reported for Syria in 2016.¹¹ The mean age is also comparable to the IAB/BAMF/SOEP sample of Syrians in Bavaria at 33.8 (Brücker et al., 2016). Our sample is predominantly male at 75.3 percent. The gender split is close to German population statistics data on this population in Bavaria, 66 percent (Destatis, 2018).¹² Interestingly, studies on Syrians in Jordan and Lebanon, countries that are considered transit, find that there is the exact opposite distribution regarding gender with a 60-40 split in favor of woman (Krafft, Sieverding, Salemi, and Keo, 2018; Saiid, Papavero, Ghosn, Petzoldt, Smith, and Haddad, 2015; Petzoldt, 2016). This suggests that men are more often sent or go to Europe than women.



Figure 1: Population Pyramid of the GPLC sample

To understand respondents' social origin, we first look at the household situation when the respondent was at age ten. We asked respondents what the highest level of education their

¹¹ In 2016 around 27 percent of the population was between the ages of 15-30 (ICPD, 2011; World-Bank, 2018; Syrian-Central-Statistics-Bureau, 2018).

¹² Other study figures for Syrians in Bavaria and in Germany overall, have on average 64 percent male (Destatis, 2018; Brücker et al., 2016).

parents achieved.¹³ We find that respondents came from households where 34.2 percent of mothers and 22.6 percent of fathers had no formal education. Figure 2 shows the highest parental degree achieved. 20.0 percent come from household where both parents had no formal education. We also find that 23.6 percent come from household where the highest level of education achieved was primary education. Hence, respondents come from relatively low educated households.16.0 percent of respondents grew up in a household where a parent had a full bachelor's, master's or doctoral degree.



Figure 2: Highest Parental ISCED

To further understand the respondents' social origin; we also look at the major ISCO-08 categories of the main breadwinner's occupation when they were 10 years old. Almost a quarter, 23.6 percent, of our sample came from households where the main breadwinner worked in a craft or related trades occupation. The next two most common parental occupations were skilled agricultural workers (12.7 percent) and professional occupations (12.0 percent). Only 6.9 percent of our sample came from households where the main breadwinner worked in a managerial capacity. In order to further understand these structures, we translated the ISCO-08 scale to that of the Erikson-Goldthorpe-Portocarero (EGP) scale which defines the skill levels

¹³ Note that in 15.3% of cases the information on mothers' education is missing, regarding fathers' education the rate of missing information is lower at 8.7%. We converted the answers to the International Standard Classification of Education (ISCED). ISCED is created and updated by UNESCO in order to more readily compare educational outcomes between countries.

associated with each occupation (Ganzeboom and Treiman, 1996; Christoph, 2005). We find that respondents almost equally come from three types of households: lower service professionals (20.0 percent), skilled manual workers (19.6 percent) and semi-unskilled manual laborers (20.4 percent), see figure 3.¹⁴ Another relevant occupation is farm workers (14.6 percent). Very few households had a main breadwinner that held a higher managerial position of any sort (7.6 percent). In comparison, in Germany with a similar cohort of all German residents, the percentage of individuals in these three skill levels is 10.6 percent at lower service professional, 29.4 percent at skilled manual labor and combined semi-unskilled and farming at 17.6 percent (Brauns, Steinmann, and Haun, 2000). We therefore conclude that respondents are coming from mostly lower educated but relatively skilled labor households. Moreover, respondents' social origins slightly differ from their German counterparts.



Figure 3: Parental EGP

¹⁴ The first skill level includes mostly associate professionals and lower managers. The second includes skilled craft workers and machine operators. The third mostly semi-skilled machine operators and elementary sales and service laborers.

2.2 Life-cycle position

We now turn our attention to the current life-cycle position of our respondents through examining family structures and compositions. Of our sample, 46.9 percent are married (41.6 percent of men and 63.2 percent of women).¹⁵ In comparison, the IAB/BAMF/SOEP sample shows a higher percentage of married couples (67 percent married – 63.5 percent of males and 81.9 percent of females). Moreover, 49.2 percent¹⁶ have children. Most of these individuals are married (88.0 percent). Yet, 78.8 percent of women in our sample have at least one child compared to 38.8 percent of men.¹⁷ This may be due to the fact that women in our sample on average are slightly older than men, or to inherent social norms that govern the age when woman versus men are expected to have children.¹⁸ For our entire sample, we find that the average family size is 3.0 persons; dropping those that do not have children, the average family size increases to 4.7 persons. On average each married couple has 2.8 children. This figure is close to the norm for the Syrian population which in 2016 had a fertility rate of 2.9 (births per woman) or Syrian asylum seekers figures in other countries (Lebanon- 2.9 children and Jordan- 3.0) (World-Bank, 2018; Syrian-Central-Statistics-Bureau, 2018; Krafft et al., 2018; Saiid et al., 2015; Petzoldt, 2016).¹⁹ Comparatively, in Germany in 2016 the aggregate fertility rate was 1.5 births per woman (Destatis, 2018). Hence, on average Syrian families, including those who came to Germany, are larger than their German counterparts are.

However we must not forget that a substantial share of respondents do not cohabitate with their complete immediate family at the time of data collection. 31.8 percent of respondents who are married did not live with their partner. The vast majority of them (94.1 percent) would like to bring their partner over. Out of the respondents who have children 36% did not live with (all of) them at the time of data collection. Again, the majority expressed the wish to bring them to Germany, though at a lower rate of 80.0 percent. These figures correspond to those found Germany-wide by the IAB/BAMF/SOEP study (92.4 percent for partners) but are slightly higher when it comes to children (71 percent).²⁰ The range of time our respondents have been

¹⁵ If we factor in those who state they are in a serious relationship the number rises to 54.2 percent.

¹⁶ The percentages on having children are restricted to valid answers, 21 respondents (7.6%) did not answer the respective question.

¹⁷ Corresponding IAB/BAMF/SOEP figures are: 59.6 % of men and 83.9 % of women have at least one child.

¹⁸ According to Gebel and Heyne (2014) this age for woman ranges from 20-24 given education level in Syria.

¹⁹ On average since the start of the civil war in Syria, in 2011, the fertility rate has been at 3.1 births per woman.

²⁰ The figures in the IAB/BAMF/SOEP study for Bavaria are 72% for bringing children to Germany (28% do not wish to); however, these percentages are based on only 25 observations, e.g. those who have children and reside in Bavaria.

in Germany is 2-46 months; the mean is 18.1 months. However, the majority (60 percent) have been in Germany from 16-26 months.

Thus, we find that Syrian refugees in Bavaria are mainly young and over half of them is single. Of those who have families, the household size is larger than their native counterparts. Most have also been in Germany for over a year.

2.3 Educational attainment

Around two thirds of our respondents do not consider themselves finished with their education before leaving Syria (57.4 percent of women and 62.8 percent of men). One reason for unfinished educational careers are relocations due to the civil war in Syria. However, previous research indicates, in pre-war times, a substantial share of Syrian youth, 29 percent, left the education system with primary or incomplete secondary education (Gebel, Bardak, Damyanovic, and Johansen, 2012).

Figure 4 shows the distribution of the highest education level achieved or studied in by gender. We find in our sample that the levels are relatively low compared to Germans. Overall, 5.1 percent have never attended school and 22.2 percent have studied at the primary level. The majority, however, has studied up to lower secondary education. 28.7 percent have been in secondary education (ISCED 2), followed by upper secondary education (ISCED 3) at 25.9 percent. Moreover, 15.3 percent of our sample has been in tertiary education. Regarding degrees completed, only 17.5 percent have completed upper secondary education and 12.7 percent hold some form of post-secondary or tertiary degree.



Figure 4: Respondents' highest level of education (ISCED) before migration

Our findings are mostly in line with the IAB/BAMF/SOEP data, with the difference that in that sample more individuals completed tertiary education (20.6%) (Brücker et al., 2016). The fact that in our sample more people completed a lower or upper secondary degree seems to be driven by the younger cohort (18-30 years old) which as we found out is the majority of our sample. These findings mirror data on youth (15-24 years old) in Syria in 2009/2010, where the corresponding percentages at each ISCED level (completed) are: ISCED 1- 22.8 percent, ISCED 2-25.8 percent, ISCED 3-17.9 and ISCED 5-8 (tertiary) - 10.7 percent (Gebel, Bardak, Damyanovic, and Johansen, 2012; Øvensen and Sletten, 2007). They also mirror findings of Syrian refugee populations in transit countries, see figure 5. Interestingly, when looking at population statistics offered by the Syrian Statistics Office of achieved education for people aged 15+ in 2011, we witness a different picture. They report that a third of the population is illiterate, while, a further 28 percent are able to read and write, but do not have any formal education degree (Syrian-Central-Statistics-Bureau, 2018). The percentage of people who have a formal degree decreases the higher the degree, with finally two percent acquiring a tertiary degree. These findings suggest a selectivity of Syrian migrants across the migration path to Europe, where more educated individuals reach Germany, or are perhaps "early movers", while the less educated travel closer to their country of origin or decide to stay in the country.



Figure 5: Educational degrees of Syrians across countries

Syria: no schooling (illiterate, read & write), primary, lower secondary, upper secondary, higher education (certificate, university) (Syrian-Central-Statistics-Bureau, 2018). *Lebanon:* no schooling (illiterate, read & write), primary (primary), lower secondary (intermediate), upper secondary (secondary), higher education (university) (Masri, S. and I. Srour, 2014). *Turkey:* no schooling (illiterate, literate), primary (primary school), lower secondary (secondary school), upper secondary (high school), higher education (AFAD, 2013). *QPLC:* no schooling (never attended school), primary, lower secondary, upper secondary (upper secondary general& vocational track), higher education (certified assistant, technical institute, Bachelor, Bachelor Engineering, Diploma, Master, doctoral degree).

The differences witnessed within educational levels across the migration path also suggests that those who are reaching Germany are most likely those with the capabilities available to make it, and/ or those with the highest probability in the family to be able to gain enough financial means to pay for the trip for other family members, or otherwise support them. However, it is clear is that Syrian refugees in Germany are indeed a highly selected group with over all higher education than their Syrian counterparts in transit countries and Syria itself.

There are also differences between the sexes with fewer women than men achieving most defined levels of education (except for post-secondary-non-tertiary education). This is the case for our data, data on refugees in transit countries, as well as the nationally collected data of Syria. Of those who did study up to a bachelor's degree or higher in our sample, the most

common major was law/legal studies (12.2 percent) followed by teacher training (9.8 percent) and then business administration (7.3 percent).²¹

Hence, when compared to West European countries, similar to their parents, our respondents achieved lower levels of education. We also witness a disparity between genders regarding the level of achieved pre-migration education. Moreover, the comparison with data on Syrians' in different countries suggests that those making it to Europe are the higher educated.

2.4 Labor market history

We concentrate on the longest work spell of respondents to assess labor market skills. Only 26.5 percent of women have worked compared to 80.7 percent of men. These figures correspond to Syrian national statistics data.²² We observe that around 12.0 percent of those who have worked in our sample stayed one year or less in their longest paid job (10.2 percent stayed less than six months).²³ Moreover, the majority (50.0 percent) have been less than five years in this work position (19.6 percent of the entire sample). This is mainly due to the age structure of our sample coupled with the abrupt truncation of their work life in Syria. Indeed, 45.9 percent of those who worked identified some aspect of the Syrian Civil War as the main reason for leaving their job. This includes: violence from the war (23.8 percent), decision to flee the war (12.4 percent), avoidance of army service (3.8), economic crisis due to current state of the country (2.7 percent), political detention/ harassment (1.1 percent) and firm closure/ destruction (2.1 percent).²⁴ This amounts to 31 percent of the entire sample.

We find that the most frequent type of work conducted by our participants, taking into consideration only those who have worked, is craft and related trades (major ISCO group 7: 37.3 percent). 11.4 percent have worked in construction related work, while 6.4 percent worked as motor vehicle mechanics and repairers and 8.6 percent as a tailor or dressmaker. The second most common occupations fall under service and sales (major ISCO-08 group 5: 16.8 percent), where the most common job was as a shop assistant (7.6 percent). Finally, a substantial share was in professional occupations (major ISCO group 2: 10.3 percent), of which 2.2 percent were

²¹ Overall, around 51 percent pursued social science related subjects while 14 percent pursued natural science or medical degrees.

²² The adjusted unemployment rate for men and women (taking out those who are not seeking work) is 27.2% and 76.5% respectively (Syrian-Central-Statistics-Bureau, 2018).

²³ These figures equate to 4.7 percent of the entire sample staying less than or equal to a year in their longest job and four percent stayed less than or equal to six months.

 $^{^{24}}$ The majority of those working decided not to answer this question (43.8%). The rest of the reasons given were due to familial obligations, health and personal decision to exit the labor market.

accountants and 3.2 percent were schoolteachers. Only 5.4 percent of those who worked were in managerial positions of any kind (production and service management positions). Comparing our results to the International Labour Organization's (ILO) identification of employment into the three major economic market sector, agriculture, industry and services we find that we have a higher number of individuals who have worked in the industrial and services sectors as compared to the Syrian national average. The ILO records the percentage of total employment in respect to each major sector in Syria in 2011, i.e. prior to the onslaught of the civil war, as: agriculture- 13.2 percent, industry- 31.4 percent and services- 55.3 percent.²⁵ We can therefore see that 46.9 percent of respondents in our study, who worked, worked in the industrial sector. However, only 3.8 percent of those who worked did so in agriculture, leaving the rest (49.3 percent) to work in the service sector. Hence, in addition to being selective with regard to higher education, our study suggests that Syrians who came to Germany are also selective with regard to their employment history. In fact, when converting the ISCO codes into the EGP scheme (see figure 6) in terms of skill level, we find that most of the respondents who have worked prior to migration from Syria fall under the skilled manual laborers- EGP category 8- (34.1 percent). This is followed by 21.6 percent under semi-unskilled labor, EGP 9; while, 16.76 percent exhibit lower service skill level, EGP 2.



Figure 6: Respondents EGP

²⁵ These statistics are based on modeled ILO estimations as the actual national statistics were not provided.

The findings provide a few takeaways; first, respondents have a truncated work history at an early age and second the majority who worked took part in skilled labor. Third, laborers that are more skilled made their way to Germany compared to the general Syrian population.

3 The full picture: accurate assessment of potentials and additional determinants of integration

The previous section presented comparisons using sophisticated coding schemes for education and work experience. These are informative and suggest that many Syrians have the potential to integrate into the German labor market. Given the often-truncated education careers and differences in the education system and labor market, it remains, however, unclear how easily Syrian refugees can replace the large cohorts of baby boomers, who will be leaving the labor market soon. To address this, as part of our study, we measured pre-migration human capital assets using a battery of tests. These tests allow objective measures and comparisons at least for selected dimensions of skills. For example, we can directly compare to a sample of baby boomers and to norm data on students in secondary schools in Germany.

Moreover, a concern often voiced is that the conditions in Syria and on the often hazardous journey to Europe, manifests in health problems that in turn may hinder integration. To address this concern, our survey included measures on health, potentially traumatic experiences and resilience.

3.1 Measuring educational qualifications

As a first means of objectively measuring skills we examined simple literacy and numeracy capabilities through conducting two tests. The numeracy test was taken from the *Survey of Health, Ageing and Retirement of Europe* (SHARE). This test asked respondents to count down from 100 in intervals of seven. We find that almost half of our sample (46.2 percent) was able to complete this task without calculation failure (men: 49.3 percent, women: 36.8 percent). 17.1 percent of our sample completed the task with only one mistake. Yet, this still leaves a third of the sample that made two or more (out of a total of five) mistakes. Examining these results in light of past educational attainment, we find that those with lower levels of education scored lower on this test. We also witness that women are performing worse than men (16.2 percent of women got none right compared to 4.8 percent of men). This is not surprising as we saw that

women, on the whole, acquired less levels of education in their home country. We compare these results to those of the latest released wave (wave 6) of the *Survey of Health, Ageing and Retirement of Europe* (SHARE) to see how well our sample did on this exercise.²⁶ We observe that our sample performs relatively worse than Germans aged 50-67 (the baby boom generation) in SHARE which had corresponding levels of 70.5 percent with no calculation error and 16.8 with only one error (Börsch-Supan, 2018; Börsch-Supan et al., 2013).²⁷

A second test looked at the literacy abilities of respondents. We asked all individuals to read the same text (four sentences) in Arabic that explained a proceeding task. The text used simple words and grammatical structures. Interviewers were then asked to note if individuals were able to read the text given in the allotted time and if not, note the reason the respondent gave for being unable to read it. Afterwards, we asked interviewers to note if they believed the reason the respondent gave was truthful or, if through other tasks (e.g. reading show-cards used throughout the interview), they noticed that the respondent could not read. 16.7 percent of our sample was unable to read the instructions in the allotted time. This corresponds to the education levels that we find. Moreover, in 9.1 percent of the cases respondents answered that they were unable to read when asked why they did not read the text (the rest who could not read stated that they did not have their reading classes or simply did not provide a reason). Only in 2.9 percent of the sample did interviewers note that, contrary to the reason given by the respondent, the respondent seemed unable to read. Hence, when it comes to the numeracy and literacy, we find that respondents' skills correspond to the stated educational levels.

To measure fluid and crystalline intelligence we conducted two tests developed by the Institut zur Qualitätsentwicklung im Bildungswesen (IQB). To test the former, a task was designed which encompassed a series of images where respondents were asked to identify the pattern in a sequence of pictures and then correctly choose the two consecutive images (figurative test).

²⁶ This paper uses data from SHARE Wave 6 (DOI: 10.6103/SHARE.w6.611), see Börsch-Supan, Brandt, Hunkler, Kneip, Korbmacher, Malter, Schaan, Stuck, and Zuber (2013) for methodological details. (1) The SHARE data collection has been primarily funded by the European Commission through FP5 (QLK6-CT-2001-00360), FP6 (SHARE-I3: RII-CT-2006-062193, COMPARE: CIT5-CT-2005-028857, SHARELIFE: CIT4-CT-2006-028812) and FP7 (SHARE-PREP: N° 211909, SHARE-LEAP: N° 227822, SHARE M4: N° 261982). Additional funding from the German Ministry of Education and Research, the Max Planck Society for the Advancement of Science, the U.S. National Institute on Aging (U01_AG09740-13S2, P01_AG005842, P01_AG08291, P30_AG12815, R21_AG025169, Y1-AG-4553-01, IAG_BSR06-11, OGHA_04-064, HHSN271201300071C) and from various national funding sources is gratefully acknowledged (see www.share-project.org).

²⁷ The overall rates for the entire sample are: 59.3% with no failure and 14% with one. Comparatively our sample performs similar to SHARE respondents from Mediterranean countries (Italy, Greece, Spain, France, Slovenia, Croatia and Israel). In this group 53% complete perform the task with no mistakes and a third make two or more mistakes (Börsch-Supan, 2018).

This test was designed to capture reasoning (e.g., Carroll, 1993) and has the advantage of being language and culture independent. For crystalline intelligence, a selected subset of items of the BEFKI test by Schiplowski et al. (2013) was used. A series of single choice knowledge questions were asked that gauged the knowledge base of our sample using concepts that are globally covered in science curricula (declarative knowledge test). Declarative knowledge measures like the BEFKI test are predictive for success in the educational system and labor market (Schipolowski, Edele, 2017). The first test consisted of 16 tasks, while the second consisted of 42 items, all varied in difficulty. We implemented two changes in the second part of the fieldwork due to the difficulty encountered by most of our respondents, and hence greater item non-response, as well as time constraints. In the figurative test we switched half the tasks to slightly easier items. We also reduced the number of questions in the declarative test, dropping the more difficult ones. For consistency, and to allow linking the test scores to normed samples, we kept a sufficient number of items to have a base group for the entire sample (this equates to eight items for the figurative test and 36 items for the declarative test). The figurative test showed inconsistent results. There is little in terms of an age gradient in the test scores and most respondents could solve only very few tasks. In the IAB/SOEP/BAMF study, a similar test was administered to children of refugees ages 11 to 17 with very similar results (Schipolowski, Edele, 2017). We therefore focus on the declarative knowledge test only.

81 percent of respondents partook in the declarative test. The number of correct answers by any given respondent ranges from 0-29 (out of the 36 questions that all respondents saw). Figure 7 shows the distribution of test items solved (around 40 percent of the test was solved correctly). The test difficulty was appropriate, there are no ceiling or bottoming effects visible. The reliability of the test is, hence, sufficient.



Figure 7: Declarative test results out of 36 (for those who completed test)

The IQB and others use the BEFKI routinely for testing student performance in German schools. Therefore, cohort as well as gender specific norms are available from a total of 5,708 students in grades 8 to 10 (Wilhelm, Schroeders and Schipolowski 2014). Moreover, a short version of the test was evaluated with a representative sample of 1,134 adults (Schipolowski et al. 2013). This allowed making the selection of test items used in our study comparable to a synthetic norm of 9th graders across all types of schools in Germany (with the exception of 9th graders in special needs schools). Figure 8 compares the test scores of our sample, split by gender, to the of 9th graders' norm in Germany. The norm distribution is z-standardized with a mean of 100 and a standard deviation of 10. On average our male respondents scored 10.4 points lower than 9th graders in Germany, female respondents mean score is 12.1 points lower, i.e. a bit over one standard deviation. The gender difference is not statistically significant (t = .72, p > .24). Moreover, our respondents test score distribution is more heterogeneous (standard deviation of 14.7 compared to 10.0 in the norm sample). Figure 8 suggests that this is especially due to the lower end of the distribution.



Figure 8: Declarative test scores by gender, compared to 9th graders in Germany

Recall that we compare the Syrians in our sample to 9th graders in Germany. Therefore, we repeated this part of the analysis and only focused on the subset of 190 persons who completed or studied at least at the secondary level. Figure 9 shows the test results. Again the difference between female and male respondents test scores is not significant (t = .75, p > .23). The very low-test scores observed above are mostly due to those not having studied or completed secondary school level. Still females mean test score is 91.1 and significantly lower than the norm (t = .55.4, p < .01). With a mean of 92.8 males again score a bit higher, but still significantly lower than the norm (t = .95.8, p < .01).



Figure 9: Declarative test scores by gender for Syrians with at least secondary school level, compared to 9th graders in Germany

We infer from these findings that although there is, indeed, a knowledge skill base within the surveyed population that has wide overlaps with 9th graders in Germany; on average the respondents perform worse, in terms of this (as well as the figurative) test than their German counterparts.

3.2 Other skills

We collected information on training programs, skills and languages that respondents may have acquired during their working life. We asked respondents if they have worked with: heavy machinery, manufacturing equipment, computers or in a care-taking capacity. For computers we differentiated usage into five aspects highlighting differing computer skill levels: text-based software usage, media design software usage, statistical software usage, website programming capacity and advanced programming capacity. The largest skill base lies in the operation of heavy machinery, which includes farming and construction, with 29.2 percent of previously employed respondents having experience in this area. This corresponds to 37 percent of those who worked in the farming or construction sectors. The second most common skill is using computers for text software (20.0 percent). We find that only 3.8 percent of those previously

employed have worked with more advanced programming software such as JavaScript, Python, C, etc. Moreover, less than four percent of them have performed care-taking activities (children, elderly, etc.) in a professional capacity. These measured additive skills coincide with the labor history we saw in the previous section. There are manufacturing skills present in the sample that are useful in the German labor market; yet, there are other skills such as care-taking abilities or advanced computer skills which may not be abundant.

3.3 Health and traumatization

First, we start by looking at a subjective measure of physical health. We asked respondents to rate their health on a Likert scale ranging from "excellent" (1) to "poor" (5), at the time of the survey (current health) and twelve months prior. The mean for each of these questions is 2.6 (between very good and good). 22.2 percent reported that their current health was either fair or poor, while 44.4 percent rated their current health as either excellent or very good. We are able to juxtapose our results to an analogous self-reported health measure for the German population of similar age to our sample using SOEP 2016 data.²⁸ Although a slightly different Likert 5 point scale was used - from "very good" (1) to "bad" (5), they find that 61.3 percent of German nationals aged 18-50 rate their current health as very good or good, while around 12 percent rate it as either poor or bad. This difference could also be explained by the slight difference in the scale labels used. The majority of our sample (54.9 percent) state that their health has stayed stable over the last twelve months period (no change in health level), 18.6 percent report better subjective health and 21.5% worse health (for 5.1 percent either variable is missing). There is no considerable difference in reporting between age groups. Those who state that their health benefited from the last twelve months report on average larger health gains compared to those who report decreasing health outcomes. Those who report lower health outcomes in the last 12 months have a mean of -1.44 decrease on the Likert scale; while those who report benefiting exhibit on average an increase of 1.82. We also find that there is no significant difference between reporting an increase or decrease in health outcomes given the length of stay in Germany. From these results we are able to determine that our sample reports worse on selfreported health than their German counterparts. Even given the slight difference in the scale used, this may be due to the migration path to Germany that these individuals may have

²⁸ We compare our results with those aged 18-50, which covers 90% of the age range in our sample.

followed or that for the most part our sample consists of people living in state and city run facilities.

We assessed mental health in two ways: we asked respondents whether they experienced potentially traumatic events that may have had adverse consequences and used the Brief Resilience scale (Smith, Dalen, Wiggins, Tooley, Christopher, and Bernard, 2008). We constructed the traumatization module based on literature on the association between prior faced adversity and present mental health (Shrira, Shmotkin, and Litwin, 2012). Our module evaluates the effect of different traumatic experiences, such as witnessing a terrorist attack or the death of a person. The questions were split into events that may have happened to the respondent directly, events they have witnessed that occurred to a close family member or friend and events that they witnessed where a stranger was harmed. We then asked respondents to rate how these events may have affected them (great effect, moderate effect, little effect). Great care was exercised in the training of interviewers, through the use of identifying physiological reactions or voice patterns to reduce the risk of re-traumatization and to avoid socially desirable responses.

Table 2 shows the list of potentially traumatic experiences asked, what percentage of respondents reported the respective experience.²⁹ Moreover, it shows the percentage of respondents reporting an experience who classified it as having had a great effect on their lives. The majority of our sample (80.7 percent) stated that they have experienced at least one of the potentially traumatic events. Moreover, 71.3 percent state that they have had more than one event occur to them or others. Moreover, on average 64.8 percent these events have had a great effect on their life. What we can take from these results is that there is a high prevalence of traumatic events which have had a great effect.

²⁹ In the QPLC study, we asked 12 items. Here we report 10 of these items, taking out the two concerning "having something stolen". We do so as arguably these events do not compare in magnitude to the 10 we report here.

Table 2: Traumatic experiences reported

	Ν	% reported	% reported had
Item: Have you ever			great effect
been wounded in (civil) war, civil war, or military action	258	6.6	52.9
been wounded in a terrorist act	253	5.5	64.3
been at risk of drowning from a sinking boat	251	51.4	59.7
been at risk of death due to illness or serious accident	255	18.4	61.7
witnessed serious injury or death in (civil) war, or	251	43.4	70.6
military action			
witnessed a terrorist act	256	32.8	66.7
lost very close friend or relative in (Civil) war, or in	252	67.1	71.6
military action			
experienced injury or death of very close friend or	252	42.9	73.1
relative in terrorist act			
had very close friend or relative at risk of drowning from	254	42.9	60.6
a sinking boat			
had very close friend or relative at risk of death due to	253	28.9	67.1
illness or serious accident			



Figure 10: Brief Resilience Scale (BRS) Scores

To measure resilience we also conducted the Brief Resilience Scale (BRS) developed by Smith et al. (2008) to evaluate the ability of a person to bounce back or recover from stress. The BRS

comprises of six items, three positively phrased and three negatively phrased sentiments about being able to "bounce back" from hardships. In calculating the level of resilience using the reverse mean scoring system implemented by Smith et al. (2008), we find that scores tend to be skewed to the right (score 5- high resilience), see figure 10. We observe that the majority of our sample, 60.4 percent, score between 3.0-4.3, which is considered average resilience level. 18.9 percent scored a high level of resilience (between 4.31-5.0).

4 Looking to the future: investments and expectations

The last goal of the study was to measure investments into integrating in the host country and respondents' expectations of future investments in central integration outcomes: language acquisition, job seeking activities, social interaction and emotional belonging.

4.1 Investments

A pre-requisite integration activity is language acquisition which opens up the ability to enter the host country's education and job market. It also allows for the ability to more easily interact with natives which facilitates other forms of integration: cultural, social, emotional. First, we collected information on language course levels attended, see figure 11. We find that 26.9 percent of our sample has not attended any type of language course since arriving in Germany. 50.0 percent of women have not taken a language course (compared to 19.3 percent of men). The majority of respondents are attending basic (A1) to lower intermediate (B1) level language courses and less individuals continued into more advanced courses at the time of data collection. Moreover, similar to pre-migration education trends, see section 2.3, we find a concerted difference between genders regarding language course attendance, with more men attending advanced courses compared to women.

The main reason given for not applying for or continuing to learn the German language is childrearing responsibilities (37.9 percent of females and 5.1 percent of males).



Figure 11: Highest German language course level attended by sexes

Concentrating on the relation between intended length of stay and language level attendance, we discover that those who stated they do not know how long they would stay in Germany more often did not yet attend a language course compared to those who intend to remain in Germany for a longer time, see figure 12.



Figure 12: German language course level reached given intended length of stay

In terms of language certificates achieved, 13.1 percent of our sample received an A2 certificate followed by 9.1 percent for B1 and 7.3 percent for A1 (note that 34.6% of our sample did not answer the question on language certificates achieved). This result is mainly driven by males (15.5 percent of men for A2 compared to 5.9 percent of women). Therein, we see the propagation of differences in education between genders as was found in the country of origin context.

To test if the language course investments pay off, we included several short German language tests. As the results of these tests highly correlated (Pearsons R > .5, p < 0.01), we present the results of the final component, a conversation test that had the highest participation. We asked respondents to take part in a very short and simple conversation about the weather, how they liked it and how it differs from their hometown. We then asked our interviewers to rate the conversation in terms of sentence structure, word usage and pronunciation. Scoring followed a predetermined scaling format and used a five-point grading scheme adherent to the German grading system [5: insufficient to 1: excellent]. This allowed us to achieve an appraisal of the actual language abilities of individuals. On the whole, we find individuals scored relatively low with 39.3 percent of our entire sample achieving a score of five, i.e. failed to understand at all. The average grade within the sample is 3.67, i.e. "poor". Although, the entirety of the sample performed poorly, on average woman did so significantly more than men with a mean score of 4.08 compared to men's 3.54.

Looking at the correlation between performances on the conversation test and attendance of German language courses, we find that attendance is positive and highly significant (at .01 percent) correlated to test performance. Furthermore, language certificates are positively correlated to test performance (highly significant at the .01 percent level).³⁰

In a similar manner to testing language abilities as a gauge for investment, we also looked at investments into understanding German culture and society. We conducted a small-scale (15item) test based on the Leben-In-Deutschland exam.³¹ Each respondent received, in a randomized order, 5 or 10 items. On average, respondents were able to get 60.7 percent of the

 $^{^{30}}$ Not surprisingly as language certificates are given or achieved after a language course level is completed; we find that one more certificate level increases the conversation test score by 0.34%, which is the same for findings for an extra language course level.

³¹ The Leben-in-Deutschland exam was designed by the federal government to test the integration level of potential permanent residents and naturalized citizens in regards to German history, culture and norms.

items they were presented with correct. Once more on this test men score higher, they get on average 64.9 percent items correct, whereas the rate for women is at 47.1 percent.

We see from these results that respondents are partaking, for the most part, up to basic German language education. The difference between men and women undertaking this investment are substantial, with men taking higher levels of language courses than women. Moreover, uncertainty in regards to intention to stay in Germany seems to effect actual language acquisition. Finally, performance on language tests is low, which corresponds to respondent's declared language course level attendance. We also find that integration in terms of knowing the social norms and practices of the host society is also being undertaken.

One reason for some individuals not investing in receiving country specific language abilities, may lie be the traumatic experiences experienced in Syria and on the journey to Germany. If coping with traumata is an obstacle, it should not only affect language investments, but also other integration activities. Therefore, we analyze the relation between potentially traumatic experiences and all dimension of structural integration activities. These are language learning, education and/or job seeking. Language learning is operationalized as having applied for some form of German course, either as language or as integration course. Education is a binary indicator of currently continuing education or planning to do so. Job seeking is a binary indicator identifying those who are currently in employment or who actively seek a job within the next 6 months. Table 3 shows probit regressions on these three structural integration activities. We find that traumatic experiences have no significant effect on all three activities.³² Indeed, our control variables: gender, age and length of stay in Germany play a larger role. Again, we find that female's investments are significantly lower on all three dimensions.

Taking into consideration the prevalence of traumatic events and their stated effect one may expect that individuals invest less in integration activities. Yet, given this analysis, we infer that although these individuals experienced traumatic events it does not seem to have an effect on integrative investments.

³² We concentrate in this analysis on events reported as having a "great effect" on respondents in the understanding that these events would most likely be the most deterrent to integration efforts.

	Language	Education	Job Seeking
Traumatic experience: Self (great effect)	0.115 (0.227)	-0.037 (0.231)	0.030 (0.220)
Traumatic experience: Family/friend (great effect)	-0.260	0.174	0.306
	(0.224)	(0.239)	(0.228)
Traumatic experience: Others (great effect)	-0.188	-0.264	0.015
	(0.243)	(0.225)	(0.218)
Time in DE (months)	0.070***	-0.006	0.030***
	(0.013)	(0.010)	(0.011)
Education (Ref: ISCED 1: Primary)			
Never attended school	-0.240	-0.591	-0.257
	(0.436)	(0.422)	(0.436)
ISCED 2: Lower Secondary	0.232	0.305	0.145
	(0.259)	(0.242)	(0.235)
ISCED 3: Upper Secondary	0.027	0.512**	0.254
	(0.256)	(0.248)	(0.237)
ISCED 4-8: Post Sec. to Tertiary	0.383	0.815***	0.506*
	(0.317)	(0.278)	(0.273)
Female	-0.983***	-0.415**	-1.193***
	(0.211)	(0.192)	(0.221)
Age	0.028***	-0.052***	0.010
	(0.011)	(0.010)	(0.008)
Constant	-1.203***	1.806***	-1.045***
	(0.423)	(0.410)	(0.394)
Observations	259	261	261
McFadden's R^2	0.229	0.180	0.139

Table 3: Traumatic experiences on integration activities

Probit regression coefficients with robust standard errors in parentheses. *p<0.10, **p<0.05, ***p<0.01

4.2 Expectations

We identify the intended length of stay in Germany, see figure 12. 40 percent of our sample state that they are unsure how long they will stay in Germany. The second largest answer given in terms of percentage is "forever" (36.4 percent) followed by "until Syria is safe" (17.1 percent). To further understand people's human capital investment decisions with regard their intentions to stay in Germany we directly measured respondents' expectations regarding different human capital investments. We did this through two formats. For one part of our sample we asked respondents to state their perceived chance of getting a permanent residence status given three scenarios: a base level of no further investment, acquiring good German

language skills and acquiring a secure job. For the second part of our sample we concentrated further on education investments, see below.

For both sub-samples we trained respondents in the concept of percent chance. We then used the Hudomiet, Hurd, and Rohwedder (2018) battery of questions to test our respondents' understanding of the concept of likelihood, e.g. percent chance, see table 4 for the training results. Our respondents performed on par with respondents of the Hudomiet et al. (2018), except for on the inverse probability questions.

Variable	Mean	Std. Dev.	Min.	Max.	n
Percent chance of red ball (10 white & 0 red)	2.865	12.036	0	90	229
Percent chance of white ball (7 white & 3 red)	62.284	22.031	1	100	229
Percent chance of not raining (prob. of rain- 70%)	31.714	13.404	0	100	224
Percent chance of rain in home town (50% chance of rain in home town & New York	50.404	19.448	0	100	208

Table 4: Summary statistics of battery test

In our first set of questions we asked 40 percent of the sample to give their base expectation that a person like them would earn the right to stay in Germany, in the form of a permanent residence, in three years without engaging in further investments. We find that the perceived likelihood of receiving a permanent residence in three years without further investment is on average 50.5 percent with a large standard deviation (28.3). In terms of expectations of returning to Syria after three years, the average is 29.2 percent probability of returning. The range of answers given is highly skewed to the left, with a little over 60% of the sample who answered this question giving a probability of 30 percent or under for returning. With an increased investment of learning the German language we see an increase in the expectation to receive a permanent residence (69.4 percent), see figure 13. However, there is a stark difference of the distribution of the answers to this scenario, high skewness to the right, with a third of those answering this question placing the probability of receiving a permanent residence from 80-100 percent. This picture is amplified for getting a permanent residence given acquiring a secure job. Here most respondents identified that it is with certainty (100 percent probability) that one would gain a permanent residence in this case (the mean probability is 75.8 percent).



Figure 13: Range of expectation to get a Permanent Residence given investments (Part 1)

We asked the remaining part of our sample to identify what their expectations are given differing levels of educational investments. The educational investments were: no extra education (baseline), B1 language, B2 language, vocational training (the German "Ausbildung"), and university degree. For analogy we present here two cases: getting a permanent residence and getting a secure job. Figure 14 outlines the results of the case of receiving permanent residence after three years. The distributions of the scenarios move from highly skewed to the left (low probability of receiving a permanent residence permit) to, progressively, high skewness to the right at the highest educational achievement- university degree (high probability of receiving a permanent residence permit). Of interest is that at a B1 and B2 language levels have greater variances suggesting a higher level of uncertainty given these investments. On average, however, we see that respondents attribute 55.4 percent chance of receiving the status given B2 language compared to 40.1 percent probability for B1. Doing an Ausbildung hikes the probability to 75.8 percent, a German university degree to 86.4 percent.



Figure 14: Range of expectation to get a Permanent Residence given investments (Part 2)

We find a similar pattern regarding getting a secure job in Germany with more pronounced expectations when it comes to vocational education. Indeed, on average respondents attribute a similar high likelihood to finding a secure job in Germany whether one completes a university degree (88.6 percent probability) or an Ausbildung (84.3 percent). We find that just acquiring language does not translate to very high expectations for finding a secure job (B1- 44.0 percent probability and B2- 58.6 percent probability).

As an example of how expectations relate to investments, we present the first sub-sample's expectation/investment relationship results using the same dependent variables as above, see table 5. The results imply that people who believe that gaining good German language skills would allow them to get a permanent residence invest less in looking for a job and those who believe a secure job would aide them in getting a permanent residence permit invest more in job seeking. This effect pattern is reversed, as one would expect, when looking at language

learning activities, though the effects are not significant. For educational activities we find no significant effects of expectations.

	Language	Education	Job Seeking
Exp (perm. res. w/ good	0.008	0.001	-0.019**
German)	(0.009)	(0.009)	(0.009)
Exp (perm. res. w/ good	-0.004	-0.001	0.017***
job)	(0.007)	(0.006)	(0.006)
Time in DE (months)	0.124***	-0.024	0.025
	(0.024)	(0.018)	(0.019)
Never attended school	0.000	0.000	0.000
	(.)	(.)	(.)
ISCED 1: Primary	0.000	0.000	0.000
	(.)	(.)	(.)
ISCED 2: Lower	-0.032	0.179	0.612
Secondary	(0.465)	(0.411)	(0.387)
ISCED 3: Upper	-0.210	0.123	0.715*
Secondary	(0.438)	(0.408)	(0.375)
ISCED 4-8: Post Sec. to	-0.203	0.334	0.226
Tertiary	(0.560)	(0.452)	(0.467)
Female	-1.584***	-0.280	-1.459***
	(0.411)	(0.329)	(0.476)
Age	0.024	-0.064***	0.028**
	(0.016)	(0.015)	(0.013)
Constant	-1.841***	2.745***	-1.727***
	(0.673)	(0.649)	(0.616)
Observations	104	105	105
McFadden's R ²	0.379	0.199	0.182

Table 5: Expectation on investment analysis

Logit regression coefficients with robust standard errors in parentheses. Primary education is the omitted variable for education. Never attended school was dropped due to predicting success/failure perfectly. *p<0.10, **p<0.05, ***p<0.01.

Thus, our results indicate that the majority of our sample understood the concept of percent chance; therefore, the answers we garnered on the expectations that individuals have regarding differing investments are credible. We also see that respondents associate higher educational attainment with a higher probability of being able to stay in Germany or gaining a secure job. Moreover, when it comes to actual investments expectations affect which investment is favored; e.g. seeking a job or engaging in further education.

5 Implications

The implications of a younger population arriving in Germany are manifold. First, this implies that there is great potential for individuals to take part in both the education and labor market as return to investments may be reaped over a longer expected lifetime in Germany.

In terms of education, we observe that, although the majority of individuals have reached lower levels of education, most indicate that they do not consider themselves done. However, we also witness a clear difference in terms of educational attainment and desire to continue in education between genders. From our cognitive tests, we also find that the poor performance on test items indicate that targeted programs may be necessary to overcome the gap between German residents and Syrian asylum seekers. We can also infer that just collecting formal education achievements is not an accurate measure for skill.

Furthermore, we see that individuals are coming from, on average, relatively lower educated households where the great majority of main breadwinners worked in some form of skilled labor, in both service or craft sectors. We find these occupations mirrored in individuals own occupational histories. This may be an indication that skilled manual labor is entrenched as a feasible or desirable occupational choice. Moreover, we find that the most common type of work conducted by respondents was skilled craft, manufacturing and farming. A fraction of these individuals possesses skills that can be more readily used in the German context. This leads us to infer that individuals might be malleable for retraining to the German work context as a result of both their younger age as well as their skilled crafts work experience.

Initial analysis suggests that there may be no significant effect of traumatic events on integration activities. A possible explanation is that perhaps selection still plays a role into asylum seekers' migration patterns, e.g. the more resilient individuals tend to take the more precarious route to Europe. Testing this explanation unfortunately is beyond the capabilities of our data.

We see the same predominant pattern of differences between genders in terms of integration investments in Germany. More men than women are participating in language courses, are attending higher language levels and acquiring language certificates. Hence, we see the propagation of educational attainment differences between genders in the host country. Moreover, less people choose to continue onto intermediate and advances language courses.³³ Low performance on our language tests mirror completed levels of language courses, but also point to possible further investments needed. Hence, when it comes to actual achieved integration, we find that although investments are undertaken they are not undertaken equally across the entire sample.

Concurrently, respondents are associating higher integration efforts with higher probability of being able to stay and provide for themselves. Indeed, respondents show an understanding that in Germany getting a vocational education ("Ausbildung"), not just a university degree, is a viable option for acquiring a secure job. However, there seems to be a trade-off between job acquisition and education. Those who believe that achieving higher levels of education, in the long run, will lead to a more permanent status in Germany tend to substitute educational investment against seeking a job, while those who believe that education will lead to a permanent residence invest in it. However, further analysis is needed at this point to identify the mechanisms of these decisions and to provide policy relevant suggestions in how best to address this uncertainty in the Syrian asylum seekers in Germany.

6 Conclusion

The QPLC project set out to answer three main questions: what are the life courses and corresponding capabilities of asylum seekers, what may be the hindrances to integration, and what are the expectations that they have and how does this inform their integration investment decisions. In order to answer these questions, we conducted a survey on the largest group of asylum seekers, Syrians aged 18 or older living in and out of group housing in Bavaria. While our sample is smaller than intended with 275 observations the richness of the information we were able to collect lends itself to interesting insights regarding these inquiries.

There are five trends that are prominent in our analysis. First, on the one hand, in regards to the demographic challenge facing Germany, our results imply that the demographic characteristics of this population may be beneficial in bolstering Germany's aging population through providing a younger workforce. However, refugee migration is not a complete solution to the demographic aging challenge facing many European countries (Börsch-Supan, 2017; Börsch-

³³ This can partially be attributed to the fact that language courses are only subsidized up to the lower intermediate (B1) level making it harder for people with constrained budgets to participate in further language learning in most venues.

Supan, 2002). Given the characteristics of our sample's previous work experience, we find that their skills may be well suited, or malleable, to the German labor market. We also find that traumatic experiences do not automatically translate to hindrances for integration. On the other hand, we also see from our analysis, through the use of our cognitive tests, that there may be a skill gap between natives and this population that would need to be addressed. Moreover, the skill gap does not only exist between natives and Syrian asylum seekers, but also between Syrian men and women. To that end, further work may need to be done on how to address this disparity, which seems to be hampering the human capital investments that women are undertaking in Germany. Furthermore, we find that German language investments are not, overall, being undertaken beyond the B1 level by those who invest in language learning. What seems to be factoring into investment decisions is uncertainty, where the more uncertain a person is about their prospect of remaining in Germany the less amount of long-term investments are undertaken.

Acknowledgments

We thank our interviewers and student assistants for many hours of dedicated and sometimes very demanding work helping to prepare and conduct the survey. Stefan Schipolowski and Aileen Edele from the Institute for Educational Quality Improvement (IQB) at HU-Berlin provided their tests for the purpose of our survey, helped analyzing the data and provided suitable comparison norms. We are grateful for the support of the Bavarian ministry for work, social affairs, family and integration for their support in sampling. Finally, without the considerable support from our contacts in the regional governments and the group housing facilities, this project would not have been possible.

References

- AFAD (2013). Syrian refugees in Turkey, 2013- field survey results. Technical report, Republic of Turkey- Prime Ministry Disaster and Emergency Management- Presidency.
- American Association for Public Opinion Research (2008). *Standard Definitions: Final dispositions of case codes and outcome rates for surveys*, Number 5th edition, Lenexa, Kansas. American Association for Public Opinion Research.
- BAMF (2014-2017). Das Bundesamt in Zahlen. Technical report, Bundesamt für Migration und Flüchtlinge (BAMF).
- BAMF (2018). Das Bundesamt in Zahlen 2018. Asyl, Bundesamt für Migration und Flüchtlinge (BAMF).
- BLS (2017). Genesis-online datenbank.
- Brauns, H., S. Steinmann, and D. Haun (2000). Die Konstruktion des Klassenschemas nach Erikson, Goldthorpe und Portocarero (EGP) am Beispiel nationaler Datenquellen aus Deutschland, Großbritannien und Frankreich. ZUMA Nachrichten 24(46), 8–63.
- Börsch-Supan, A. (2018). Survey of Health, Ageing and Retirement in Europe (SHARE) Wave6. Release version: 6.1.1. Data set. DOI: 10.6103/SHARE.w6.611.
- Börsch-Supan, A. (2017). Eine Regel für die Rente. mpg.de. 11.09.2017. Accessed March 11, 2019. https://www.mpg.de/11469276/rente-hintergruende.
- Börsch-Supan, A., M. Brandt, C. Hunkler, T. Kneip, J. Korbmacher, F. Malter, B. Schaan, S. Stuck, and S. Zuber (2013). Data Resource Profile: The Survey of Health, Ageing and Retirement in Europe (SHARE). *International Journal of Epidemiology* 42(4), 992–1001.
- Börsch-Supan, A. (2002): Mehr Zuwanderung? Zur Rolle des Auslands bei der
- Stabilisierung der gesetzlichen Rentenversicherung in Deutschland, MEA-Diskussionspapier 022-02.
- Brücker, H., N. Rother, and J. Schupp (2016). IAB-BAMF-SOEP-Befragung von Geflüchteten: Überblick und erste Ergebnisse. Technical report, DIW Berlin: Politikberatung kompakt.
- Brücker, H., N. Rother, J. Schupp, C. B. von Gostomski, A. Böhm, T. Fendel, M. Friedrich, M. Giesselmann, Y. Kosyakova, M. Kroh, et al. (2016). Forced migration, arrival in Germany, and first steps toward integration. *DIW Economic Bulletin 6*(48), 541–556.
- Carroll, J. B. (1993). Human cognitive abilities: A survey of factor-analytic studies. New York: Cambridge University Press.
- Christoph, B. (2005). Zur Messung des Berufsprestiges: Aktualisierung der Magnitude-Prestigeskala auf die Berufsklassifikation isco88. ZUMA Nachrichten 29(57), 79–127.
- Delavande, A. (2008). Pill, patch or shot? subjective expectations and birth control choice. *International Economic Review 49*(3), 999–1042.
- Delavande, A., X. Giné, and D. McKenzie (2011). Measuring subjective expectations in developing countries: A critical review and new evidence. *Journal of Development Economics* 94(2), 151–163.
- Destatis (2018). Migration and integration. Accessed October 15, 2018.
- Esser, H. (2001). Integration und ethnische Schichtung: Arbeitspapier nr. 40 des Mannheimer Zentrums für Europäische Sozialforschung.

- Esser, H. (2008). Assimilation, ethnische Schichtung oder selektive Akkulturation? Neuere Theorien der Eingliederung von Migranten und das Modell der intergenerationalen Integration. *Kölner Zeitschrift für Soziologie und Sozialpsychologie: KZfSS*, 81–107.
- Ganzeboom, H. B. and D. J. Treiman (1996). Internationally comparable measures of occupational status for the 1988 International Standard Classification of Occupations. *Social science research* 25(3), 201–239.
- Gebel, M., U. Bardak, U. Damyanovic, and J. Johansen (2012). Transition from education to work in Syria: Results of the youth transition survey. Technical report, European Training Foundation.
- Gebel, M. and S. Heyne (2014). *Transition to Adulthood in the Middle East and North Africa: Young women's rising?* Palgrave Macmillan.
- Goodman, L. A., C. Corcoran, K. Turner, N. Yuan, and B. L. Green (1998). Assessing traumatic event exposure: General issues and preliminary findings for the stressful life events screening questionnaire. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies* 11(3), 521–542.
- Harkness, J., van de Vijver, F.J.R., and Johnson, T.P. (2003). Questionnaire design in comparative research. In Harkness, J., van de Vijver, F.J.R., & Mohler, P.P. (Eds.), Cross-cultural survey methods (pp. 19-34). Hoboken, NJ: Wiley.
- Hudomiet, Peter, Michael D. Hurd, and Susann Rohwedder (2018). Measuring Probability Numeracy. Santa Monica, CA: RAND Corporation, 2018. https://www.rand.org/pubs/working_papers/WR1270.html.
- ICPD (2011). Syrian Arab Republic: country implementation profile. Technical report, UNUNFPA.
- International Labour Organization (2018), ILOSTAT database. Data retrieved in September 2018. Accessed November 15, 2018.
- Kalter, F. (2008). Migration und Integration, Volume 48. VS Verlag für Sozialwissenschaften.
- Krafft, C., M. Sieverding, C. Salemi, and C. Keo (2018). Syrian refugees in Jordan: Demographics, livelihoods, education, and health. In *Economic Research Forum Working Paper Series*, Number 1184.
- Labott, S. M., T. P. Johnson, M. Fendrich, and N. C. Feeny (2013). Emotional risks to respondents in survey research: some empirical evidence. *Journal of Empirical Research* on Human Research Ethics 8(4), 53–66.
- Manski, C. F. (2004), Measuring Expectations. Econometrica, 72: 1329-1376.
- Masri, S. and I. Srour (2014). Assessment of the impact of Syrian refugees in Lebanon and their employment profile. *International Labour Organization*.
- Øvensen, G. and P. Sletten (2007). The Syrian Labour Market: Findings from the 2003 Unemployement Survey. Fafo, Institute for Applied Social Science.
- Petzoldt, M. (31.08.2016). Refugee crisis in Lebanon 2013-2016 and the role of the United Nations High Commissioner for Refugees (UNHCR).
- Saiid, C., C. Papavero, J. Ghosn, M. Petzoldt, O. Smith, and G. Haddad (2015). Vulnerability assessment of Syrian refugees in Lebanon 2016 report. Technical report, UNHCR, WFP, Unicef.

- Schipolowski, S., Wilhelm, O., Schroeders, U., Kovaleva, A., Kemper, C. J., Rammstet, B. (2013). BEFKI GC-K. A Short Scale for the measurement of crystalliyed intelligence. *Methoden, Daten, Analysen* 7(2), 153-181.
- Schipolowski, S., Edele, A. (2017). Documentation der Kompetenytestung im Rahmen der IAB-BAMF-SOEP-Befragung von Geflüchteten 2017, Stichproben M3-M5. SOEP Survey Papers Series B 593.
- Shrira, A., D. Shmotkin, and H. Litwin (2012). Potentially traumatic events at different points in the life span and mental health: findings from SHARE-Israel. *American Journal of Orthopsychiatry* 82(2), 251–259.
- Smith, B. W., J. Dalen, K. Wiggins, E. Tooley, P. Christopher, and J. Bernard (2008). The brief resilience scale: assessing the ability to bounce back. *International journal of behavioral medicine* 15(3), 194–200.
- Syrian-Central-Statistics-Bureau (2018). Statistical population.
- Van der Velden, P. G., M. W. Bosmans, and A. C. Scherpenzeel (2013). The burden of research on trauma for respondents: A prospective and comparative study on respondents' evaluations and predictors. *PloS one 8*(10), e77266.
- Wilhelm, O., U. Schroeders, and S. Schipolowski. (2014). BEFKI 8-10. Berliner Test zur Erfassung fluider und kristalliner Intelligenz f
 ür die 8. bis 10. Jahrgangsstufe. 1. Auflage 2014. Hogrefe
- World-Bank (2018). Syrian Arab Republic- microdata. Technical report, World Bank (Open Data).