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Determinants of Refugee Children's Self-Perceived Educational Performance: A Comparative Study of Lebanon, Turkey, and Australia

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Abstract

This study investigates how differing educational frameworks across Lebanon, Turkey, and Australia influence the perceived educational performance of Syrian refugee children. The legal status granted to refugees in each country fundamentally shapes their respective education systems' responses. In Lebanon, refugees are generally classified as temporarily displaced persons, resulting in an emergency-based approach to education for the approximately 500,000 Syrian children present. By contrast, Australia has offered permanent resettlement opportunities to selected Syrian refugees, integrating them directly into mainstream schools. Turkey, meanwhile, has progressively shifted from emergency-based measures to policies oriented toward long-term integration. This research is based on survey data from 1298 Syrian refugee children across the three contexts. Findings from ordered probit regression analyses indicate that, beyond the legal duration of residency and the prevailing educational policy model (emergency versus long-term integration), variables such as the extent of educational segregation, the availability of preparatory and language support programmes, and the socioeconomic status of families are also pivotal in shaping students' self-perceived academic performance.

Keywords: perceived educational performance; refugee students; education in emergency; education provisions; legal settlement; Lebanon; Australia; Turkey; refugee education; Syrian refugees

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1. Introduction

Scholarship on the education of children with refugee backgrounds has expanded significantly over the past decade, largely in response to the unprecedented scale of the Syrian displacement crisis. This surge is reflected in both the volume of scholarly output and the frequency with which the topic appears in research agendas (Shuayb and Crul 2020). Interest in this area has also been propelled by increased advocacy and mobilisation efforts that have prioritised integrating education within humanitarian interventions. A whole new body of work has emerged in this field and become more widely known as education in emergency (INEE 2020). Most of this work has taken place in the Global South, where most refugees reside (UNHCR 2022). Alongside this proliferation, research on education for refugees seems to split along two geographical lines that rarely cross, refugees in the Global North versus refugees in the Global South. Refugees in the Global South are often the focus of UN agencies, which are almost absent when it comes to refugees in

the Global North. We notice that even UN agencies' reports on the education of refugee children discuss only the education of refugees in the Global South. Data from the UNHCR (2019) indicate that as of 2018, roughly 35% of refugee children worldwide were out of primary education, and more than three-quarters of adolescent refugees were not enrolled in secondary schooling. At the post-secondary level, refugee participation was notably low, with only about 3% of refugees globally accessing tertiary education, in contrast to a global average of 37% among non-refugee peers. These UNHCR figures do not include refugees in the Global North, nor do they refer to their education. The Inter-agency Network for Education does not refer to refugees in the Global North. As a result, we see two paradigms dominating the research discourse on the education of refugees.

The first is concerned with refugees in the Global South and is embedded in a humanitarian philosophy and context; hence it is occupied with the present and short-term interventions. The second is focused on medium- to long-term education provisions, often taking place in countries of final settlement in the Global North. The education provisions, including curriculum, certification, segregation or integration, and language provisions, differ between countries practicing the emergency model versus countries that adopt long-term education policies. There is a paucity of research comparing the experiences of refugees across these paradigms, although this is beginning to change (Crul et al. 2019). A quick comparison of education provisions implemented in emergency settings versus those applied in long-term or permanent settlements reveals that the former lacks a future vision, adopts exclusive practices, and has a very high dropout rate (Brun and Shuayb 2023). In contrast, education in countries of final settlement often absorbs refugee students into existing provisions alongside national students. Such comparisons are important to understand the various conditions that affect the schooling attainment of refugee children. In particular, comparative research is needed to examine the role of legal status and education provisions in students' educational outcomes.

In this paper, we investigate the self-perceived schooling performance of children undergoing education in a temporary settlement versus those who have a longer-term residency. We examine the two education provisions (education in emergencies and long-term education programmes) and the implications of both paradigms for the school performance of refugee children. To achieve this objective, three countries were chosen as comparative cases: Lebanon, Turkey, and Australia. Lebanon serves as an example of an educational approach closely aligned with the education in emergencies (EiE) framework. In comparison, Australia has selected and resettled 12,000 Syrian refugees, providing them with opportunities for permanent integration. Turkey, meanwhile, has gradually transitioned from an initial emergency response toward educational policies that emphasise medium- and long-term integration, as will be further detailed in subsequent sections.

Wiseman (2009) argues that schooling opportunities are entangled with lived experiences in various contexts. Similarly, Bronfenbrenner's (1976) theory argues that children are embedded in their environment within different interacting ecosystems, which contribute to shaping their emotional and schooling experiences. These ecosystems range from children's home ecological system to larger ones such as their neighbourhood and school, and then the largest represented by society. Building on Bronfenbrenner's theoretical model, this study applies a multi-layered perspective, considering the micro, meso, and macro levels to examine the determinants of educational outcomes among refugee children. The micro level focuses on the child's immediate surroundings, such as the family environment and socioeconomic background. The meso level addresses the linkages between the child's home life and the school context. At the macro level, the analysis considers wider policy frameworks and institutional structures, which are largely influenced by legal status and settlement arrangements. These broader policies often intersect with and shape factors at

both the micro and meso levels. In the following two sections, we compare the rationale and provisions of education in emergency versus long-term education and then review the educational interventions for refugees in the three selected countries.

2. Emergency Education Versus Long-Term Education

Education has come to occupy a central position within humanitarian interventions. This trend clearly illustrates how development concepts have become embedded within humanitarian approaches. This is largely because most conflicts are protracted, and thus, there has been a push to shift from saving lives to longer-term interventions, including education. The UNHCR has issued numerous policy documents addressing educational provisions for children with refugee backgrounds (Dryden-Peterson 2011; UNHCR 2019). Alongside this, the education in emergencies approach, underpinned by the INEE's Minimum Standards, has become increasingly prominent. Emergency education, initially rooted in humanitarian principles, has seen substantial advancement since the early 2000s. After the World Education Forum in Dakar and the establishment of the Education for All (EFA) objective for 2015, it became increasingly recognised that the EFA targets could not be met without paying attention to the educational needs of populations impacted by conflict or crisis. This recognition prompted the establishment of the Inter-Agency Network for Education in Emergencies (INEE 2010).

The standards have also undergone a process of adaptation in 11 countries, including Lebanon, Congo, and Afghanistan. The framework offers policymakers and practitioners guidelines to inform the planning of educational provisions for refugee children (INEE 2025). As education becomes an integral part of the humanitarian response, we begin to see educational strategies for refugee children being developed in different hosting countries, such as Lebanon, Uganda, and Kenya. Educators implementing these approaches distinguish education in emergencies from broader development initiatives, thereby facilitating its integration into conventional humanitarian aid frameworks (Burde et al. 2011). Referring to such situations as 'emergencies' serves to highlight both their immediacy and significance within the context of humanitarian response. It has also led to distancing education from politics, which has contributed to rooting its compatibility with core humanitarian responses (Burde et al. 2011). However, the depoliticisation of refugee education in EIE has been considered a shortcoming of the emergency model, because refugee reception is extremely politicised. In contrast to humanitarian education logic, education in a non-protracted context is future-oriented and has developmental objectives (Shuayb and Crul 2020). Whether it is embedded in a child-centred, socialist, neoliberal and market-driven, or nationalistic philosophy, the educational process is driven by a long-term vision and has a defined set of desired outcomes and rationale that underpins the whole system. The curriculum is designed to reflect the varied backgrounds within the community and seeks to equip children with the skills necessary to achieve their full potential over time (Shuayb and Crul 2020). This long-term vision of education is lacking in the emergency education paradigm. Education is treated as an unmitigated good without exploring what it manages to achieve in the constrained context that refugee children experience.

Table 1 provides a summary of the main features of education in emergency and education in a long-term setting. Obviously, education in a long-term or developmental context can be exclusionary, which denies certain groups of society from realising their future aspirations; however, the premise on which the whole process rests is that the system is oriented toward a developmental process.

Table 1. Summary of education paradigms.

	Education in a Long-Term Resettlement Setting	Education in Emergency
Motivation/objective	Personal fulfilment, employability, cultivating responsible citizens, and fostering empowerment	Focus on basic literacy and fulfilling human rights obligations
Timeframe	Spanning the past, present, and future	Short-term, pending return to home country
Standards	Adherence to national policies and educational curricula	Lack of defined national standards; reference to INEE minimum standards
Understanding the person/individual	Acknowledging personal history and social recognition	Lack of defined national standards; reference to INEE minimum standards
Social space	Integration into mainstream education	Often administratively or temporally separated streams for refugees (e.g., afternoon shifts, parallel systems); varying degrees of segregation/integration depending on context
Objective	Personal and societal development	Providing temporary protection and essential literacy skills
Status, citizenship, membership	Unrestricted educational rights as citizens and integrated community members	Conditional access to education, often accompanied by restricted civic rights as determined by the host country
Human rights	Fundamental rights, including those set out in the Convention on the Rights of the Child	Right to education, often separated from other entitlements like employment opportunities

While studying the education responses for refugees in Lebanon over the past few years, we noticed the proliferation of the emergency paradigm, its dominance in the global south, and its disconnection from the education interventions for refugees in the global north. Hence, we became interested in exploring how these two paradigms, which operate within two different time spans (short versus long term) and two different legal statuses (awaiting repatriation vs. medium or permanent settlement), shape the education interventions and provisions for refugees, which consequently affect their educational performance; hence the choice of countries presented below.

3. Country Overview

Lebanon hosts the highest number of refugees per capita globally and ranks fourth worldwide in terms of its total refugee population (VASyR 2018). In contrast to Turkey and Australia, Lebanon has not ratified the 1951 Refugee Convention or its 1967 Protocol, and as a result, the official stance favours the eventual return of Syrian refugees. Despite this, measures have been taken to provide humanitarian assistance, enhance refugees' employability, and allow access to educational opportunities recognised both within Lebanon and internationally (Lebanon Crisis Response Plan 2015: Annual Report 2015). Syrian refugees in Lebanon are not eligible for permanent residency or citizenship, which confines their legal status to that of long-term "guests". Children from Syrian refugee backgrounds are typically placed in separate afternoon classes, frequently taught by teachers who are either inexperienced or carrying excessive workloads (Shuayb et al. 2023; Lebanon Crisis Response Plan 2015: Annual Report 2015; IRIN 2017). The Lebanese Ministry of Education and Higher Education (MEHE) and UN agencies, supported by donors, together developed two educational strategies, RACE I and II (RACE I in 2014 and RACE II in 2017),

to integrate 500,000 school-aged children into Lebanon's public education sector, which had a pre-existing capacity for just 200,000 Lebanese pupils. The RACE II fact sheet (2019) reports that 206,061 Syrian refugee children, representing 60 per cent, are enrolled in formal primary schooling, with pupils attending either morning sessions (52,775) or afternoon shifts (153,286); only 4903 are enrolled at the secondary level. Although enrolment figures have improved, other indicators reported by the Project Management Unit (PMU) reveal less favourable outcomes. For instance, PMU data show a continuous decline in student retention as children advance through school, with fewer than 4 per cent enrolled at the secondary level and only 1 per cent reaching grade 9. Research conducted by the Norwegian Refugee Council (2020) further indicates that 78 per cent of out-of-school children were unable to register due to poverty, 62 per cent discontinued their education because of financial constraints, and 52 per cent had never attended any form of schooling, whether formal or non-formal.

In contrast to Lebanon, Turkey has ratified both the 1951 Refugee Convention and the 1967 Protocol (UNHCR 2019). By early 2019, the official number of registered Syrians in Turkey had risen to 3,642,738. The Turkish government's approach to Syrian refugees has gradually shifted from an emergency response to one oriented towards longer-term integration. Initially, in 2011, Syrians arriving in Turkey were classified as temporary "guests", with the expectation that they would return to Syria once conditions allowed (Nimer 2021). By 2014, Syrians were permitted to establish their own educational institutions, referred to as "Temporary Education Centres" (TECs). These centres were granted autonomy to adapt curricula and teaching materials based on what students had previously studied in Syria. However, a government directive in 2014 mandated that local education authorities assume responsibility for the administration of all TECs, and subsequently, a policy was enacted to integrate Syrian students into mainstream Turkish schools, requiring the closure of all TECs by the 2019–2020 academic year (Nimer 2021). Routes for residency and citizenship were also developed in Turkey, thus granting Syrian refugees the right to permanent settlement. According to figures from the Ministry of National Education (MoNE), by the end of 2019, a total of 684,728 Syrian children with temporary protection status were attending formal educational programmes. This figure represents 63.23 per cent of the 1,082,172 Syrian children of school age who were under temporary protection. Consequently, around 36.7 per cent of these children were still not enrolled in any form of schooling (MoNE 2020).

In 2018, Australia admitted 12,706 Syrian refugees as permanent residents. Children eligible for schooling within this cohort were placed in state-run schools through the national resettlement scheme (Maadad 2018). Although each state is responsible for the administration of education policy, the legislative basis is established by the Australian Education Act 2013, which mandates compulsory attendance for all pupils aged six to sixteen, spanning both primary and secondary education (Maadad 2018). While there is a national curriculum and an emphasis on multicultural education, which reflects Australia's commitment to diversity and inclusion, no overarching government policy specifically addresses the needs of students from refugee or asylum-seeking backgrounds. Instead, the responsibility for setting policies and developing programmes related to refugee education lies with the education departments of individual states and territories. Most public, independent, and Catholic schools operate a New Arrivals Programme aimed at supporting refugee children in learning English, thus enabling them to access the broader Australian curriculum (Maadad 2018). Comprehensive data on the enrolment rates of Syrian refugees in Australian schools remains limited. Nevertheless, all school-aged refugees who have been granted permanent residency are entitled to free public education on the same basis as other permanent migrants, and schooling remains compulsory for those aged six to sixteen. Furthermore, these families are offered intensive language assistance, often extend-

ing to the whole family, particularly during the initial five years following resettlement (Collins et al. 2018).

The overview of the countries under study indicates that the choice of educational approach is shaped by the legal status granted to refugees by each host country. Consequently, this research examines the influence of micro-, meso-, and macro-level factors on the academic outcomes of refugee students and considers the impact of various educational models implemented in the context of differing legal statuses (including short-term, medium-term, and long-term arrangements). The central research question explored in this study is as follows:

How do different forms of legal settlement, with their associated education paradigms, influence the self-perceived schooling performance of refugee children?

The sections that follow outline our data sources and methodological approach, after which we introduce the empirical model and discuss its results.

4. Data and Methodology

To address the research question and examine how various educational approaches impact the academic outcomes of refugee students, we draw on data collected and analysed at the macro, meso, and micro levels. The macro level focuses on legal frameworks and settlement arrangements, which are central to this analysis, as well as the education policies that often arise from different types of legal status and associated rights. The meso level pertains to specific schooling experiences, while the micro level considers the unique characteristics and backgrounds of individual children. Both meso- and micro-level factors are likely to play a significant role in shaping students' academic performance.

The research employs a quantitative methodology based on a survey administered to students in grades 7, 8, and 9, covering more than 200 variables. The student questionnaires were delivered in person by trained researchers, who visited participating schools and selected the sample through random sampling methods. Following data collection, the information was entered, cleaned, and analysed using STATA 16 software. In addition, all researchers have a certificate from the Collaborative Institutional Training Initiative, a research ethics and compliance training program. As the participants were below 18, their legal guardian consent was sought first. The names of the participants were anonymised on the Stata file. Finally, the researchers ensured that the surveys were administered in a manner that protected participant privacy and prioritised the safety of both respondents and the research team.

For this study, convenience sampling was adopted. In Lebanon, this approach was necessary due to the limited information available about the target populations (Lebanese and Syrian students). Furthermore, access to schools was controlled by the Lebanese Ministry of Education and Higher Education (MEHE), which supplied a list of public schools with substantial numbers of Syrian students. To mitigate sampling bias, data were collected from all eight governorates, covering both urban and rural settings. In Turkey and Australia, a similar convenience sampling strategy was employed, focusing on districts or states with significant refugee populations.

In Lebanon, the sample included 247 refugee students enrolled in public schools, both on morning and afternoon shifts, reflecting the prevailing educational arrangements for most Syrian children in the country. In Turkey, as temporary schools operated by Syrian community organisations were still functioning at the time of the study, half of the student sample, totalling 710 refugee students, was drawn from these temporary centres. The Australian sample comprised 341 refugee students attending state, Catholic, and independent schools distributed across nine districts where the majority of recently resettled Syrian families reside. For Lebanon, all eight administrative districts were included in

the sample, while for Turkey, data collection targeted the two provinces with the highest refugee concentrations, namely Istanbul and Gaziantep.

The gender distribution in Turkey and Australia was approximately balanced; in Lebanon, around 60 per cent of the respondents were female and 40 per cent were male. Most surveyed refugee students across the three countries were between 12 and 15 years of age.

4.1. Variables

Our categorical dependent variable, "perceived educational performance", was generated based on the educational performance index we constructed throughout the study. To construct the educational performance index, we relied on the following three survey questions:

1. How did you do in your last school report in foreign language subjects (English, French, Turkish)?
2. How did you do in your last school report in Math subject?
3. How did you do in your last school report in science subjects (physics, chemistry, biology)?

The responses to each question are provided a rank with respect to the other responses included within the same question. After assigning a rank to each outcome according to how favourable the response is, these ranks are then used to compute an indicator score for each participant using the following equation[1]:

$$S_{ix} = \left(\frac{R_{ix} - 1}{T_x - 1} \right) \times W_x$$

In this formula, S_{ix} represents the score of individual i for indicator x, R_{ix} denotes the response rank for individual i on indicator x, T_x is the total number of possible ranks for that indicator, and W_x signifies the weight assigned to each indicator.

The weights for the index are distributed evenly across all selected indicators (or questions) so that each indicator accounts for up to $\frac{1}{n}$ of the overall index score, where n is the total number of indicators considered. The weights assigned to each indicator sum to 1:

$$\sum_{x=1}^{n} W_x = 1$$

Once each individual's indicator scores have been established, they are summed to obtain an overall index score for each person, as described by the following formula:

$$EP_i = \sum_{x=1}^{n} S_{ix}$$

Here, EP_i represents the index score for individual i, and S_{ix} denotes the score for indicator x for that individual.

After calculating the index score for each participant, the scores are normalised so that the distribution spans from 0 to 1, following the method outlined by Han et al. (2011):

$$X' = \frac{X - X_{min}}{X_{max} - X_{min}}$$

Following normalisation, the index is converted into a categorical variable for use in the ordered probit model described in the subsequent section. This process yields a categorical dependent variable ranging from 1 to 3, with 1 corresponding to the lowest educational performance and 3 representing the highest.

The explanatory variables are organised into four principal groups. The first group comprises categorical variables such as *friendly teachers* and *teachers encourage interaction* (referring to classroom participation and peer engagement), along with a dummy variable representing the *type of schooling*. These variables capture the quality of student–teacher relationships and classroom practices. According to Table 2, only 7.7% reported that their teachers are never friendly, and 14.4% reported that their teachers never encourage student interaction. In addition, 42.5 per cent of respondents attended a segregated educational setting, either in the afternoon shift in Lebanon or within a temporary education centre in Turkey.

Table 2. Summary statistics of variables.

	# of Observations	Mean	St. Dev	Min	Max
Dependent Variable					
Perceived Educational Performance	1193	2.336	0.622	1	3
School Factors					
Friendly Teachers: Sometimes	1248	0.150	0.357	0	1
Friendly Teachers: Never	1248	0.076	0.266	0	1
Teachers Encourage Interaction: Sometimes	1186	0.200	0.400	0	1
Teachers Encourage Interaction: Never	1186	0.144	0.351	0	1
Type of Schooling: Segregated	1299	0.425	0.494	0	1
Parental Factors					
Father's Education: Secondary	1278	0.525	0.499	0	1
Father's Education: Post-secondary	1278	0.322	0.467	0	1
Mother's Education: Secondary	1275	0.527	0.499	0	1
Mother's Education: Post-secondary	1275	0.205	0.404	0	1
Parents Encourage Education: Sometimes	1274	0.075	0.264	0	1
Parents Encourage Education: Never	1274	0.043	0.205	0	1
Parents and Teachers Communicate: Sometimes	1191	0.274	0.446	0	1
Parents and Teachers Communicate: Never	1191	0.245	0.430	0	1
Individual & Household Factors					
Gender	1290	0.455	0.498	0	1
Planned Highest Education: University	1299	0.731	0.443	0	1
Struggle to Pay Bills: Sometimes	1270	0.300	0.458	0	1
Struggle to Pay Bills: Always	1270	0.312	0.463	0	1
Persons per Room	1173	2.147	0.941	0.25	8.333
Type of Dwelling	1299	0.852	0.354	0	1
Neighbours Mostly Displaced People: Somewhat True	1229	0.236	0.425	0	1
Neighbours Mostly Displaced People: True	1229	0.397	0.489	0	1
Country of Residence					
Turkey	1299	0.546	0.498	0	1
Lebanon	1299	0.190	0.392	0	1

The second group of explanatory variables consists of dummy variables for the *father's secondary* and *post-secondary* education levels. More than half of the surveyed refugee students indicated that their fathers had completed secondary education, while only about one-third reported that their fathers held a post-secondary qualification. Variables for the mother's educational attainment at both the *secondary* and *post-secondary* levels are also included. Similarly, over half of the students reported that their mothers had completed secondary education, but just 21 per cent stated that their mothers had attained education

beyond this level. Additional categorical variables in the model capture whether *parents encourage education* and whether there is *communication between parents and teachers*. According to the survey, only 5 per cent of students said that their parents never encourage education, and 25 per cent stated that their parents never communicate with teachers.

The third set of explanatory variables incorporates the *gender* dummy variable, which has a mean of 0.455, indicating that approximately 46 per cent of respondents are male. Students' aspirations are captured through the *planned highest level of education*, a dummy variable reflecting intended educational attainment. According to our findings, 73 per cent of surveyed refugee students aspire to pursue university studies in the future. Additionally, the model includes a categorical variable for financial difficulty, specifically whether students *struggle to pay household bills*; 31% of those surveyed reported that they always face challenges in meeting these expenses. Socioeconomic status is further measured through the dummy variable for the *type of dwelling* and a categorical variable denoting whether *most neighbours are also displaced people*. The data reveal that 85% of respondents live in private flats or houses, and around 40% indicated that they live in neighbourhoods predominantly inhabited by other displaced persons.

Our final set of explanatory variables includes the dummy variables *Lebanon* and *Turkey*, which indicate the respondent's country of residence. Around 55% of our respondents reside in Turkey, 19% reside in Lebanon, and 26% reside in Australia.

4.2. Limitations

A primary limitation of this study arises from the use of convenience sampling, which restricts the generalisability of the findings to the wider target populations. Consequently, the quantitative results presented should be interpreted as illustrative of specific trends or patterns, rather than definitive for all refugee students. These findings nevertheless provide valuable insights into the educational environments and experiences of the participants.

Another common limitation in comparative research, including this study, is the inability to account for unobserved country-specific characteristics and pre-settlement factors, both of which could influence student outcomes. The omission of such variables may lead to the overestimation or underestimation of the associations identified between the selected explanatory variables and school performance, thus introducing the risk of omitted variable bias. Ideally, school performance is measured using grading systems that accurately capture actual skills or knowledge. However, due to the difficulty of acquiring uniform test scores for students across all three countries, we rely on students' self-assessment rather than school grades. Therefore, our entire analysis is limited to students' perceptions of performance rather than actual school performance, and these perceptions may be further shaped by the academic norms and peer achievement levels within each school environment.

5. Empirical Model

Given that our dependent variable is categorical, we employed several specifications of an ordered probit regression model[2] to investigate the factors influencing self-perceived educational performance. The model is specified below:

$$\Pr(PEP_i = 1,\ 2,\ 3) = \ \Phi(\beta_0 + \beta_1 SF_i + \beta_2 PF_i + \beta_3 INHO_i + \beta_4 R_i + u_i)$$

$$EP = \begin{cases} 1 & Low\ Educational\ Performance \\ 2 & Moderate\ Educational\ Performance \\ 3 & High\ Educational\ Performance \end{cases}$$

Here, PEP_i serves as a categorical dependent variable constructed from our perceived educational performance index. SF_i denotes a vector of variables relating to school-level factors, while PF_i comprises variables reflecting parental characteristics. $INHO_i$ refers to a vector capturing individual- and household-level factors, and R_i includes variables for the individual's country of residence. Φ represents the cumulative standard normal distribution function. The parameters β_0, β_1, β_2, β_3, and β_4 are estimated for each vector, and u_i indicates the error terms, which are assumed to be normally distributed. Since the ordered probit model is based on the standard normal distribution[3], which is a nonlinear function, it is necessary to employ calculus to determine how the independent variables influence the probability of each outcome. These effects are referred to as marginal effects.

6. Empirical Findings

In this section, we examine the determinants of students' self-reported schooling performance by considering variables related to the school environment, parental background, individual characteristics, household context, and country of residence, which serves as a proxy for type of settlement. Our chosen factors were pre-designed to allow us to investigate micro, meso, and macro factors simultaneously in one model. Table 3 shows progress from a basic empirical model in column 1a to gradually becoming a complete model in column 3b. This procedure aims to observe how gradually controlling for micro factors affects our results. Additionally, as the model becomes more complete, we assess how the findings are affected by the inclusion or exclusion of country fixed-effect dummies. This approach aims to assess whether incorporating country fixed effects alters the results and to examine how the significance of macro-level variables is affected as micro-level factors are progressively included in the analysis.

Table 3. Determinants of educational performance (ordered probit model).

	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
School Factors						
Friendly Teachers: *Sometimes*	−0.329 ***	−0.304 ***	−0.256 **	−0.234 **	−0.267 **	−0.252 **
	(0.101)	(0.101)	(0.107)	(0.107)	(0.115)	(0.115)
Friendly Teachers: *Never*	−0.615 ***	−0.665 ***	−0.527 ***	−0.565 ***	−0.477 ***	−0.505 ***
	(0.140)	(0.142)	(0.147)	(0.148)	(0.163)	(0.164)
Teachers Encourage Interaction: *Sometimes*	−0.226 **	−0.199 **	−0.191 **	−0.168 *	−0.164	−0.143
	(0.091)	(0.092)	(0.097)	(0.097)	(0.104)	(0.104)
Teachers Encourage Interaction: *Never*	−0.364 ***	−0.421 ***	−0.447 ***	−0.469 ***	−0.395 ***	−0.406 ***
	(0.106)	(0.110)	(0.118)	(0.120)	(0.127)	(0.128)
Type of Schooling: *Segregated*	0.656 ***	0.756 ***	0.802 ***	0.941 ***	0.786 ***	0.969 ***
	(0.074)	(0.092)	(0.082)	(0.099)	(0.092)	(0.107)
Parental Factors						
Father's Education: *Secondary*			0.218 *	0.196 *	0.188	0.147
			(0.113)	(0.115)	(0.121)	(0.123)
Father's Education: *Post-secondary*			0.306 **	0.212	0.242 *	0.156
			(0.132)	(0.134)	(0.143)	(0.145)
Mother's Education: *Secondary*			0.360 ***	0.373 ***	0.345 ***	0.371 ***
			(0.092)	(0.092)	(0.099)	(0.099)
Mother's Education: *Post-secondary*			0.676 ***	0.666 ***	0.560 ***	0.592 ***
			(0.130)	(0.132)	(0.147)	(0.148)
Parents Encourage Education: *Sometimes*			−0.347 **	−0.406 ***	−0.185	−0.278 *
			(0.144)	(0.151)	(0.162)	(0.166)
Parents Encourage Education: *Never*			−0.450 **	−0.467 **	−0.397 **	−0.457 **
			(0.181)	(0.182)	(0.188)	(0.190)
Parents and Teachers Communicate: *Sometimes*			−0.111	−0.078	−0.092	−0.051
			(0.091)	(0.092)	(0.099)	(0.100)
Parents and Teachers Communicate: *Never*			−0.300 ***	−0.292 ***	−0.406 ***	−0.371 ***
			(0.098)	(0.100)	(0.105)	(0.108)

Table 3. *Cont.*

	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
Individual and Household Factors						
Gender					−0.089	−0.082
					(0.081)	(0.081)
Planned Highest Education: *University*					0.262 ***	0.298 ***
					(0.097)	(0.099)
Struggle to Pay Bills: *Sometimes*					−0.175 *	−0.172 *
					(0.102)	(0.104)
Struggle to Pay Bills: *Always*					−0.195 *	−0.148
					(0.101)	(0.104)
Persons per Room					−0.088 *	−0.032
					(0.046)	(0.048)
Type of Dwelling					0.109	0.165
					(0.119)	(0.125)
Neighbours Mostly Displaced People: *Somewhat True*					−0.115	−0.131
					(0.111)	(0.113)
Neighbours Mostly Displaced People: *True*					−0.273 ***	−0.270 ***
					(0.095)	(0.099)
Country of Residence						
Turkey		0.214 **		0.074		−0.128
		(0.095)		(0.106)		(0.131)
Lebanon		−0.318 **		−0.449 ***		−0.576 ***
		(0.125)		(0.140)		(0.162)
# of Observations	1093	1093	1050	1050	934	934

Notes: Standard errors in parentheses. Statistical significance *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Given that educational performance is measured using three distinct categories, a separate marginal effect is estimated for each category. Table 4 presents the marginal effects derived from the complete empirical specifications in column 3b of Table 3, which will be used to carry out the discussion of the empirical results.

Table 4. Marginal effects of the determinants of educational performance.

	(1)	(2)	(3)
	Low Educational Performance	**Moderate Educational Performance**	**High Educational Performance**
School Factors			
Friendly Teachers: *Sometimes*	0.027 *	0.068 **	−0.095 **
	(0.014)	(0.028)	(0.042)
Friendly Teachers: *Never*	0.067 **	0.115 ***	−0.182 ***
	(0.029)	(0.025)	(0.052)
Teachers Encourage Interaction: *Sometimes*	0.0137	0.0416	−0.055
	(0.010)	(0.029)	(0.040)
Teachers Encourage Interaction: *Never*	0.0488 **	0.102 ***	−0.150 ***
	(0.019)	(0.027)	(0.044)
Type of Schooling: *Segregated*	−0.095 ***	−0.279 ***	0.375 ***
	(0.013)	(0.035)	(0.041)
Parental Factors			
Father's Education: *Secondary*	−0.014	−0.042	0.056
	(0.012)	(0.035)	(0.047)
Father's Education: *Post-secondary*	−0.015	−0.045	0.060
	(0.014)	(0.041)	(0.056)

Table 4. *Cont.*

	(1)	(2)	(3)
	Low Educational Performance	**Moderate Educational Performance**	**High Educational Performance**
Mother's Education: *Secondary*	−0.036 ***	−0.107 ***	0.143 ***
	(0.010)	(0.029)	(0.038)
Mother's Education: *Post-secondary*	−0.058 ***	−0.171 ***	0.229 ***
	(0.015)	(0.043)	(0.057)
Parents Encourage Education: *Sometimes*	0.032	0.071 *	−0.104 *
	(0.023)	(0.036)	(0.059)
Parents Encourage Education: *Never*	0.061 *	0.103 ***	−0.164 ***
	(0.033)	(0.029)	(0.061)
Parents and Teachers Communicate: *Sometimes*	0.004	0.015	−0.020
	(0.008)	(0.030)	(0.039)
Parents and Teachers Communicate: *Never*	0.042 ***	0.097 ***	−0.139 ***
	(0.014)	(0.026)	(0.039)
Individual and Household Factors			
Gender	0.008	0.023	−0.031
	(0.008)	(0.023)	(0.031)
Planned Highest Education: *University*	−0.029 ***	−0.085 ***	0.115 ***
	(0.010)	(0.028)	(0.038)
Struggle to Pay Bills: *Sometimes*	0.016	0.050 *	−0.066 *
	(0.010)	(0.030)	(0.040)
Struggle to Pay Bills: *Always*	0.014	0.043	−0.057
	(0.010)	(0.030)	(0.040)
Persons per Room	0.003	0.009	−0.012
	(0.004)	(0.013)	(0.018)
Type of Dwelling	−0.016	−0.047	0.063
	(0.012)	(0.036)	(0.048)
Neighbours Mostly Displaced People: *Somewhat True*	0.011	0.040	−0.051
	(0.010)	(0.034)	(0.044)
Neighbours Mostly Displaced People: *True*	0.026 ***	0.077 ***	−0.104 ***
	(0.009)	(0.028)	(0.038)
Country of Residence			
Turkey	0.012	0.037	−0.049
	(0.012)	(0.037)	(0.050)
Lebanon	0.056 ***	0.166 ***	−0.223 ***
	(0.016)	(0.047)	(0.062)
# of Observations	934	934	934

Notes: Standard errors in parentheses. Statistical significance *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

7. Meso Level: School Factors

The interaction between students and teachers represents an important determinant of students' academic outcomes. A poor student–teacher relationship is often associated with lower educational performance (Fowler et al. 2008). Our findings reveal that refugee students were less likely to report high educational performance in the absence of friendly teachers and lack of teachers who encourage students' interaction. For instance, when teachers were described as never being friendly, refugee students were 18.2% less likely to report high academic achievement than those with consistently friendly teachers, with this difference being significant at the 1% level, as shown in Table 4. Similarly, when teachers never encouraged students' interaction, students were 15% less likely to report a high

educational performance compared to when teachers always encouraged interaction, again with statistical significance at the 1% level.

In addition, students attending schools that separated refugee children from national students were more likely to indicate higher academic performance than those placed in mainstream settings alongside non-refugee peers. Learning with students and being taught by teachers who all belong to the same country of origin or speak the same language improved teaching and learning experiences and outcomes (Shuayb et al. 2023; Hammoud et al. 2025). Our results indicate that refugee students enrolled in schools for refugees only were 37.5% more likely to report a high educational performance compared to refugee students enrolled in integrated schools at a 1% significance level. This effect can be attributed to the fact that students in segregated shifts receive adjusted educational provisions and curricular adaptations, which have been found to enhance educational performance (Shuayb et al. 2023). It is important to note that when comparing the average educational performance index score of refugee students attending schools with national students versus those attending schools for refugees, our results indicate that refugee students attending segregated schools[4] (0.768) in Turkey significantly outperformed those attending integrated schools[5] (0.610), based on our mean comparison *t*-test. However, in Lebanon, our mean comparison t-test for the educational performance index score was not significantly different between refugee students attending integrated (0.628) and segregated (0.638) schooling systems.

Therefore, we can conclude that the positive significant coefficient of the "type of schooling" variable is attributed to the dominant effect exerted by Turkey's sample on the entire sample results. Students enrolled in segregated schooling systems were more likely to report high educational performance in the case of Turkey only, unlike the case of Lebanon, where educational segregation in the absence of special educational provisions did not lead to higher educational performance. While the schooling factors seem to greatly shape refugee students' performance, we now move to the students' individual and family attributes to understand their impact on children's academic performance.

8. Micro Level: Parental, Individual, and Household Factors

Parental characteristics are an important consideration when analysing children's academic outcomes, as prior research has established a direct positive association between parents' level of education and their children's academic achievement (Mugula and Tugume 2024). Our results reveal that refugee students were more likely to report high educational performance in the presence of well-educated mothers. For instance, refugee students are 14.3% or 22.9% more likely to report high educational performance if they have a mother who completed secondary or postsecondary education, compared to those whose mothers had only primary or no formal education, at a 1% significance level, respectively.

Furthermore, refugee students were less likely to report high educational performance when they lacked parental encouragement and in the absence of parent–teacher communication. For instance, when parents never encouraged education, refugee students were 16.4% less likely to report high educational performance, at a 1% significance level. Similarly, when parents and teachers never communicate, students were 13.9% less likely to report high educational performance, with this difference significant at the 1% level. These findings align with expectations from prior literature, which also reports a positive association between parental encouragement and students' academic achievement (Manorath and Pandey 2020).

According to Mazenod et al. (2019), poor academic performance is often associated with a lack of educational aspiration. Our results reveal that refugee students planning to

attend university were 11.5% more likely to report high educational performance, at a 1% significance level.

Furthermore, refugee students coming from a disadvantaged socioeconomic background were less likely to report high educational performance. Based on our results, only those who "sometimes" struggled to pay bills were found to be worse off compared to those who never struggled to pay bills. For instance, refugee students who sometimes struggled to pay their bills were 17.2% less likely to report high educational performance compared to students who never struggled to pay their bills, at a 10% significance level. This finding is consistent with our a priori expectations, since poverty is often associated with low achievement and poor educational performance (Pan 2021). Furthermore, socially segregated students were less likely to report high educational outcomes. Our results indicate that students living with mostly displaced neighbours were 10.4% less likely to report high educational performance compared to students who were socially integrated with the community of the host country, at a 1% significance level.

9. Macro Level: Country of Residence

Having considered the effects of school-level, individual, and social factors on students' perceived academic performance, this section turns to the influence of macro-level policies, especially the impact of legal status on education provision for refugees. In Lebanon, the educational response is based on an emergency paradigm typical of humanitarian contexts, while Turkey is gradually shifting towards more medium-term measures. In contrast, Australia integrates refugees directly into mainstream education systems. Prior to accounting for micro-level factors, our findings suggest that refugee students in Turkey are more likely to report higher academic achievement than their counterparts in Australia. However, once parental characteristics are taken into account, the statistical significance of the Turkey dummy variable disappears, indicating no meaningful difference in educational outcomes between students living in Turkey and those living in Australia. This non-significance persists in the full model, highlighting the importance of micro-level factors previously omitted from the basic models, as well as the notable association initially observed between country dummies and omitted variables.

On the other hand, the magnitude of our dummy variable "Lebanon" increases as we progress towards a complete model and remains consistent in terms of sign and significance across all models, indicating that students residing in Lebanon are more likely to report lower educational performance compared to those residing in Australia. Specifically, refugee students in Lebanon are 22.3 per cent less likely to report high educational performance than their peers residing in Australia, with this difference being statistically significant at the 1 per cent level.

10. Lebanon–Australia Comparison

Our analysis at the macro level revealed that students residing in Lebanon were more prone to report lower academic performance than their counterparts in Australia. This conclusion was reached by solely interpreting the direction and significance of our dummy variable, "Lebanon", which compares students' educational performance in Lebanon with those residing in Australia. However, our conclusions on the impact of different types of legal settlements and educational paradigms on refugee educational outcomes cannot be reached by solely relying on the significance of our country dummies, knowing that country dummies reflect other country characteristics (other than the type of legal settlement) that might also influence the perception of schooling performance. To better understand how the type of legal settlement influences refugee children's educational and living conditions and to explore the reasons behind the lower reported academic performance among students

in Lebanon compared to Australia, we conducted the following country comparison. The analysis shown in Table 5 focuses exclusively on Lebanon and Australia, as the regression results reveal no statistically significant difference in perceived educational performance between students living in Turkey and those living in Australia.

Table 5. Country comparison (Lebanon vs. Australia).

Factor \ Country	Lebanon	Australia
Number of Houses Lived in		
One house	28.51%	73.08%
Two houses	22.31%	18.05%
Three houses	18.60%	5.62%
Four houses	11.57%	2.07%
Five houses	9.50%	1.18%
Six houses or more	9.50%	0.00%
Leaving Current Country of Residence		
Likely	54.13%	23.77%
Neutral	27.98%	4.32%
Unlikely	17.89%	71.91%
Feeling Welcome		
Yes	67.48%	78.79%
No	32.51%	21.21%
Facing Hostility or Unfair Treatment		
Always	18.29%	13.31%
Sometimes	11.38%	16.57%
Never	70.33%	70.12%
Preparatory Classes		
Yes	24.68%	90.00%
No	75.32%	10.00%
Years of Schooling Missed		
None	40.17%	63.96%
One year	34.93%	32.73%
Two years	18.34%	3.00%
Three years or more	6.55%	0.31%

In terms of household stability, students residing in Australia are much more stable than students residing in Lebanon. In total, 73.08% of the respondents indicated that they lived in only one house, compared to only 28.51% of the students in Lebanon who said that they lived in only one house. On the other hand, 9.50% of students residing in Lebanon said that they had lived in more than six houses, while none of Australia's respondents had lived in more than five houses. Stability within the household plays an important role in students' academic achievement. As noted by Schwartz et al. (2017), students who experience changes in their living arrangements tend to have significantly lower attainment in language and mathematics.

Furthermore, 54.13% of the students residing in Lebanon indicated that they would likely leave their current country of residence, whereas only 23.77% of students in Australia indicated the same. This disparity may be explained by the short-term nature of the legal status granted to refugees in Lebanon, which is often associated with considerable uncertainty about long-term residency and educational prospects. By contrast, refugees in Australia benefit from a settlement policy that offers citizenship and provides assurance regarding their permanent residency.

Moreover, Aljarrah (2023) argues that social marginalisation has a negative impact on refugee children's educational outcomes. Therefore, we examined the percentage of refugee children who indicated that they feel welcome in Lebanon and Australia and found that only 67.49% of the respondents in Lebanon said that they feel welcomed, while 78.79% of those residing in Australia responded that they do feel welcomed. Therefore, we observed higher levels of social integration among refugees under the long-term model.

Experiencing hostility may also influence the decision to remain in the host country. Instances of discrimination or antagonism within school environments can adversely affect interactions between refugee children, their peers, and teachers, which in turn may result in depressive symptoms and lower academic achievement (Dryden-Peterson 2015). Our findings reveal that 18.29% of the students residing in Lebanon indicated always facing hostility, compared to 13.31% in Australia, who indicated the same.

Preparatory classes could play a crucial role in improving students' educational performance by bringing children back to ordinary life and normality (Streitwieser et al. 2018). The Reception Conditions Directive of the European Union (2013) states that all refugee minors must be provided with preparatory classes and language classes to facilitate their access to education. Preparatory classes were more present in Australia, where 90% of the respondents had undergone preparatory classes prior to their school enrolment, compared to only 24.68% in Lebanon. Therefore, while the emergency model is more concerned with the present, Australia's approach shows that the long-term model starts preparing students for future education as soon as they arrive in the host country.

There exists a negative relationship between missing school and educational achievement (Gottfried 2011). Our findings reveal that respondents residing in Lebanon have missed more schooling years than students residing in Australia. For instance, 63.96% of Australia's respondents said that they did not miss any schooling years, compared to 40% in Lebanon. Similarly, only 0.31% of the respondents residing in Australia have missed three years or more, compared to 6.55% in Lebanon.

11. Conclusions

The study aimed to examine the effect of the emergency (Lebanon) versus medium- (Turkey) and long-term (Australia) education paradigms on students' perceived educational performance. After looking into the factors that affect educational performance, our results indicate that students are less likely to report high educational performance under the emergency education paradigm compared to the long-term education paradigm. In contrast, the difference in educational performance for students under the medium-term education paradigm compared to students under the long-term paradigm was found to be insignificant.

Furthermore, our country comparison analysis explains our regression findings by revealing that students residing in Lebanon are less stable in terms of the number of houses they lived in and have a higher tendency to leave their current country of residence. Second, students in Lebanon are feeling less welcome in their current country of residence and are facing more hostility and unfair treatment. Finally, students in Lebanon are receiving fewer preparatory classes by their schooling system and are missing more schooling years. Those

factors combined are thought to have an adverse effect on refugee students' academic performance, which further explains our key regression finding that the emergency model reduces the probability of achieving high academic performance relative to the long-term model.

On the meso-level, teacher–student relationships and the role of teachers in encouraging students' interaction are found to be crucial determinants of perceived educational performance. Likewise, the type of schooling is among the most important meso factors, especially in Turkey, where students attending the segregated schooling system significantly outperformed those attending the integrated system. This could be attributed to the special educational provisions and curricular adaptations implemented in Turkey's temporary education centres. On the other hand, the lack of those educational provisions in Lebanon's afternoon shift might explain the insignificant difference in students' educational performance attending the two shifts.

Furthermore, although school segregation under the emergency model has some advantages, it is important to note that those advantages do not prevail when students eventually move to integrated schools. Education represents a sustained, intentional effort aimed at equipping children for the future. Thus, students currently enrolled in segregated schools might experience a huge setback when they eventually move into integrated schools with any short-term advantages frequently coming at the cost of heightened feelings of exclusion or marginalization (Hammoud et al. 2022, 2025; Hammoud 2024).

Most micro factors included within our model were also found to be significant determinants of perceived educational performance. Mothers' educational attainment, parents' encouragement, and parent–teacher communication were all found to increase the likelihood of reporting high educational performance. Similarly, planning to attend university, which depicts students' educational aspirations, is expected to increase perceived educational performance. In contrast, struggling to pay bills, which mirrors socioeconomic challenges, and living among neighbours who are mostly displaced, which depicts social segregation, are expected to lower the probability of reporting high educational performance. Finally, micro factors such as father's educational attainment, gender, persons per room, and type of dwelling are not significant educational performance determinants.

Our results reveal that although type of settlement can be a significant factor in determining children's educational outcomes, school experiences as well as what happens in the school and class, including the curriculum, language of provision, and support at school, are also critical factors that can help curb the effect of forced displacement. These findings challenge the discourse that emphasises the uniqueness and thus reification of refugees and the refugee experience, leading in some cases to further segregation and marginalisation.

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Notes

[1] The equation used for conversion is not unique. Preston and Colman (2000) used this equation to rescale self-reported rankings into scores. Similarly, Chakrabartty (2021) transformed self-reported ordinal item-scores to continuous scores followed by a normalisation procedure.

[2] Ordered probit is a type of regression where the dependent variable is a categorical ordered variable; i.e., it can take more than two outcomes (Greene and Hensher 2010).

[3] The Standard Normal distribution, also known as the Z distribution, is one form of the Normal distribution in which the mean is equal to zero and the variance is equal to 1 (Turner 2013).

[4] Segregated schools mean schools that have been created to host Syrian refugee children only. Children from the host country are not allowed to enrol in these schools.

[5] Integrated schools mean schools where refugees are allowed to enrol in mainstream schools with other children from the host country.

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