Educational resilience of unaccompanied and separated children

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ABSTRACT

Rationale and Objectives:

This mixed methods dissertation investigated the educational resilience of unaccompanied and separated children (UASCs). With over 24.7 million displaced children worldwide, UASCs are a highly vulnerable population facing pre- and post-migration adversities that disrupt their education. However, research on their educational resilience remains limited.

Methods and Analysis:

Using a convergent parallel mixed methods design, this dissertation aimed to identify socio-ecological factors contributing to UASCs' educational resilience and understand socio-interactional processes underlying their resilience. Study I systematically reviewed quantitative, qualitative, and mixed methods evidence to investigate the existing evidence on the risk and resilience factors that influence the educational trajectories of UASCs in high-income countries. Study II analyzed PISA data from Jordan using correlational and regression analyses to examine how socio-ecological factors contribute to the promotion and protection of education for UASCs. Study III used a qualitatively driven mixed methods approach in Greece, combining statistical analysis of survey response data and reflective thematic analysis of semi-structured interviews to explore how socio-ecological factors contribute to the navigation and negotiation of education by UASCs.

Findings:

Salient factors were identified at various levels that influence UASCs' educational resilience, with microsystemic and mesosystemic factors being particularly important. Findings also reveal how factors interacted through promotive, protective, navigation, and negotiation processes to shape educational resilience. A critical realist discussion integrated insights across the studies using mixed methods triangulation techniques revealing important methodological considerations for researching UASCs' educational resilience.

Novelty and Improvement:

The dissertation reveals that educational resilience development among UASCs can be conceptualized as a combination of intermental activities (between the UASC and their environment) and intramental activities (within the UASC), where having supportive relationships at home, school, and community facilitates UASCs to transition over time from their zone of proximal resilience development to their level of actual resilience development. This dissertation filled a critical gap in knowledge about UASCs' educational resilience development, generating implications for research, policy, and practice to better address their needs and circumstances.

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List of Abbreviations

CASP	Critical Appraisal Skills Programme
CYRM-R	Child and Youth Resilience Measure-Revised
EFTA	European Free Trade Association
EU	European Union
EUROSTAT	European Statistical Office
FGD	Focus Group Discussion
ICC	Interclass Correlation Coefficient
ICJ	International Court of Justice
IDI	In-depth Semi-structured Interviews
IOM	International Organization for Migration
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
QUAL	Qualitative data
QUAN	Quantitative data
UASC	Unaccompanied and Separated Children
UN	United Nations
UNICEF	United Nations Children's Fund
UNESCO	United Nations Educational Scientific and Cultural Organization
UNHCR	United Nations High Commissioner for Refugees
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East

Chapter 1. Introduction

Summary. The introduction chapter of this dissertation lays out the rationale and objectives for the study, which focuses on exploring the educational resilience of unaccompanied and separated children (UASCs). The rationale for this dissertation stems from the growing global population of UASCs and forced migrant children, their exposure to various risks both before and after migration, and the noticeable research gap regarding their educational resilience. The objectives of this research are to understand what socio-ecological factors in UASCs' environment contribute to the educational resilience of UASCs and how socio-interactional processes that arise from interactions between UASCs and their environment contribute to the educational resilience of UASCs. To answer these questions, my dissertation uses a convergent parallel mixed-methods design with three different studies. Study I is a systematic mixed-methods literature review analyzing existing evidence on risk and resilience factors influencing UASCs' education in high-income countries. Study II is a quantitative secondary data analysis study of PISA data to understand how socio-ecological factors contribute to the promotion and protection of education for UASCs in Jordan. Study III is a qualitatively driven mixed-methods study using interviews and questionnaires to understand how socio-ecological factors support the navigation and negotiation of education by UASCs in Greece. Following the three studies, a discussion chapter integrates findings from each study in order to gain insights about how socio-interactional processes influence the educational resilience of UASCs. Finally, I explain my reflexivity and positionality in relation to this topic and outline this dissertation's contribution to knowledge.

1.1 Rationale

Due to persistent humanitarian crises, an increasing number of children have been forced to leave their homes and require international assistance. The United Nations High Commissioner for Refugees (UNHCR) reported that the global population of displaced and stateless individuals exceeded 108 million by 2022, with more than 24.7 million children under the age of 18 included in this figure (UNHCR, 2023). The escalating figures have been worsened by the mounting fact that forced displacement is now evolving into a multi-generational phenomenon. Estimates have shown that almost 1.9 million children were born into refugee life between 2018 and 2022 (UNHCR, 2022a). As such, many refugee and forced migrant children are at risk of remaining in forced displacement for many years, with some potentially remaining displaced for the rest of their lives. Such realities have made it especially difficult to capture the needs and circumstances of refugee and forced migrant children who are especially vulnerable, such as children who are unaccompanied or have been separated from their families. Between 2010 and 2019, around 400,000 UASCs lodged asylum applications in 117 sovereign states (UNHCR, 2020). Furthermore, the global refugee population recorded a total of 153,300 UASCs by the conclusion of 2019. As such, the rapid rise in UASCs prompts the question of how schools can organize themselves in a way that ensures such a vulnerable population is guaranteed educational development and growth. Various studies indicated that exposure to a host of pre-migration risk factors (e.g., family separation, forced displacement, and exposure to violence) and post-migration risk factors (e.g., bullying, discrimination, and harassment) contribute to UASCs' heightened vulnerability (Bronstein et al., 2013; Derluyn et al., 2009; Geltman et al., 2005; Hjern et al., 1998; Hodes et al., 2008). However, recent studies on the well-being of UASCs hinted at the resilience potential of these students and called for further research on their capabilities using a resilience framework (Bronstein et al., 2012; Vervliet et al., 2014). Despite there being evidence for the mental health resilience of UASCs (Fazel et al., 2012; Mitra & Hodes, 2019; O'Higgins et

al., 2018), little evidence exists on how these students exhibit that resilience in education, prompting the need for this dissertation to fill that gap.

1.2 Objectives

This dissertation believes that, when equipped with certain resources and assets, UASCs can exhibit educational resilience. This dissertation achieves this objective by answering this overarching question:

1) What socio-ecological factors in UASCs' environment contribute to the educational resilience of UASCs?

2) What socio-interactional processes arise from interactions between UASCs and their environment that contribute to the educational resilience of UASCs?

Educational settings offer the ideal socio-ecological context through which to investigate and explore how children utilize and interact with the resources and assets around them to meet both their own goals and society's goals (Tyrer & Fazel, 2014). Due to persecution, conflict, violence, human rights violations, or events significantly disrupting public order, more than 108 million people worldwide have been forcibly displaced from their home countries, including children, seeking safety and stability elsewhere (UNHCR, 2024). Jordan and Greece are two of those countries that currently host high numbers of refugees and forced migrants, including UASCs (UNHCR, 2024). By examining these high-receiving countries, this dissertation aims to answer the research question through the following sub-questions through three standalone studies:

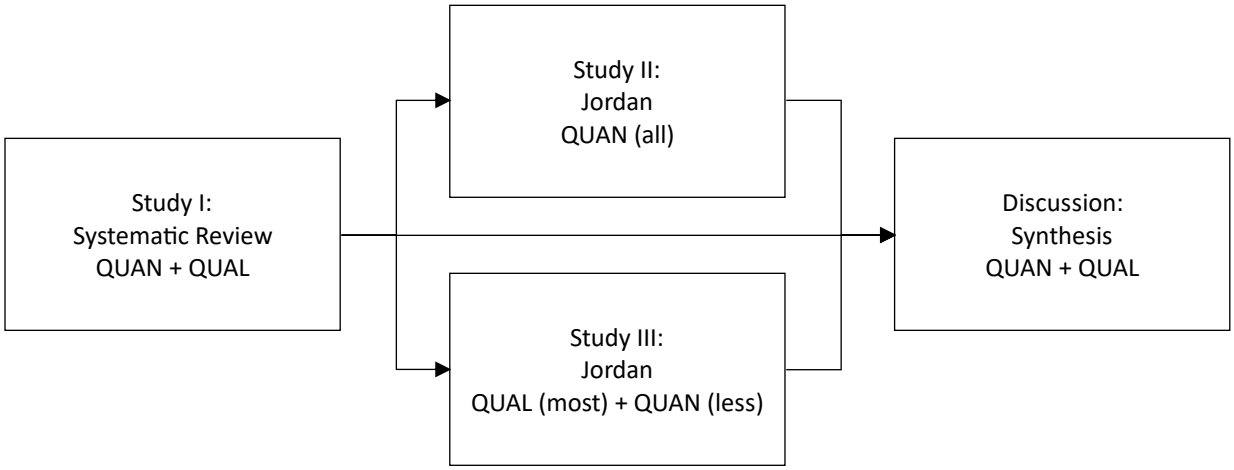
- Study I – What current evidence exists on the risk and resilience factors that influence the educational trajectories of UASCs in high-income countries?
- Study II – How do socio-ecological factors contribute to the promotion and protection of education for UASCs in Jordan?
- Study III – How do socio-ecological factors contribute to the navigation and negotiation of education by UASCs in Greece?

- Discussion – What insights emerge from the three studies about how socio-interactional processes influence the educational resilience of UASCs?

1.3 Structure

The dissertation is composed of six different chapters: an introduction chapter, a literature review (chapter 2), the three standalone studies (chapters 3, 4, and 5), and a discussion (chapter 6). Appendix A1 provides a detailed outline of the dissertation, while Appendix A2 presents a timeline for the dissertation's completion, including milestones achieved. This study adopted a convergent parallel mixed-methods design (Creswell & Plano Clark, 2017), wherein both quantitative and qualitative data on the educational resilience of UASCs were collected and analyzed concurrently but separately. The convergent parallel mixed-methods design was employed to systematically examine the four study questions. This investigation was carried out through the implementation of three empirical studies and one conceptual paper, all of which were included within a six-chapter dissertation. The core premise was to obtain complementary quantitative and qualitative data that could enable a comprehensive understanding of how educational resilience occurs for UASCs. The quantitative and qualitative analyses were conducted independently within the same timeframe and with equal priority. Once done, the separate quantitative and qualitative results were integrated at the overall interpretation and discussion. Figure 1 presents a flow diagram depicting the convergent parallel mixed-methods design of the dissertation and showcasing where each study is situated.

Figure 1. *Flow diagram depicting the convergent parallel mixed-methods design of the dissertation*



1.3.1 Summary of Study I

The first study (chapter 3) aimed to review the current evidence on risk and resilience factors influencing the educational trajectories of UASCs in high-income countries. The research questions specifically asked what existing quantitative, qualitative, and mixed-methods studies revealed about factors impacting UASCs' educational outcomes and experiences. The study was grounded in a classical pragmatic epistemology, which emphasized that knowledge should be judged based on its practical consequences and ability to address real-world problems rather than strict adherence to an external reality (Denzin & Lincoln, 2018; Guba & Lincoln, 1989; Mertens, 2020). This aligned with the study's applied goal of informing educational practices for UASCs. The logical inference approach was abductive, meaning the aim was to infer the best explanation to account for the evidence on UASCs' education (Blaikie, 2007; Peirce, 1932, 1935). The methodology was a systematic mixed-methods review in accordance with PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Shamseer et al., 2015), analyzing both quantitative and qualitative data to gain a holistic understanding of UASCs' educational trajectories. Quantitative meta-integration was employed to convert quantitative results regarding educational outcomes into qualitative data that could be effectively analyzed

alongside the original qualitative findings on educational experiences (Frantzen & Fetters, 2016; Onwuegbuzie & Combs, 2010). Subsequently, meta-ethnography was utilized to synthesize these two sets of qualitative data through line-by-line analysis and third-order interpretation, aiming to identify crucial risk and resilience factors (Noblit & Hare, 1988; Nye et al., 2016). This allowed the integration of different types of data to derive comprehensive explanatory hypotheses.

1.3.2 Summary of Study II

The second study (chapter 4) aimed to examine how socio-ecological factors contribute to the promotion and protection of education for UASCs in Jordan. The research questions specifically asked if there was a statistically significant negative relationship between UASC status and educational achievement among Palestinian refugee students in schools run by the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) in Jordan. The questions also examined if this relationship varied when controlling for variables at the student, teacher, and school levels and if interactions between UASC status and variables at these levels were significantly related to achievement. Finally, the questions sought to identify which variables functioned as promotive or protective factors of achievement for UASCs. The study was grounded in post-positivist epistemology, which emphasized using empirical evidence and scientific methods to discover objective truths while recognizing that knowledge is socially constructed (Denzin & Lincoln, 2018; Guba & Lincoln, 1989; Mertens, 2020). The logical inference approach was deductive, involving drawing specific conclusions from general principles through systematic analysis (Blaikie, 2007; Durkheim, 1982). This aligned with intent for quantitatively testing hypothesized relationships between variables. The methodology was a quantitative secondary data analysis of an international large-scale assessment called PISA (Programme for International Student Assessment) 2009, which was conducted by the OECD (Organisation for Economic Co-operation and Development) in Jordan in 2009 (OECD, 2010, 2012). It analyzed both UASC and non-UASC students. The analysis examined correlations between study variables using Pearson's correlation coefficient (Cohen et al., 2002; Pearson,

1900). It also used multiple regression to test the relationship between achievement and UASC status while controlling for student, teacher, and school variables and their interactions with UASC status (Campbell et al., 1963; Cronbach, 1949; Yule, 1900). Main effects and interaction effects modeling visually identified promotive and protective factors (Luthar et al., 2000; Rutter, 1979, 1987; Sameroff, 2006).

1.3.3 Summary of Study III

The third study (chapter 5) aimed to explore how socio-ecological factors support the navigation and negotiation of education by UASCs in Jordan. The research questions specifically asked if there were statistically significant differences between UASCs and non-UASCs in Greece in their resilience scores and responses on the Child & Youth Resilience Measure-Revised (CYRM-R) (Jefferies et al., 2019; Resilience Research Centre, 2018). The questions also asked what unique risk and resilience factors related to education each group experienced. Finally, the questions sought to explore how UASCs navigated risks differently from non-UASCs to succeed educationally. The study was grounded in constructivist epistemology, which asserts that individuals actively construct subjective knowledge and meaning based on their experiences and interpretations, which are influenced by social and cultural factors (Denzin & Lincoln, 2018; Guba & Lincoln, 1989; Mertens, 2020). This aligned with exploring UASCs' and non-UASCs' subjective perspectives. The logical inference approach was inductive, involving drawing probable conclusions about educational resilience processes from the analysis of specific evidence from the CYRM-R and semi-structured interviews (Blaikie, 2007; Durkheim, 1982). The methodology was a qualitatively driven mixed-methods study (Hesse-Biber et al., 2015). It involved the integration of quantitative data obtained from the CYRM-R questionnaire with qualitative insights derived from semi-structured interviews. Statistical tests compared resilience differences, while coding and thematic analysis elicited subjective risk and resilience processes. Quantitative data were analyzed using Fisher's exact test (1935) and Welch's two-sample t-test (1938) to compare UASC and non-UASC resilience differences. The qualitative data underwent analysis through the

application of open, axial, and selective coding techniques. This process facilitated the categorization of risk and resilience factors into distinct domains and socio-ecological levels (Glaser & Strauss, 1967). Reflexive thematic analysis then identified themes about how UASCs navigated risks differently than non-UASCs to adapt in the Greek educational system (Braun & Clarke, 2006).

1.3.4 Summary of Discussion

The discussion (chapter 6) aimed to synthesize the three studies in order to gain insights about how socio-interactional processes influence the educational resilience of UASCs. Alongside answering these dissertation questions, the discussion chapter also attempts to identify methodological considerations as well as implications for research, policy, and practice that emerged from three studies. The discussion chapter was based on critical realism, a theoretical framework that recognizes the presence of an objective natural and social reality that exists independently of human understanding. It highlights the importance of formulating theories and hypotheses that are supported by empirical evidence in order to uncover the underlying mechanisms and structures that influence observable phenomena (Bhaskar, 1975, 1989). It asserts that different epistemological approaches, such as pragmatism, post-positivism, and constructivism, can coexist and provide valuable insights into diverse aspects of reality. The logical inference approach is retroductive, which involves making inferences about the presence of unobservable mechanisms and structures by examining observable effects, allowing for a more profound comprehension of the underlying processes (Bhaskar, 1975; Blaikie, 2007). The methodological approach in this chapter relied on the convergent parallel mixed-methods design of the overall dissertation, which involved synthesizing qualitative insights from quantitative, qualitative, and mixed-methods studies through triangulation (Creswell & Plano Clark, 2017; Denzin, 2017). The synthesis triangulated findings from the three studies to identify converging and diverging insights about UASCs' educational resilience processes, methodological strengths and limitations, and implications for research, policy, and practice.

1.4 Reflexivity and Positionality

Critical self-reflection in the form of reflexivity, especially when studying refugee child populations, becomes a necessity (Attia & Edge, 2017). The study takes an Arabic-speaking, queer-identifying, race-ambiguous, and Oxford-affiliated educationalist and researcher to investigate the educational resilience of UASCs. At the outset, there are several intersections between my identity and theirs due to not just shared cultural identities and experiences, but shared experiences as a migrant in order to survive–albeit in a more privileged and less dangerous reality. I have had to live away from home and reside in six countries in order to find safety, personal meaning, and socio-economic stability. In thinking reflexively about my own positionality, I am aware that I still do not share their experience of displacement and educational disruption. As an individual from the Global South, I am very conscious of past instances where research by researchers, particularly those from elite universities, resulted in no immediate benefit to participants, especially those from low-resource backgrounds (Kouritzin & Nakagawa, 2018). This 'extractive' nature of research with refugee children and youth has also been reiterated to me by the youth participants themselves, who shared with me their past experiences with academics and researchers, and by the NGO partners and other refugee care professionals in Jordan, Greece, and the UK, whose valuable advice I relied on throughout this dissertation. Given the power dynamics of the relationship between myself (the researcher) and the children and youth of refugee and forced migrant backgrounds whom I was studying (the researched), I committed myself to taking an extremely sensitive approach to undertaking this doctoral research project. Throughout my engagements with any refugee and forced migrant, including the refugee youth participating in my studies, I have stressed that I am independent from the system that is governing their refugee status and that nothing expressed in my dissertation will have any bearing on their educational opportunities, the services they receive from the NGOs, or their legal status overall. I also maintained a constant feedback loop with the refugee youth and with local NGO partners and

refugee care professionals to moderate any preconceived bias stemming from my privileged status as a member of an elite and wealthy university in the Global North.

1.5 Contribution to Knowledge

Most educational research on UASCs remains deficit-based (Bean et al., 2007; Björkenstam et al., 2020; Smid et al., 2011), resulting in a significant knowledge gap about UASCs because, without adequate knowledge of the strengths of UASCs, educational or school-based interventions may be misdirected, ineffective, and underestimating their resilience potential. Various educational or school-based programs have developed to address the educational needs of UASCs, but with limited impact (Aytar & Brunnberg, 2016; Crea et al., 2018). As such, there is a great need for educational research on UASCs that is strengths-focused, which is why this dissertation studies the phenomenon of educational resilience. Educational trajectories offered the ideal ecological context through which to investigate and explore how children utilize and interact with the resources and assets around them to meet both their own goals and society's goals (Tyrer & Fazel, 2014). Moreover, Jordan and Greece represented ideal field sites to learn about UASCs' educational trajectories, given their historical role and geographic position as countries that are high recipients of refugee and forced migrant populations (UNHCR, 2024). That is why findings from this dissertation could offer important insights for the design of educational or school-based strategies that aim to encourage positive or socially desirable educational outcomes for UASCs. By identifying resilience factors and processes, this dissertation has the potential to inform the development and elaboration of evidence-based educational interventions that are cognizant of UASCs' individual and contextual realities. Such an objective has also informed the methodology of this dissertation. Lately, there has been a strong push for resilience research to incorporate multilevel perspective (Cicchetti, 2010; Luthar et al., 2006; Masten, 2014). Consequently, my dissertation incorporates a multilevel perspective through utilizing Bronfenbrenner's theory of socio-ecological development (1977, 1986) and Vygotsky's theory of socio-interactional development in order to understand how various resilience factors

and processes support the education of UASCs. The dissertation also employed a concurrent triangulation mixed-methods design that not only compared results from two high-receiving countries (Jordan and Greece), but also compared the educational trajectories of UASC and non-UASC refugee students within each country to better identify results that are specific to UASCs from results that are universal for refugee students. In an effort to ensure this contribution to knowledge, a plan to publicly disseminate the findings to a wide variety of audiences has been developed, particularly for those interested in education and social care for UASCs. Figure 2 lists the publications arising from this dissertation (Aleghfeli, 2023; Aleghfeli & Hunt, 2022; Aleghfeli & Nag, 2024), while Appendix A3 contains list of other papers that were written at the same time as I was writing this dissertation (Aleghfeli, 2021; Aleghfeli, Hunt, et al., 2023; Aleghfeli, McIntyre, et al., 2023; Aleghfeli, 2024; Aleghfeli et al., 2024; Feinstein et al., 2021; Hunt et al., 2023).

Figure 2. *List of publications from the dissertation*

Study I	**Aleghfeli, Y. K.**, & Hunt, L. (2022). Education of unaccompanied refugee minors in high-income countries: Risk and resilience factors. *Educational Research Review, 35*, 100433. https://doi.org/10.1016/j.edurev.2022.100433
Study II	**Aleghfeli, Y. K.** (2023). Examining socio-ecological factors contributing to the promotion and protection of education for unaccompanied and separated children in Jordan. *Children and Youth Services Review, 155*, 107182. https://doi.org/10.1016/j.childyouth.2023.107182
Study III	**Aleghfeli, Y. K.**, & Nag, S. (2024). Exploring socio-ecological factors that support the navigation and negotiation of education by unaccompanied and separated children in Greece. *Compare: A Journal of Comparative and International Education*, 1–19. https://doi.org/10.1080/03057925.2024.2393112

Chapter 2. Literature Review

Summary. In this literature review, I introduced the conceptual and theoretical frameworks guiding my dissertation research on the educational resilience of unaccompanied and separated children (UASCs). First, I defined UASC status and clarified the legal terminology related to UASCs. Next, I conceptualized risk factors, drawing on dose gradient and risk gradient frameworks from trauma studies to explain how singular and cumulative risks shape UASCs' educational outcomes and experiences. I then conceptualized educational resilience, outlining how it has evolved through four waves of resilience research, from an initial focus on risk and protective factors to recent critical approaches incorporating socio-ecological contexts. In doing so, I distinguished between risk, promotive, and protective factors influencing resilience. Subsequently, I conceptualized educational outcomes and experiences as quantitative and qualitative information, respectively, that together illustrate UASCs' educational trajectories. My theoretical framework integrates Bronfenbrenner's socio-ecological theory to identify resilience factors and Vygotsky's socio-interactional theory to comprehend resilience processes. Finally, I adopted an epistemologically pluralist approach that leverages complementary paradigms to develop multifaceted understandings of UASCs' educational resilience. Through these conceptual, theoretical, and epistemological frameworks, I lay the groundwork for empirical studies that investigate factors and processes enabling UASCs to achieve positive educational outcomes and experiences despite adversity.

2.1 Introduction

The main aim of this literature review is to introduce the conceptual and theoretical frameworks used in this dissertation. With regards to the conceptual framework, this dissertation engaged with four key concepts: unaccompanied and separated children, risk, resilience, and education. First, the literature on refugees and forced migrants was reviewed to conceptualize unaccompanied and separated children in order to understand how UASC status is legally determined. Second, the literature review on risk and resilience was reviewed to conceptualize both concepts. There are two critical conditions for resilience to be present and observed in a child. Third, the literature on educational research was reviewed to conceptualize educational trajectories as a combination of educational outcomes and educational experiences. Lastly, the dissertation's theoretical framework integrated two prominent theories of development: the socio-ecological theory of development, as proposed by Bronfenbrenner (1977, 1986), and the socio-interactional theory of development, as outlined by Vygotsky (1967, 1978).

2.2 Conceptual Framework: Unaccompanied and Separated Children

The Committee on the Rights of the Child (United Nations, 2005) defines the unaccompanied child as “Children … who have been separated from both parents and other relatives and are not being cared for by an adult who, by law or custom, is responsible for doing so” (CRC/GC/2005/6, para. 7). However, despite good intentions, varying legal frameworks create the risk of bureaucratizing a vulnerable population such as UASCs (Zetter, 1991, 2007). The status of UASCs has been drowned in the overall debates around what constitutes a child, an unaccompanied child, a separated child, a refugee, an asylum-seeker, or a forced migrant, and whether national jurisdiction or international conventions take precedence. In fact, research has shown that reception services have a tendency to overlook the needs of UASCs in an effort to stay true to the letter of the law (Derluyn & Broekaert, 2008). This section of the literature review

attempts to lay out these varying legal frameworks and problematize them in order to better comprehend the context of UASCs.

2.2.1 Being 'Unaccompanied' and/or 'Separated'

The Convention on the Rights of the Child (United Nations, 1989) defines 'the child' as "every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier" (A/RES/44/25, art. 1, para. 1). As a follow-up to the convention, the Committee on the Rights of the Child (United Nations, 2005) defines the 'unaccompanied child' as the following:

> Children, as defined in article 1 of the [Convention on the Rights of the Child], who have been separated from both parents and other relatives and are not being cared for by an adult who, by law or custom, is responsible for doing so. (CRC/GC/2005/6, para. 7).

In the context of forced migration and mobility, the International Organization for Migration (IOM) further defines children who have been separated from their parents or other caregivers as unaccompanied migrant child (IOM, 2019). The Committee on the Rights of the Child (United Nations, 2005) also defines the 'separated child' in the following terms:

> Children, as defined in article 1 of the [Convention on the Rights of the Child], who have been separated from both parents, or from their previous legal or customary primary caregiver, but not necessarily from other relatives. These may, therefore, include children accompanied by other adult family members. (CRC/GC/2005/6, para. 8)

Most countries in the world is party to the Convention on the Rights of the Child (United Nations, 1989), with the notable exception of the USA as of 2023, which has signed but not yet ratified the convention.

Despite the universal acceptance of these definitions, when translating the convention into national legal standards, noted differences in the letter of local law have resulted in circumstances that place UASCs seeking international protection in a more vulnerable situation (Derluyn & Broekaert, 2008). Accordingly, there are challenges to note in determining the actual numbers of

UASCs, rendering many to be invisible (Chase, 2010; Kohli, 2006). UASCs who become separated from their guardians or experience the loss of their guardians while undertaking their journeys frequently manage to remain unnoticed, evade registration by authorities, or assert that they are above the age of 18 or accompanied by a guardian. They do so in order to proceed with their desired destination or avoid being detained or, even worse, sent back. Age determination is also a challenge, as some UASCs may not know their dates of birth, how old they are, or claim to be under 18 years old so that they can take advantage of the rights and privileges of being a child, such as shelter and schooling (Separated Children in Europe Programme, 2012).

2.2.2 Being 'Refugee' and/or 'Asylum-Seeking'

There are greater disagreements around defining refugee and asylum-seeker. As per international law, a 'refugee' is defined by the Convention Related to the Status of Refugees (United Nations, 1951) – henceforth, referred to as the Refugee Convention – and the Protocol Related to the Status of Refugees (United Nations, 1967) – henceforth, referred to as the Refugee Protocol – as such:

> Owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it. (A/CONF.2/108, art. 1, para. A.2; A/RES/2198(XXI), art. 1, para. 2)

As of 2023, 145 sovereign states are parties to the Refugee Convention and 146 sovereign states are parties to the Refugee Protocol. As of 2023, over 60 sovereign states are not parties. Notably, these include countries that also hold large populations of refugee and forced migrant backgrounds, such as Bangladesh, Eritrea, India, Iraq, Jordan, Lebanon, Libya, Myanmar, Pakistan, South Sudan, Syria, Thailand, Venezuela, and the United States of America. This is due

to national governments' position that they must monopolize refugee status determination as a national sovereignty right (Zetter, 1991, 2007).

Unlike 'refugee', there is no international convention that designates 'asylum-seeker'. Alternatively, the opinion of the UNHCR – the leading international agency dealing with refugee and asylum-seeker issues – is accepted as international customary law (Goodwin-Gill & McAdam, 2007). The UNHCR (2006) defines 'asylum-seeker' as:

> [Asylum-seeker is an] individual who is seeking international protection. In countries with individualized procedures, an asylum seeker is someone whose claim has not yet been finally decided on by the country in which he or she has submitted it. Not every asylum seeker will ultimately be recognized as a refugee, but every recognized refugee is initially an asylum seeker. (p. 4)

However, in the name of national sovereignty over domestic legal matters, different jurisdictions vary greatly on who they see as being a 'genuine' asylum-seeker. As a result, rigid national frameworks on determining asylum-seekers have led powerful domestic political forces to adopt problematically 'othering' behavior, such as the tendency to paint asylum-seekers as potential liars, cheaters, and 'illegals,' thereby exposing UASCs seeking international protection to further marginalization (Polzer, 2008; Stepputat & Sørensen, 2014).

2.2.3 Being a 'Forced Migrant'

In addition to the above, issues around whether a UASC should be conferred protection through refugee status are often reduced to a migration official determining whether the youth is a voluntary migrant or a forced migrant. Like 'asylum-seeker', there is no international convention on what constitutes a 'forced migrant', leaving it to national governments to set their own criteria. In fact, calls have been made to update the Refugee Convention (United Nations, 1951) to become more inclusive of the complexities that force individuals to migrate against their own will so as to reduce their exposure to further vulnerabilities (Schoenholtz, 2015; Zetter, 2007).

Roger Zetter's (1991, 2007) critical evaluation of labeling refugees provides a clear explanation for why nationally imposed bureaucratic practices around refugee status determination expose forced migrant children – such as UASCs – to further vulnerability. The first point Zetter makes is that these bureaucratic practices pursue a process of prescriptive stereotyping that is inconsiderate of the ever-changing makeup of the international population of children and youth in need of protection. The second point Zetter makes is that such practices are driven by a mindset of population control that seeks to sustain the 'national' character of the sovereign state's population. The final point Zetter makes is that refugee status determination remains a non-participatory practice where judgment is given unilaterally based on the will of bureaucratic judgments that ignore the varying complexities and scenarios as to why forced migrants claim international protection.

In acknowledging the enforced binaries that impact forced migrants, the IOM (2019) adds the following note in its attempt to clarify the dynamics of forced migration:

> While not an international legal concept, [forced migrant] has been used to describe the movements of refugees, displaced persons (including those displaced by disasters or development projects), and, in some instances, victims of trafficking. At the international level the use of this term is debated because of the widespread recognition that a continuum of agency exists rather than a voluntary/forced dichotomy and that it might undermine the existing legal international protection regime. (p. 75)

Like with the UNHCR, the opinion of the IOM – the leading international agency dealing with migration issues – is accepted as international customary law (Goodwin-Gill & McAdam, 2007). However, within national legal jurisdictions, domestic decision-making around refugee status determination for UASCs and other forced migrant children continues to be highly politicized in sovereign states rather than based on humanitarian ideals. Frequently, these politicized choices are influenced by prevailing public attitudes towards migrants, fluctuating between favorable and unfavorable opinions (Humphris & Sigona, 2019).

2.2.4 Conclusion

Despite the universal acceptance of an international convention on child rights, UASCs seeking international protection exemplify how highly politicized national policies around refugee status determination can reduce such vulnerable persons to mere caseloads in the eyes of the immigration bureaucrat (Bhabha, 2014). There is extensive qualitative evidence on the struggle UASCs face when navigating and negotiating the bureaucratization of labeling and the perceived suspicion and implicit bias that come with it (Bhabha, 1999; Derluyn & Broekaert, 2008; Humphris & Sigona, 2019). In fact, such struggle can explain why the designation of being a UASC can be seen as a risk factor contributing to negative outcomes, as it can imply a journey of highly stressful and sometimes dehumanizing bureaucratic processes (Chase, 2010; Kohli, 2006). Given this unique context, this dissertation aims to be a contribution to the field in that it hopes to improve refugee and immigration policy and practice with a better understanding of the resilience potential of UASCs. Table 1 provides a list of the key legal terminology used in this dissertation related to UASCs.

Table 1. *Legal terminology used in this dissertation concerning UASCs*

Term	Definition	International Labelling Criteria	National Labelling Criteria
Child	"Every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier." (A/RES/44/25, art. 1, para. 1)	• Convention on the Rights of the Child	• Convention on the Rights of the Child
Unaccompanied Child	"Children, as defined in article 1 of the [Convention on the Rights of the Child], who have been separated from both parents and other relatives and are not being cared for by an adult who, by law or custom, is responsible for doing so." (CRC/GC/2005/6, para. 7)	• Committee on the Rights of the Child	• Committee on the Rights of the Child • Set by national Governments
Separated Child	"Children, as defined in article 1 of the [Convention on the Rights of the Child], who have been separated from both parents, or from their previous legal or customary primary caregiver, but not necessarily from other relatives. These may, therefore, include children accompanied by other adult family members." (CRC/GC/2005/6, para. 8)	• Committee on the Rights of the Child	• Committee on the Rights of the Child • Set by national Governments
Refugee	"Owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling	• 1951 Refugee Convention • 1967 Refugee Protocol	• UNHCR

	to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it." (A/CONF.2/108, art. 1, para. A.2; A/RES/2198(XXI), art. 1, para. 2)		• Set by national Governments
Asylum-Seeker	"[Asylum-seeker is an] individual who is seeking international protection. In countries with individualized procedures, an asylum seeker is someone whose claim has not yet been finally decided on by the country in which he or she has submitted it. Not every asylum seeker will ultimately be recognized as a refugee, but every recognized refugee is initially an asylum seeker." (UNHCR, 2006, pp. 4)	• International Customary Law (driven by UNHCR)	• International Customary Law (driven by UNHCR) • Set by national Governments
Forced Migrant	"While not an international legal concept, [Forced Migrant] has been used to describe the movements of refugees, displaced persons (including those displaced by disasters or development projects), and, in some instances, victims of trafficking. At the international level the use of this term is debated because of the widespread recognition that a continuum of agency exists rather than a voluntary/forced dichotomy and that it might undermine the existing legal international protection regime." (IOM, 2019, pp. 75)	• International Customary Law (driven by IOM)	• International Customary Law (driven by IOM) • Set by national Governments

2.3 Conceptual Framework: Risk

Risk is "exposure to significant threat or severe adversity" (Luthar et al., 2000). UASCs represent a highly vulnerable population due to their exposure to numerous risk factors that can negatively impact their mental health and overall well-being. As children of refugee and forced migrant backgrounds seeking protection without parental support, UASCs face a complex interplay of pre-migration traumas, unsafe migration journeys, and post-migration stressors that elevate their susceptibility to psychological distress. This section of the literature review explains how risk factors, both singular and cumulative, shape UASCs' educational outcomes and educational experiences. By reviewing relevant literature on UASCs' mental health vulnerabilities and applying key concepts like dose gradient and risk gradient effects, this analysis aims to explain the mechanisms through which different risk exposures impact UASCs. Comprehending the risk landscape is critical to informing targeted interventions that bolster UASCs' resilience and support their healthy development despite adversity.

2.3.1 UASC Status as a Risk Factor

Both unaccompanied children and separated children face considerable vulnerability to risk and adverse experiences, as highlighted across multiple studies. For unaccompanied children, Hodes and colleagues (2008) emphasized the intricate interplay of factors contributing to their vulnerability to risk and adverse experiences. Their research revealed that unaccompanied children experience elevated levels of psychological distress, notably symptoms of anxiety and depression. Traumatic experiences experienced by unaccompanied children in their home countries, family separation, uncertain legal status, and challenges adapting to new cultures all played pivotal roles in exacerbating their vulnerability. This underscores the need for comprehensive support systems that address the distinct vulnerabilities affecting unaccompanied children and promote their mental well-being.

For separated children, Derluyn and colleagues (2009) found that they also faced a range of psychological distress, including symptoms of depression, anxiety, and post-traumatic stress disorder. This distress stems from both past traumas from their forced migratory route and current circumstances in their host countries, including forced separation from family, exposure to traumatic events, and the challenges of adapting to new environments, some of which were explicitly unwelcoming. Their study also emphasized the necessity for socio-ecological and socio-interactional perspectives that take into consideration both their pre-migration and post-migration factors in order to comprehend separated children's mental well-being. Their study also stressed the urgency of targeted interventions to mitigate potential long-term negative effects.

Geltman and colleagues (2005) contributed further insights into the struggles UASCs face during resettlement. Their study attributed the elevated rates of behavioral problems like aggression and withdrawal upon resettlement exhibited by UASCs to their adverse experiences of conflict, forced displacement, and feelings of uncertainty and despair in refugee camps. Pre-migration traumas combined with post-migration stressors such as cultural adjustment difficulties and a lack of familial support compounded the challenges faced by UASCs. The study

also advocated for tailored mental health interventions to address UASCs' unique vulnerabilities and facilitate successful integration.

Likewise, Hjern et al. (1998) further explained the interconnected pre-migration and post-migration factors and how they amplify the mental health vulnerabilities of UASCs. Their research revealed that UASCs faced heightened susceptibility to psychological distress due to political violence, family stress, and displacement. They found that traumatic events combined with family separation and migration stress contributed significantly to increased psychological distress. Uncertainty around family reunification and disrupted protective family bonds were identified as prominent factors amplifying mental health vulnerabilities. This underlined the need for comprehensive support systems that recognize the complex nature of the challenges faced by UASCs and bolster their mental resilience during resettlement.

Collectively, these studies give insight into the multifaceted landscape of UASCs' mental vulnerability, thereby explaining why this dissertation examined UASC status as a risk factor. Their exposure to trauma, family separation, migration-related stress, and resettlement-related stress converge to heighten their susceptibility to psychological distress. Moreover, the findings underscore the urgency for tailored interventions and holistic support systems that acknowledge their unique circumstances and promote their mental well-being. Such findings amplify the need to identify the resilience factors that aid UASCs in overcoming the negative consequences arising from their vulnerability to risk and adverse experiences.

2.3.2 Risk Factors

A 'risk factor' can be understood as a factor associated with a lower likelihood of positive outcomes and a higher likelihood of negative or socially undesirable outcomes (Luthar et al., 2006; Sameroff, 2000). Previous systematic reviews conducted on UASCs have been able to identify various risk factors such as family separation, exposure to premigration violence, female sex, perceived discrimination, exposure to postmigration violence, several changes of residence, poor financial support, feelings of loneliness or isolation at home, living independently, low-

support placement, restricted reception setting, and foster that is not of the same ethnic origin or cultural background (Fazel et al., 2012; Mitra & Hodes, 2019; O'Higgins et al., 2018). The way in which these risk factors manifested in UASCs ranged between multiple risk factors at the same time or repeated exposure to the same risk factors. In the field of trauma studies, 'cumulative risk' refers to the collective impact of various risk factors occurring simultaneously or through repeated exposure to the same risk factors. This phenomenon amplifies the probability of unfavorable educational outcomes or experiences, surpassing the influence of individual risk factors in isolation (Sameroff et al., 1993).

In order to better understand cumulative risk effects, there are two commonly used ways to conceptualize how such effects impact a child's outcomes (Masten & Barnes, 2018). The first way is as 'dose gradient effects', which is the phenomenon where a higher likelihood of negative educational outcomes or negative educational experiences is positively correlated with increased proximity to an individual risk factor. An example of dose gradient effects can be observed in a study on an elementary school in Los Angeles, California, that experienced a deadly sniper attack in 1984 (Pynoos et al., 1987). In this study, a child's distance from the site of the adverse event was understood as dosage. The study found that post-traumatic stress symptoms in the school children increased as their proximity to the location of the attack increased (out of vicinity, absent, at home, in the neighborhood, on the way home, in school, on the playground).

The second way is as 'risk gradient effects', which is the phenomenon where a higher likelihood of negative educational outcomes or negative educational experiences is positively correlated with exposure to multiple risk factors. An example of risk gradient effects can be observed in a study on Sri Lankan children in the Vadamarachi school district who experienced multiple traumatic events in a short timeframe (Catani et al., 2008). In this study, experiencing different adverse events in a short time frame (e.g., family violence, the Sri Lankan civil war, the 2004 Indian Ocean tsunami) was understood as multiple risk factors. The study found that the prevalence of post-traumatic stress in the school children increased as the number of stress events

experienced increased. Given that risk is a critical condition for the presence of resilience, this dissertation attempts to comprehend the various ways in which risk factors affect education for UASCs.

2.3.3 Conclusion

UASCs represent an extremely high-risk population due to their exposure to traumatic events, family separation, uncertain futures, and acculturative stressors. Both singular risk factors and cumulative risk effects stemming from multiple or repeated risk exposures heighten UASCs' vulnerability to adverse psychological outcomes. However, while risk factors play a critical role in shaping UASCs' wellbeing and development, identifying those risks is the first step toward understanding resilience (Luthar & Cicchetti, 2000). By understanding the diverse risk mechanisms impacting UASCs through dose and risk gradient frameworks, critical insights can be gained into the specific needs and circumstances of UASCs. Although the complex interplay of risk factors presents challenges in their educational trajectories, a critical understanding of these factors has the potential to bolster an understanding of UASCs' educational resilience. With informed insight that acknowledges prior risk exposures, it becomes clearer how UASCs can overcome adversity and thrive in education despite the odds. Table 2 provides a summary of key terminology for risk factors from the literature on risk.

Table 2. *Key terminology of risk factors*

Term	Definition
Risk Factor	A factor associated with a lower likelihood of positive educational outcomes or educational experiences or a higher likelihood of negative educational outcomes or educational experiences.
Cumulative Risk	Combined effect of multiple risk factors happening at the same time or repeated exposure to the same risk factors, increasing the likelihood of negative educational outcomes or educational experiences, often beyond the effects of individual risk factors alone.
Dose Gradient Effects	The phenomenon where higher likelihood of negative educational outcomes or negative educational experiences is positively correlated with increased proximity to an individual risk factor.
Risk Gradient Effects	The phenomenon where higher likelihood of negative educational outcomes or negative educational experiences is positively correlated with exposure to multiple risk factors.

2.4 Conceptual Framework: Resilience

Resilience research had a profound impact on transforming child and youth development studies from a risk-based outlook to a strength-based outlook (Ellis et al., 2017). Rutter (1987) perfectly encapsulates this research transformation by saying: “Not only has there been a shift of focus from vulnerability to resilience, but also from risk variables to the process of negotiating risk situations. It is in that context of risk negotiation that attention was turned to protective mechanisms” (p. 316). Resilience is “the achievement of positive adaptation despite major assaults on the developmental process” (Luthar et al., 2000). Resilience has been a subject of study across a wide range of disciplines, with researchers examining risk and resilience factors since the early days. This section discusses the evolution of resilience as a concept that came about through four waves of resilience research.

Over time, scholars have incorporated socio-ecological and socio-interactional contexts into their analyses, leading to more comprehensive and critical approaches. As a result, resilience has been explored using different frameworks within diverse fields of research. Within education, resilience enables positive adaptation and heightens the likelihood of positive educational outcomes and experiences despite adversity. Key to conceptualizing educational resilience is distinguishing between risk factors that elevate vulnerability and resilience factors like promotive and protective ones that mitigate risks. These factors influence resilience in UASCs and other refugee students who face cumulative pre-migration and post-migration adversities. By reviewing the literature on conceptualizations of educational resilience and resilience factors, this analysis aims to explain the importance of understanding the mechanisms that shape refugee students' educational resilience.

2.4.1 Understanding Educational Resilience

Educational resilience has always been an evolving concept that can be explained within the context of the four waves of resilience research (Masten, 2007). The first wave of resilience research represents initial efforts to descriptively explain the resilience phenomenon and identify

characteristics of the child, family, relationships, or environment that function as resilience correlates. In addition to their primary focus on health and epidemiology, several initial studies on resilience also examined educational and school-related factors as both outcomes and potential indicators of risk and resilience (Garmezy et al., 1984; Masten et al., 1990; Rutter, 1979, 1987; Werner & Smith, 1977, 1992). Risk correlates, or factors, are often subclassified as proximal, directly experienced by the child, or distal, arising from the child's environment or context (Luthar et al., 2006; Wright et al., 2013). Resilience correlates, or factors, are often subclassified as protective when they improve outcomes (e.g., health, educational, behavioral) in the context of a high probability of poor outcomes or promotive when they improve outcomes at all levels of probability of poor outcomes (Luthar et al., 2006; Sameroff, 2000). In a review of first-wave resilience literature, Masten (2014) presented a 'short list' of the most common resilience correlates that emerged from that wave, outlined in Table 3.

Table 3. *'Short-list' of Resilience Correlates*

Type	Correlates
Internal child-specific correlates	Problem-solving and executive function skills
	Emotional self-regulation and self-control skills
	Self-efficacy and positive beliefs about self
	Meaning making or beliefs that life has meaning
	Other related aspects, i.e., humor, faith, hope and optimism
External environmental correlates	Capable caregiving and parenting
	Connections to other competent and caring adults
	Effective schools
	Connections with well-functioning communities

The second wave of resilience research represents efforts to explain the long-term processes in which these risk and resilience factors moderate or mediate positive outcomes, thereby enabling resilience. This wave has propelled the study of resilience from a cross-sectional analysis that describes risk and resilience factors to a longitudinal examination that investigates the connections between various factors in order to identify mediators and moderators (Feinstein

et al., 2008; Motti-Stefanidi, 2018). Mediation and moderation describe the nature of the effects of risk and resilience factors on educational and other child-level outcomes (Baron & Kenny, 1986). Mediation is when a risk or a resilience factor can have an effect and explain the relationship between an independent variable and a dependent variable, also called a main effect. Moderation is when a risk or a resilience factor can have an effect and explain the strength or direction of the relationship between an independent variable and a dependent variable, also called an interaction effect.

The third wave of resilience research represents the growing interest in testing resilience ideas through educational and school-based intervention designs and translating resilience research findings into educational and social policy and practice. This wave is heavily characterized by educationalists and education researchers contributing to the resilience literature. By utilizing experimental designs like randomized control trials of interventions implemented in schools, third-wave resilience studies have provided fresh evidence regarding the mediating and moderating influence of resilience correlates in facilitating resilience processes (Cicchetti et al., 2000; Luthar & Cicchetti, 2000; Wang & Gordon, 1994). It was in this wave that the often-cited definition of educational resilience was coined: “Educational resilience is the heightened likelihood of success in school and other life accomplishments despite environmental adversities brought about by early traits, conditions, and experiences” (Wang et al., 1994).

The fourth wave of resilience research represents a more critical approach where resilience processes are understood through multiple levels of analysis and where a wider understanding of contextual and cultural factors is sought. Inspired by previous socio-ecological and socio-interactional research (Bronfenbrenner, 1977, 1986; Vygotsky, 1967, 1978), fourth-wave resilience studies sought to engage with a multilevel understanding of resilience processes, where the child is placed within microsystemic (complex relationships and physical settings experienced by the child, e.g., family, school, friends), mesosystemic (interrelations between the microsystems, e.g., between family and school), exosystemic (social structures that do not contain but may directly

influence the child), macrosystemic (cultural norms, values, and ideologies that shape and influence the system around the child), and chronosystemic (change in place, space, and time) contexts (Aleghfeli, 2021; Feinstein et al., 2021; Ungar, 2004, 2008). Table 4 provides a list of different conceptualizations of resilience and educational resilience.

Table 4. *List of existing conceptualizations of resilience and educational resilience*

Authors	Definitions
(Luthar et al., 2000)	"Resilience refers to a dynamic process encompassing positive adaptation within the context of significant adversity. Implicit within this notion are two critical conditions: (1) exposure to significant threat or severe adversity; and (2) the achievement of positive adaptation despite major assaults on the developmental process" (p. 543)
(Rutter, 2012)	"Reduced vulnerability to environmental risk experiences, the overcoming of a stress or adversity, or a relatively good outcome despite risk experiences … it is an interactive concept in which the presence of resilience has to be inferred from individual variations in outcome among individuals who have experienced significant major stress or adversity." (p. 336)
(Ungar, 2008)	"In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways" (p. 225).
(Wang et al., 1994)	"Educational resilience is the heightened likelihood of success in school and other life accomplishments despite environmental adversities brought about by early traits, conditions, and experiences." (p. 46)
(Luthar & Cicchetti, 2000)	"Resilience is a dynamic process wherein individuals display positive adaptation despite experiences of significant adversity or trauma. This term does not represent a personality trait or an attribute of the individual. Rather, it is a two-dimensional construct that implies exposure to adversity and the manifestation of positive adjustment outcomes." (p. 858)
(Masten, 2014)	"Resilience can be broadly defined as the capacity of a dynamic system to adapt successfully to disturbances that threaten system function, viability, or development. The concept can be applied to systems of many kinds at many interacting levels, both living and nonliving, such as a microorganism, a child, a family, a security system, an economy, a forest, or the global climate." (p. 6)

2.4.2 Resilience Factors

A 'resilience factor' is displaying competence in positive or socially desirable outcomes in the form of observable or measured success (Masten et al., 1990). Previous literature on criteria of resilience and adaptation for migrant youth has indicated that what constitutes competence is a child's ability to fulfill age-salient developmental tasks and acculturative tasks. Age-salient developmental tasks are common and universally accepted expectations for youth to do well in life, such as learning to read and write, going to school and behaving properly, and getting along

with teachers and other children (Masten, 2014). Acculturative tasks are culturally influenced or distinct expectations for migrant youth that are unique to one culture, such as cultural rites of passage, spiritual practices, and learning a valued traditional skill (Motti-Stefanidi, 2018). However, both criteria lack the child's own perspective, given that these tasks were set by external socialization agents (e.g., parents, teachers, community, and society). In order to address that, this dissertation looked into UASCs' competence on age-salient developmental tasks, acculturative tasks, and their own self-determined goals.

Operationally, resilience factors can be understood as two types: protective factors and promotive factors. 'Protective factors' are resources that have a moderating effect on risk and adversity, thereby reducing the likelihood of negative outcomes. In other words, the effects of these factors are stronger when the level of risk is high than when the level of risk is low (Luthar et al., 2000; Rutter, 1979, 1987; Sameroff, 2006). In statistical terms, they function as the interaction effect. 'Promotive factors' are assets that have a mediating effect on risk and adversity and are associated with a higher likelihood of positive outcomes regardless of exposure to risk and adversity (Luthar et al., 2000; Rutter, 1979, 1987; Sameroff, 2006). In other words, the effects of these factors are often the same when the level of risk is high or when there is no risk at all. In statistical terms, they function as a main effect. Systematic reviews conducted on refugee youth, including UASCs, have been able to identify various protective and promotive factors such as support from friends and peers, positive school experience, feelings of safety and security at home, and receiving mental healthcare (Fazel et al., 2012; Mitra & Hodes, 2019; O'Higgins et al., 2018). Given that adaptation to risk is a critical condition for the presence of resilience, this dissertation attempts to comprehend the various ways in which resilience factors affect education for UASCs.

2.3.3 Conclusion

Educational resilience is a multidimensional, multisystemic phenomenon that emerges through complex interactions between risk factors, promotive factors, and promotive factors across a UASC's socio-ecological and socio-interactional context. From very early on, the

resilience concept had a transformative impact on research on children from high-stress backgrounds, changing it from a deficit-based outlook to a strengths-based outlook. While early resilience research identified factors correlated with positive educational adaptation, later approaches examined mediating, moderating, and socio-ecological processes influencing resilience. For refugee students facing pre- and post-migration adversities, cultivating educational resilience requires understanding risk and resilience mechanisms and implementing multilevel interventions.

Over time, however, resilience research began to be criticized for being too narrow due to its exclusive focus on pathological and biological factors while ignoring social and environmental influences on resilience. This dissertation aims to contribute to the latter through exploring the dynamic, multidimensional, integrative, socio-interactional, and socio-ecological processes that illustrate the educational resilience trajectories of UASCs. Taking into consideration various conceptualizations of resilience, this dissertation defines educational resilience as the presence of positive educational outcomes or experiences despite exposure to significant risk or severe adversity (Masten, 2014; Rutter, 2012). Educational resilience is also the result of a dynamic engagement between the child and their immediate environment (Luthar et al., 2000; Luthar & Cicchetti, 2000) and is specific to the socio-ecological and socio-interactional context of the child (Ungar, 2008). Table 5 provides a summary of key terminology for resilience factors from the literature on resilience.

Table 5. *Key terminology of resilience factors*

Term	Definition
Resilience Factor	A factor associated with a higher likelihood of positive outcomes and experiences or a lower likelihood of negative educational outcomes and educational experiences.
Promotive Factor	A factor associated with a higher likelihood of positive outcomes and experiences or a lower likelihood of negative educational outcomes and educational experiences whose effect is often the same when the level of risk is high or when there is no risk at all.
Protective Factor	A factor associated with a higher likelihood of positive outcomes and experiences or a lower likelihood of negative educational outcomes and educational experiences whose effect is stronger when the level of risk is high than when the level of risk is low.

2.5 Conceptual Framework: Education

In order to understand the educational resilience of UASCs, this dissertation investigates the education of UASCs, which this dissertation conceptualizes as a child's pathway through any learning environment and can be seen as a combination of both educational outcomes and educational experiences. Through the utilization of a mixed-methods approach, this dissertation was able to investigate the educational outcomes and experiences of UASCs. By incorporating both quantitative data analysis and narrative voice analysis, a holistic understanding of UASCs' educational realities was achieved. This comprehensive approach not only shed light on the factors that contribute to their positive educational outcomes and experiences but also identified the potential risks and barriers they face in their new educational settings.

The dissertation's ability to examine educational outcomes and explore educational experiences concurrently enabled it to also make use of reliability and validity approaches to collect and analyze the collected information. Consequently, what emerges from this dissertation are in-depth profiles of resilient UASCs who are able to achieve positive educational outcomes and gain positive experiences, both of which make up positive educational trajectories, despite the presence of risk and adversity in their lives. This section of the literature review attempts to explain how the dissertation conceptualized and operationalized educational outcomes and educational experiences in order to better understand UASCs' educational resilience trajectories.

2.5.1 Refugee Educational Settings

The dissertation acknowledges that refugee education occurs in various systems and educational settings. The dissertation also recognizes that non-formal learning and informal learning are equally important educational contexts as more formal learning settings, such as schools and universities. As such, the dissertation captured educational trajectories across the following educational systems and settings: formal education, non-formal education, and informal education (Werquin & OECD, 2010).

Formal education refers to a systematic approach to learning that occurs within designated educational settings, including schools, colleges, universities, and vocational training centers. It adheres to a predetermined curriculum or set of learning goals and is facilitated by qualified educators or instructors. Formal learning is often characterized by the use of standardized assessment methods and the awarding of certificates or diplomas upon completion.

Non-formal education refers to any intentional and structured learning activity that takes place outside of formal educational settings, such as community centers, youth organizations, sports clubs, cultural associations, and vocational training centers. Unlike formal learning, non-formal learning is not necessarily linked to a prescribed curriculum or learning objectives, and it is often based on the needs and interests of the learner. Examples of non-formal learning activities include language courses, computer training, music lessons, and leadership training programs.

Informal education refers to learning that occurs naturally and spontaneously as a part of everyday life, without any formal structure or learning objectives. It can take place in a variety of settings, including at home, in the workplace, during leisure activities, and in social interactions. Examples of informal learning include learning from experience, observing others, reading, watching documentaries, listening to podcasts, and participating in online discussions. Informal learning is often unstructured and not recognized as a formal achievement, but it can contribute significantly to knowledge and skill development, critical thinking, problem-solving, and personal and professional growth.

2.5.2 Educational Outcomes

This dissertation conceptualized educational experiences as quantitative information from a child's educational trajectory that can explain what enabled the child to have a positive educational trajectory and what hindered them. Quantitative information in education typically takes the form of numbers that represent student scores, survey responses, or other measurable participant attributes or behaviors (Creswell & Creswell, 2022; Creswell & Plano Clark, 2017). Quantitative educational research often generates quantitative information through the use of

instruments that demonstrate acceptable levels of validity and reliability, such as achievement or aptitude tests, questionnaires, surveys, and structured observations using predefined response categories. Validity refers to whether the instrument measures what it is intended to measure, while reliability relates to the consistency of scores and results over time. The collection of quantitative information in education allows the dissertation to assign numeric values to observations and statistically analyze variables. To achieve this, it was important to identify appropriate existing measures or develop new instruments that align with the research questions and variables of each study.

In this dissertation, the quantitative data on education, termed in the dissertation 'educational outcomes', is statistically examined to understand what resilience factors help UASCs overcome their risk status to ensure positive education. The first study, which is a systematic mixed-methods review, used existing data on educational outcomes as quantitative information for education, which includes educational attainment (e.g., graduation rates, retention rates), academic competency (e.g., test scores, exam results, grade point averages), language and literacy (e.g., first language acquisition, second language acquisition, reading levels, writing levels), school enrollment (e.g., enrollment, disenrollment, dropping out), and school attendance (e.g., attendance rates, absenteeism, skipping school). The second study, which involves secondary data analysis of the international large-scale assessment data from Jordan, compared educational achievement data of UASCs and non-UASCs on reading, mathematics, and sciences as dependent outcome variables, alongside student-level variables, teacher-level variables, and school-level variables as independent variables. The third study, which is a qualitatively driven mixed-methods study conducted during fieldwork in Greece, compared the scores of UASCs and non-UASCs on a self-reported measure of social-ecological resilience. Each study also reports how each measure or instrument has adequate levels of validity and reliability to allow for meaningful data analysis and accurate conclusions.

2.5.3 Educational Experiences

This dissertation conceptualized educational experiences as being qualitative information from a child's educational trajectory that can explain what enabled the child to have a positive educational trajectory and what hindered them. Qualitative information in education typically takes the form of non-numerical information such as interview transcripts, field notes, documents, audio recordings, video recordings, and open-ended survey responses (Creswell & Creswell, 2022; Creswell & Plano Clark, 2017). Qualitative information in education captures words, descriptions, and narratives that provide depth and detail in understanding educational phenomena. Unlike quantitative educational research, qualitative educational research does not use predefined measures or instruments. Qualitative educational research is an inductive process focused on exploring meanings and generating theories, not testing hypotheses based on operationalized variables. Therefore, predefined measures are antithetical to the qualitative approach.

In this dissertation, the qualitative information on education, termed as 'educational experiences', is qualitatively explored to understand what resilience factors help UASCs overcome their risk status to ensure positive education. The first study, which is a systematic mixed-methods review, used existing data on educational experience as qualitative information for education, which included the educational experiences of UASCs in navigating towards a positive educational journey and negotiating with the wider ecosystem for a positive educational journey (Ungar, 2008). The third study, which is a qualitatively driven mixed-methods study conducted during fieldwork in Greece, compared the educational experiences of UASCs and non-UASCs through semi-structured interviews as well as focus groups with their educational stakeholders. Like quantitative educational research, qualitative educational research employs validation strategies like member checking, rich description, and external audits to ensure accuracy and credibility, which involve evaluating the trustworthiness, authenticity, and quality of the qualitative information based on the depth, nuance, and richness of the information rather than

scores, statistics, or ratings. Each study reports how the collected qualitative information displays adequate levels of validity and reliability to allow for meaningful data analysis and accurate conclusions.

2.5.4 Conclusion

Through its conceptualization of education as a combination of educational outcomes and educational experiences, this dissertation leverages the complementarity of numerical data and descriptive narratives to develop a socio-ecological and socio-interactional understanding of UASCs' educational resilience. The conceptual and operational frameworks enabled the dissertation to obtain a holistic lens into the factors impacting the educational resilience of UASCs. By explaining both resilience processes as well as risk factors, this research generates actionable knowledge to enhance educational policies, systems, and supports for UASCs. It also gives voice to UASCs themselves, shedding light on how they navigate challenges and capitalize on resources to achieve positive educational outcomes or gain positive educational experiences. These insights can inform practices and interventions to nurture resilience processes and ensure educational resilience for these youth. This dissertation lays the groundwork for improving educational opportunities and outcomes for UASCs worldwide. Table 6 lists the conceptualizations of education trajectories, educational outcomes, and educational experiences used in this dissertation.

Table 6. *Conceptualizations of education used in this dissertation*

Term	Definition
Education Trajectories	A child's pathway through any learning and can be seen as a combination of both educational outcomes and educational experiences
Educational Outcomes	Quantitative information from a child's educational trajectory that can explain what enabled the child to have a positive educational trajectory and what hindered them.
Educational Experiences	Qualitative information from a child's educational trajectory that can explain what enabled the child to have a positive educational trajectory and what hindered them.

2.6 Theoretical Framework

In this dissertation, my aim is to encompass both factor-focused and process-focused perspectives. On the factor-focused front, I intend to pinpoint socio-ecological factors within the

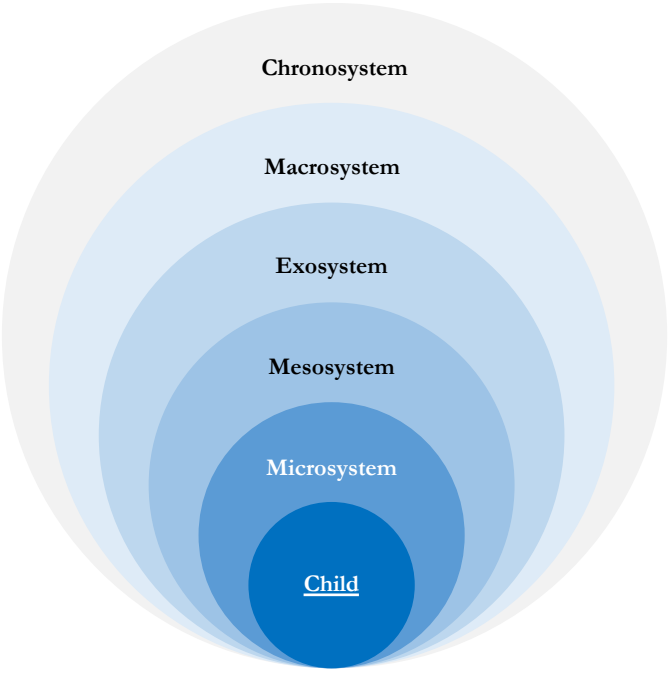
UASCs' environment that contribute to their educational resilience. Simultaneously, on the process-focused side, I aim to grasp the socio-interactional processes arising from the interactions between UASCs and their environment that foster educational resilience. These research goals align with the prevailing trend in resilience research, which has transitioned from solely considering biological and pathological factors to recognizing the influence of contextual factors. Collectively, these complementary theories provide a comprehensive framework for examining both the risk and resilience factors, as well as the complex interactive processes that enable UASCs to demonstrate educational resilience despite facing adversity. This integrated theoretical framework supports a resilience approach that identifies assets and resources (factor-focused) while also unraveling the mechanisms of resilience development (process-focused). This multidimensional understanding is essential for comprehending educational resilience within UASC populations.

2.6.1 Socio-ecological Theory of Development

First, this dissertation aims to identify socio-ecological factors in the UASC's environment that contribute to their educational resilience. In this dissertation, the UASC's environment is conceptualized using Urie Bronfenbrenner's socio-ecological theory of human development (1977, 1986) as a system that surrounds and affects the UASC. The socio-ecological theory examines human development within the context of multiple interconnected systems. It emphasizes the influence of various social and environmental factors, such as family, community, culture, and society, on a child's learning and development. Bronfenbrenner (1977, 1986) envisioned this framework as an ecosystem composed of six levels. The first level is the 'level of the child', which describes the individual characteristics of the child. In the case of UASCs, these can range from their bio-physical characteristics (e.g., height, weight, etc…) to their socio-demographic characteristics (e.g., age, gender, ethnic or national origin, etc…). The second level is the 'microsystem', which refers to the complex relationships between the child and their immediate environment. In the case of UASCs, this can include the foster parent, the teacher, the

social worker, the frontline respondent, the asylum center employee, etc… The third level is the 'mesosystem', which refers to the interactions between different elements of the child's microsystem. In the case of UASCs, this can be the interaction between the teacher and the foster parent, the teacher and the social worker, the asylum center employee and the frontline respondent, etc… The fourth level is the 'exosystem', which is composed of the formal and informal social structures that encompass and affect microsystems but do not immediately interact with the child. In the case of UASCs, this can include mass media, health services, legal services, government agencies, non-governmental organizations, informal social networks, etc… The fifth level is the 'macrosystem', which refers to the socio-cultural and socio-economic norms that shapes and influences the cultural and sub-cultural context that drive the various systems around the child. In the case of UASCs, this can include ideologies, attitudes, and trends found in both the refugee and the host communities. The sixth ecosystem is the 'chronosystem', which was added later and refers to changes and transitions that the child individually undergoes and/or changes and transitions that the environment separately undergoes (Bronfenbrenner, 1986). In the case of UASCs, this can include the change in process, change in person, the change in context, and the change in time. Figure 3 illustrates Bronfenbrenner's socio-ecological framework.

Figure 3. *Illustration of Urie Bronfenbrenner's socio-ecological framework*



Source. Adapted from Bronfenbrenner (1977, 1986)

An accompanying model was later developed in order to stress the person-context interrelatedness rather than exclusively focusing on contextual factors (Bronfenbrenner & Morris, 1998, 2007). Referred to as the Process-Person-Context-Time model, each component can be paraphrased to apply to the changing interaction between the UASC and their environment. The first element – Proximal processes – refers to the notion that the UASC's development occurs in the form of complex, reciprocal, and regularly occurring interactions between the UASC – as an active and evolving biopsychological human – and their immediate external environment; in other words, the UASC's first four ecosystems. These interactions can include child-teacher activities such as, playing, reading, writing, problem-solving and acquiring knowledge or skill. The second element - Person - refers to the effect of the UASC's individual characteristics on the form, power, content, and direction of these proximal processes. These characteristics are divided into three categories (Bronfenbrenner & Morris, 1998; Tudge et al., 2009). Demand characteristics (e.g., age, gender, skin color and physical appearance of the UASC), biological

characteristics (e.g., the UASC's cognitive skills, intelligence, and level of access to services and supportive adults), and force characteristics (e.g., differences of temperament, motivation, persistence, etc…). Resilience can be seen as an example of a force characteristic. The third element - Context - refers to the effect of the nature of the five ecosystems on the form, power, content, and direction of the proximal processes. The final element - Time - is the relative longitudinal temporal constancy and/or change in the proximal processes (Bronfenbrenner & Morris, 1998). Despite its focus on interactions and processes and its seeming applicability to the UASC context, the Process-Person-Context-Time model focuses primarily on biological and cognitive development processes and ignores social and emotional development. As a consequence of the development of this model, Bronfenbrenner termed this new iteration of the ecological framework as the bio-ecological framework (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 1998; Tudge et al., 2009). This dissertation's conceptualization of educational resilience emphasizes the importance of social interactions in the development of resilience. In conclusion, only the earlier iteration of Bronfenbrenner's socio-ecological framework (1977, 1986) is used in this dissertation.

2.6.2 Socio-interactional Theory of Development

Second, this dissertation aims to comprehend the socio-interactional processes arising from interaction between UASCs and their environments that contribute to their educational resilience. In this dissertation, the processes through which socio-ecological factors in UASCs' environment help UASCs develop educational resilience are conceptualized using L. S. Vygotsky's socio-interactional theory of human development (1967, 1978). The theory proposes that learning and development in children are strongly influenced by meaningful interactions with their social and environmental context, thereby shaping their skills and capabilities and broadening their understanding of their context. It conceptualizes these interactions as occurring through a 'zone of proximal development', which is the space between what a child can achieve independently and what they can achieve with guidance. 'Most knowledgeable others' are individuals with greater

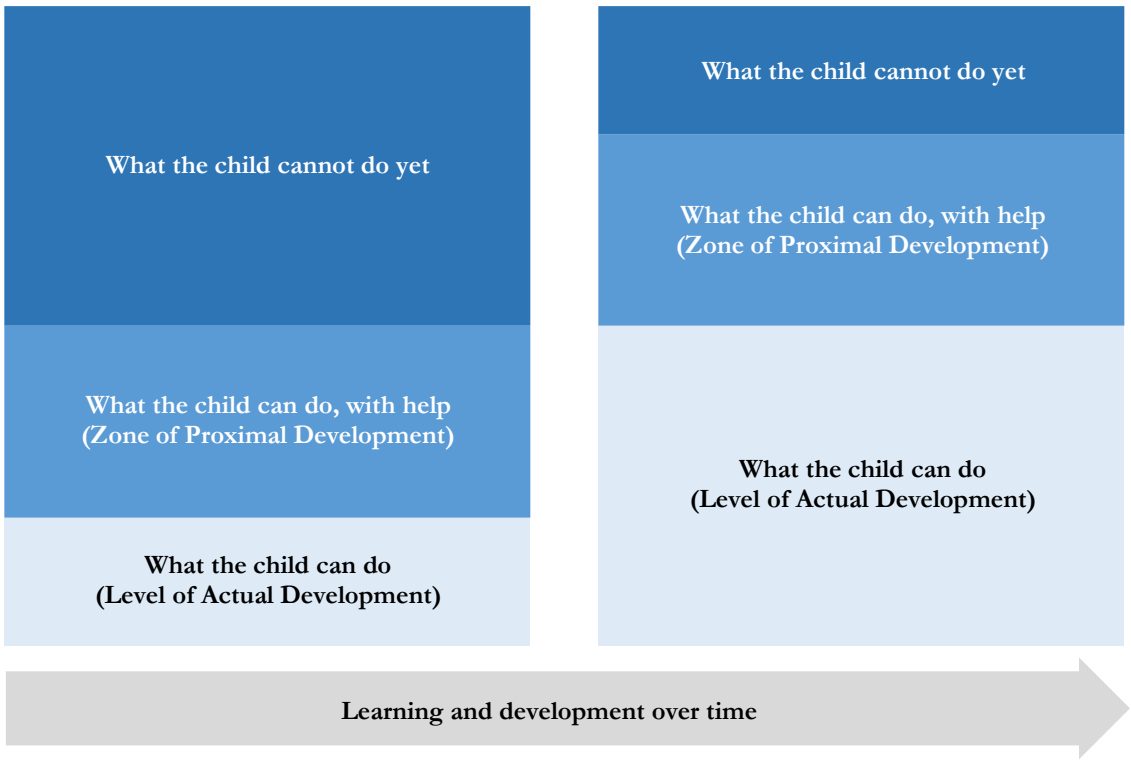
expertise than the child and play a crucial role within this zone by offering support and helping children to advance. As children gain in learning and development, the zone shrinks, reflecting their evolving capabilities. Illustratively, Vygotsky envisions development as a recursive, forward-moving, and expansive process that aims to reach higher mental functioning. The development process is punctuated by moments of qualitative change described as guiding higher mental functioning from the intermental plane – which refers to the mental activities between individuals – to the intramental plane – which refers to the mental activities within an individual. The development process occurs with the support of contextually determined tools as mediators between the UASC and their immediate environment. These mediators can range between psychological tools, such as language, writing, diagrams, and signs, and physical tools, such as computers, games, and toys.

Two prior applications of Vygotsky's socio-interactional framework were found useful for this dissertation. The first application is by Wood and colleagues (1976), who introduced the term 'scaffolding' which is a process "that enables a child or novice to solve a task or achieve a goal that would be beyond his unassisted efforts" (p. 90). For the UASC, these tasks can be understood as age-salient developmental tasks, acculturative tasks, or their own self-determined goals. Accordingly, the more knowledgeable person provides scaffolding support to the UASC in order to accomplish a task. Once they feel confident that the UASC has mastered the task, the more knowledgeable person removes the scaffolding support. Finally, the UASC completes the task on their own, and both move on to another task. As indicated by Wood and colleagues (1976), effective scaffolding requires the more knowledgeable other to provide the following supports: 1) reinforcements (through encouragement); 2) specific instructions; 3) modeling and demonstration; 4) regulating affect and frustration; and 5) regulating attention and interest. The second application is by Masten and Obradović (2008) who recontextualized the socio-interactional framework to fit risk and resilience processes. To achieve that, they recontextualized the zone of proximal development into a trajectory model that takes into account sudden disasters

and crises that affect children during the development process. In the first zone, children who experienced trauma from sudden disasters and crises experienced delayed mental functioning resulting into them falling in what is termed as the zone of maladaptive development. In the second zone, children can either maintain higher mental functioning or recover from initial delayed mental functioning, thereby resulting in them being placed into what is termed as the zone of average development.

Inspired by these prior applications of Vygotsky's socio-interactional framework (Masten & Obradović, 2008; Wood et al., 1976), this dissertation applied the socio-interactional framework to illustrate UASCs' educational resilience development as a forward recursive process, moving from the UASC's zone of proximal resilience development to the UASC's level of actual resilience development, facilitated by socio-ecological factors. The educational resilience developed through external factors provided by the immediate environment is known as the zone of proximal resilience development, whereas the educational resilience developed through internal factors present within the UASC represents the level of actual resilience development. Over time, with continued resilience learning and development, the UASC's level of actual resilience development increases, and the types of tasks that the child cannot do decrease. Figure 4 illustrates Vygotsky's socio-interactional framework.

Figure 4. *Illustration of Lev Vygotsky's socio-interactional model*



Source. Adapted from Vygotsky (1967, 1978), Wood and colleagues (1976), and Masten and Obradović (2008)

2.6.3 Conclusion

Earlier, this chapter conceptualized educational resilience as not just the presence of positive educational outcomes or experiences despite exposure to significant risk or severe adversity (Masten, 2014; Rutter, 2012) but also the result of a dynamic engagement between the child and their immediate environments (Luthar et al., 2000; Luthar & Cicchetti, 2000) and is specific to the socio-ecological and socio-interactional context of the child (Ungar, 2008). In order to stay true to this conceptualization, my dissertation employs a theoretical framework that is both a factor-focused and a process-focused understanding of resilience. For that reason, I grounded my dissertation in two theoretical frameworks: Bronfenbrenner's socio-ecological theory of development (Bronfenbrenner, 1977, 1986) and Vygotsky's socio-interactional theory of

development (Vygotsky, 1967, 1978). Together, both theoretical frameworks help in analyzing the complex factors and processes that help UASCs achieve positive educational outcomes and gain positive educational experiences despite difficult circumstances. It is crucial to have a comprehensive understanding of the various factors and processes that impact the development of resilience. This knowledge is essential in order to design specific interventions and policies that can effectively support the educational potential of UASC populations.

2.7 Epistemological Framework

In this section of the literature review, I outline my rationale for utilizing multiple paradigms to study the educational resilience of UASCs. Specifically, I explain how I leveraged pragmatism for systematically reviewing the evidence base, post-positivism for quantitatively analyzing achievement outcomes, and constructivism for exploring subjective experiences. My aim with this epistemological pluralist paradigm was to provide complementary perspectives on the socio-ecological factors and socio-interactional processes influencing educational resilience in UASCs. Using diverse philosophical lenses enabled me to conduct a more comprehensive examination of this multidimensional phenomenon.

2.7.1 The Pragmatist Paradigm to studying Educational Resilience

The pragmatist paradigm focuses on the outcomes and consequences of research, the problem being studied, and what works in addressing it (Denzin & Lincoln, 2018; Guba & Lincoln, 1989; Mertens, 2020). Pragmatists agree that research always occurs in social, historical, political, and other contexts. Axiologically, pragmatists believe knowledge gains value insofar as it aids inquiry and produces desired ends. Pragmatism rejects preset methodological orthodoxies, using diverse approaches as needed. Its ethics judge consequences based on what solves problems successfully according to the researcher's value system. Ontologically, pragmatists sidestep contentious debates about truth and reality. They recognize that all individuals have unique interpretations of the world but assert that some interpretations may still produce better outcomes than others. Pragmatism concerns itself with what works at the time to address the

research problem, rather than abstract concepts about the nature of knowledge. Epistemologically, pragmatists argue that the researcher should have discretion to determine appropriate knowledge-gathering techniques, participant relationships, and methodological mixes per distinct study. Pragmatism rejects standardized approaches, instead basing decisions on experiential inquiry results and their fit for intended use by intended users. Methodologically, pragmatism opens the door to mixed or multiple methods, both quantitative and qualitative. Researchers can implement whatever approaches best meet their current needs and purposes. Controlled experiments may suit some projects, while participant-collaborative action research suits others. Pragmatic methodology adapts flexibly; the only test is whether it works for the research goals.

In this dissertation, I used a classical pragmatist approach for the first study. This viewpoint is best exemplified by Luthar and Cicchetti (2000) and Luthar and colleagues (2006), who proposed several guiding principles to translate resilience research into social policy and practice. This viewpoint advocates that resilience should serve as a practical framework guiding social policy and intervention design. This perspective acknowledges the real-world application of resilience research and emphasizes several key principles to ensure its effectiveness in policy and practice. First and foremost, interventions should be grounded in robust theoretical foundations that recognize the dynamic interplay between children and their environment. This perspective calls for a comprehensive understanding of how individual and contextual factors interact to shape resilience. Furthermore, interventions should not be limited to risk reduction but should also focus on promoting positive adaptation and harnessing the resources within target populations. This approach acknowledges that resilience is not just about bouncing back from adversity but also about thriving and growing despite challenges. Moreover, interventions should target relevant risk and resilience processes across multiple levels of influence, recognizing that factors at the individual, family, community, and societal levels all play a role in resilience. Additionally, a child development focus should be at the core of interventions while also ensuring

that intervention goals and strategies are contextually relevant. All these principles highlight the pragmatic nature of the resilience concept, suggesting that multiple traditions and viewpoints can be integrated within the same project, whether it pertains to research, policy formulation, or practical interventions. By doing so, a more holistic and effective approach to promoting resilience in individuals facing adversity can be achieved.

2.7.2 The Post-positivist Paradigm to studying Educational Resilience

Post-positivism is a research paradigm that emerged following positivism, challenging some of its core tenets but maintaining many key ontological and epistemological assumptions (Denzin & Lincoln, 2018; Guba & Lincoln, 1989; Mertens, 2020). Axiologically, post-positivists believe research should uphold strong ethical principles like informed consent, avoiding harm and bias, intellectual honesty, and acknowledging limits of generalizability. Justice, equal opportunity, and careful sample selection matter. Ontologically, post-positivists assume an objective reality exists that can be imperfectly and probabilistically apprehended. They reject positivism's notion of absolutely objective knowledge, recognizing that research is influenced by biases and theories. But reality is assumed to be driven by discoverable natural laws. Epistemologically, post-positivists value objectivity and aim for dispassionate distance to avoid bias. They use blinding, controls, and precise methods to prevent confounding. Post-positivism moved away from positivism's independent researcher but still values distance to prevent distortion. Post-positivism, from a methodological standpoint, heavily relies on quantitative approaches such as experiments, quasi-experiments, correlational studies, and surveys that incorporate predetermined questions. These methods are employed to assess theories, gauge realities, and construct comprehensive causal explanations by means of hypothesis testing. Qualitative methods are less common but are used exploratorily. Rigorous analysis, large samples, and statistics ensure replicability and generalizability. The aim is to uncover natural laws by eliminating alternative hypotheses with rigorous designs and methods. But researcher biases and background theories inevitably influence the research process.

In this dissertation, I used a post-positivist approach for the second study. In investigating the educational achievement outcomes of UASCs in Jordan, this study hoped to understand both the socio-ecological factors and the promotive and protective processes that aided UASCs in improving educationally. There is consensus in the literature that concludes that resilience should neither be viewed as an internal trait nor as a personal characteristic of the individual. Instead, literature recognizes that the display of resilience concerns an interaction of the individual with the wider system (Aleghfeli, 2021; Cicchetti, 2010; Feinstein et al., 2021; Luthar et al., 2000; Luthar & Cicchetti, 2000; Masten, 2001). Rutter (2012) exemplifies this approach, where he defines resilience as:

> Reduced vulnerability to environmental risk experiences, the overcoming of a stress or adversity, or a relatively good outcome despite risk experiences … it is an interactive concept in which the presence of resilience has to be inferred from individual variations in outcome among individuals who have experienced significant major stress or adversity (p. 336).

Since resilience is not a trait of the child, Rutter (1979, 1987) emphasizes the need to focus on the processes underlying individual differences in disadvantage, such as promotive processes that enhance an individual's development and well-being, regardless of the presence of adversity or stressors, and protective processes that mitigate the negative impact of adverse experiences or stressors on an individual's development and well-being. As such, understanding UASCs' educational resilience would necessitate investigating their education outcomes in comparison to their non-UASC counterparts and identifying what individual characteristics and environmental factors helped them ameliorate the risk to achieve positive educational outcomes.

2.7.3 The Constructivist Paradigm to studying Educational Resilience

The constructivist paradigm emerges from the philosophy that reality is socially constructed (Denzin & Lincoln, 2018; Guba & Lincoln, 1989; Mertens, 2020). Axiologically, constructivists focus on recognizing participants' values, representing their views ethically,

developing rapport and reciprocity with the community under study, and empowering participants by rejecting traditional power hierarchies. Ontologically, constructivists assume reality is subjective, multiple, and constructed through lived experiences and interactions. Over time, individuals' mental constructions are influenced and molded by various social, political, cultural, economic, ethnic, and gender factors. Constructivists seek to understand subjective, context-specific meanings about how people construct reality in their minds, not identify an objective reality. Epistemologically, knowledge emerges from the interaction between the researcher and participants, whose backgrounds shape interpretation. Constructivists value trustworthiness through authenticity, lived experience, and meaning-making while reflecting critically on biases. Methodologically, constructivists use qualitative, naturalistic techniques like interviewing, observing, and gathering documents to provide rich, contextual understandings of participants' social constructions of reality. Researchers interact closely with participants, emphasize reflexivity about their background, use thick descriptions for local meanings, and flexibly refine questions as understanding deepens. The aim is not generalization but interpretations of participants' perspectives. Design emerges during the research process.

In this dissertation, I used a constructivist approach for the third study. In investigating the educational experiences of UASCs in Greece, this study is set to understand how they navigate or negotiate situations of risk in their new environment to achieve educational resilience when compared to non-UASCs. Ungar (2008) exemplifies this approach within resilience research, where he defines resilience as:

> In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways (p. 225).

Ungar (2004) noted that children’s own perspective on their culturally embedded pathways to resilience is often silent in resilience research and that resilience research often emphasizes

western-focused outcomes and factors typical of western populations and their definitions of resilience. As such, it is important to incorporate qualitative and socio-interactional approaches to better study the personal agency of the child in seeking educational or social care support (navigation processes) and in seeking the provision of educational and social care resources in ways that are meaningful to the child (negotiation processes) (Ungar, 2008). There is also consensus in the literature that resilience should not be viewed as an internal trait or characteristic of the individual but rather as an interaction of the individual with a wider system (Cicchetti, 2010; Luthar et al., 2000; Luthar & Cicchetti, 2000; Masten, 2001). As such, understanding UASCs' educational resilience would necessitate investigating both the process of UASCs navigating towards educational resources and the capacity of UASCs to negotiate for these educational resources on their own terms.

2.7.4 Towards A Critical Realist Paradigm to studying Educational Resilience

In this dissertation, I use an interdisciplinary philosophy of science known as critical realism. Coined and developed by Ram Roy Bhaskar (1975, 1989), critical realism reaffirms the claim of 'ontological realism' (phenomena exist independently of our knowledge of them) while combining it with 'epistemological relativism' (human knowledge is socially produced, historically transient, and fallible) and 'judgmental rationalism' (there are rational grounds for preferring some theories and explanations over others). From this critical realist viewpoint, the central aim of social scientific research is not prediction or interpretation, but rather explanation (Bhaskar, 1975). In other words, the primary objective of the social sciences is to develop empirically supported theories and hypotheses about how, why, and under what conditions particular phenomena occur. Critical realism allows for the integration of different epistemological approaches, such as pragmatism, post-positivism, and constructivism, in order to avoid what it views as their individual limitations, such as the empirical reductivism of post-positivism or the conceptual relativism of constructivism (Bhaskar, 1989). Axiologically, critical realists believe in the inherent value of uncovering the underlying causal mechanisms and structures of phenomena,

emphasizing the importance of gaining a deeper understanding of reality beyond surface appearances. Ontologically, they focus on recognizing the stratified nature of reality, positing multiple levels of existence, including the empirical, actual, and real, and emphasizing the existence of an objective reality that exists independently of human thought. Epistemologically, critical realists value the development of scientific theories and explanations that can bridge the gap between the empirical and the real, acknowledging the role of both empirical observation and theory in constructing knowledge. Methodologically, critical realists rely on a variety of research methods, including mixed methods, allowing for the inference of unobservable causal mechanisms based on observable effects and aiming to provide a comprehensive understanding of complex phenomena.

Given the multidimensional nature of educational resilience among UASCs, using different paradigms provides unique insights that a single approach could not achieve alone. The first study utilized a pragmatic paradigm to conceptualize educational resilience as a practical framework for guiding interventions and social policy. The second study employed a post-positivist lens to quantitatively investigate factors associated with UASCs' achievement outcomes in Jordan. The third study adopted a constructivist perspective to gain rich, subjective understandings of how UASCs in Greece navigate risks and negotiate educational resources. Together, these diverse paradigms have provided complementary views of UASCs' educational resilience from different philosophical standpoints. The pragmatic viewpoint allowed for conceptualizing educational resilience for practical application; the post-positivist lens allowed for objectively modeling factors correlating with achievement; and the constructivist perspective allowed for the privileging of UASCs' voices and lived experiences. Using multiple paradigms provides comprehensive, multi-faceted knowledge about this complex phenomenon. Combining divergent lenses creates a deeper, more textured understanding compared to a single view (Greene, 2007). This critical realist approach therefore enables a fuller examination of UASCs' educational resilience across different settings.

2.7.5 Conclusion

Through this dissertation, I engaged with multiple epistemological traditions to allow me to obtain an in-depth understanding of the educational resilience of UASCs. By employing various philosophical frameworks, the dissertation successfully delved into numerous methodological considerations, logical deductions, and analytical approaches. Each perspective offered distinct perspectives that, when combined, provided a comprehensive understanding of the educational resilience of UASCs. The pragmatic paradigm grounded the research in real-world impact; the post-positivist paradigm explained differences and revealed influential factors; and the constructivist paradigm centered and uplifted the voice of UASCs. Moreover, critical realism enabled my dissertation to engage in a more complete investigation that can inform future research, policy, and practice. Figure 5 gives a detailed outline of the structure of this dissertation, highlighting its epistemologically pluralist underpinnings.

Figure 5. *Detailed structure of the dissertation*

	Study I
Research questions	What current evidence exists on the risk and resilience factors that influence the educational trajectories of UASCs in high-income countries? • What do existing quantitative and mixed-methods studies reveal about risk and resilience factors that influence the educational outcomes of UASCs? • What do existing qualitative and mixed-methods studies reveal about risk and resilience factors that influence the educational experiences of UASCs?
Epistemology	**Pragmatism**: Philosophical perspective that emphasizes the practical consequences of beliefs and the instrumental nature of knowledge. It holds that the truth of a belief is determined by its effectiveness in addressing real-world problems and guiding successful action, rather than by its correspondence to an external reality.
Logical inference	**Abductive Logic**: Form of reasoning that involves inferring the best possible explanation or hypothesis to account for observed data or evidence.
Methodology	**Systematic mixed-methods review**: Analyze quantitative and qualitative data on the current evidence about the education of UASCs to gain a holistic and socio-ecological understanding of their risk and resilience factors.
Analysis and Synthesis	**Quantitative meta-integration**: Transforming quantitative data about educational outcomes to a qualitative format (QUAN → QUAL) using NVivo, while retaining qualitative data about educational experience the same (QUAL = QUAL). **Meta-ethnography**: Analyze both QUAN → QUAL and QUAL = QUAL data using line-by-line synthesis and third-order interpretation using NVivo in order to identify risk and resilience factors of education for UASCs.

	Study II	**Study III**
Research questions	How do socio-ecological factors contribute to the promotion and protection of education for UASCs in Jordan?	How do socio-ecological factors support the navigation and negotiation of education by UASCs in Greece?

	• Is there a statistically significant negative relationship between UASC status and educational achievement in Jordan? • Does the relationship between UASC status and educational achievement vary when controlling variables at the student-level, teacher-level, and school-level in Jordan? • Is there a statistically significant relationship between educational achievement and the interactions between UASC status and variables at the student-level, teacher-level, and school-level in Jordan? • What student-level variables, teacher-level variables, and school-level variables function as promotive factors of positive educational outcomes for UASC students in Jordan? • What student-level variables, teacher-level variables, and school-level variables function as protective factors of positive educational outcomes for UASC students in Jordan?	• Is there a statistically significant difference between UASCs and non-UASCs in Greece in their CYRM-R scores and items? • Is there a statistically significant difference between UASCs and non-UASCs in Greece in their responses to the CYRM-R items? • What risk factors and resilience factors are unique to UASCs and what factors are unique to non-UASCs in Greece? • What risk factors and resilience factors are unique to UASCs and what factors are unique to non-UASCs in Greece? • How do UASCs in Greece navigate and negotiate situations of risk differently from non-UASCs in their new environment to achieve positive educational experiences?
Epistemology	**Post-positivism**: Philosophical standpoint that emphasizes the use of empirical evidence and scientific methods to discover objective truths about the world. It assumes that the world is knowable through observation and measurement, while still recognizing that knowledge is socially constructed (unlike its predecessor, Positivism).	**Constructivism**: Philosophical stance that asserts that knowledge subjective being actively constructed by individuals based on their experiences and interactions. It posits that individuals interpret and give meaning to the world around them, context-dependent, and influenced by socio-cultural and socio-historical factors.
Logical inference	**Deductive logic**: Form of reasoning that involves drawing specific conclusions or predictions from general premises and principles using a systematized process.	**Inductive Logic**: Form of reasoning that involves drawing probable conclusions or theories based on specific evidence, observations, or experiences.
Methodology	**Quantitative secondary data analysis study**: Examine the educational outcomes of both UASCs and non-UASCs in Jordan using PISA 2009.	**Qualitatively driven mixed-methods study**: Explore the educational experiences of both UASCs and non-UASCs in Greece using semi-structured interviews and responses to the CYRM-R questionnaire.
Analysis and Synthesis	**Pearson's correlation coefficient**: Examine the strength and directionality of the relationship between the study variables in PISA 2009 using R. **Multiple linear regression**: Examine the relationship between educational achievement outcomes and UASC status using R, controlling for independent variables at different socio-ecological levels (student, teacher, school) and their interactions with UASC status. **Main effects plots**: Graphically illustrate using R the statistically significant main effects arising from examining the relationship between educational achievement outcomes and UASC status to visually examine and identify promotive factors. **Interaction effects plots**: Graphically illustrate using R the statistically significant interaction effects arising from examining the relationship between educational achievement outcomes and UASC status to visually examine and identify protective factors.	**Fisher's exact test**: Examine whether there is a statistically significant relationship between being UASC and the CYRM-R items using R. **Welch's t-test**: Examine whether there is a statistically significant relationship between being UASC and the CYRM-R scores using R. **Open, Axial, and Selective Coding**: Categorize and label excerpts from the interviews with UASCs and non-UASCs referring to risk and resilience factors (Open coding), then identify domains encompassing the factors (Axial coding), then identify the socio-ecological level housing the domains (Selective coding) using NVivo. **Reflexive thematic analysis**: Iteratively and reflexively examine themes and patterns arising from qualitative codes to gain a deeper understanding of how UASCs and non-UASCs differently navigate and negotiate in their new environment to achieve positive educational experiences using NVivo.

	Discussion
Research questions	What insights emerge from the three studies about how socio-interactional processes influence the educational resilience of UASCs? • What socio-ecological factors in UASCs' environment contribute to the educational resilience of UASCs? • How do socio-interactional processes that arise from interactions between UASCs and their environment influence the educational resilience of UASCs? • What methodological considerations and implications for research, policy, and practice emerge from triangulating the three studies about educational resilience of UASCs?
Epistemology	**Critical Realism**: Philosophical perspective that asserts the existence of an objective natural and social reality that is independent of human knowledge. It emphasizes the development of empirically supported theories and hypotheses that reveal the underlying mechanisms and structures shaping observable phenomena.
Logical inference	**Retroductive Logic**: Form of reasoning that infers the existence of unobservable mechanisms and structures based on observable effects, allowing for a deeper understanding of underlying processes.
Methodology	**Convergent parallel mixed-methods**: Identify emerging insights about the educational resilience of UASCs, methodological considerations, and implications for research, policy, and practice.
Analysis and Synthesis	**Triangulation**: Synthesize findings from the three studies to identify emerging insights about the educational resilience of UASCs, methodological considerations, and implications for research, policy, and practice.

Chapter 3. Study I – Educational Resilience of Unaccompanied and Separated Children in High-Income Countries: A Systematic Mixed-methods Review

Summary. OBJECTIVES: Between 2015 and 2022, Europe alone received over 300,000 asylum applications from unaccompanied and separated children (UASCs) who had their education disrupted due to conflict and war. This systematic mixed-methods review aimed to identify risk and resilience factors that influence the educational trajectories of UASCs in high-income countries. It explored quantitative and qualitative evidence on risk and resilience factors associated with UASCs' educational outcomes and experiences. METHODS AND ANALYSIS: A systematic mixed-methods review of peer-reviewed journal articles and gray literature, namely doctoral theses and dissertations, published between 2000 and 2020 was conducted across 12 bibliographic databases, leading to eighteen studies meeting the inclusion criteria after screening. The study selection process involved deduplication of search results, title and abstract screening, and full-text screening, done in accordance with dual-reviewer blind screening. Data extraction and synthesis involved quantitative meta-integration and meta-ethnographic synthesis, respectively, done in accordance with double-blind coding procedures to reduce bias. Critical appraisals for risk of bias, trustworthiness, and methodological quality using the CASP (Critical Appraisal Skills Programme) checklists and confidence in discrete review findings using the GRADE-CERQual approach were conducted. FINDINGS: Twenty-six factors were identified as risk and resilience factors related to five socio-ecological levels: child, microsystem, mesosystem, exosystem, and macrosystem. Young mothers, UASCs who experienced immigration detention, and UASCs whose immigration statuses are unknown or pending were found particularly vulnerable to risk factors jeopardizing their education. Microsystemic and mesosystemic factors played the most significant role in educational resilience for these vulnerable UASC children. NOVELTY AND IMPROVEMENT: This review provides a comprehensive socio-ecological understanding of educational resilience processes for UASCs. Microsystemic and mesosystemic

factors were found to play the most important role in the educational resilience of UASCs. The findings can inform research, policy, and practice to better support UASCs' education through resilience-focused interventions. Further research should address key evidence gaps and test targeted interventions to support resilience.

3.1 Introduction

3.1.1 Rationale

Between 2015 and 2022, EU (European Union) and EFTA (European Free Trade Association) countries alone received over 300,000 asylum applications from children and youth who arrived unaccompanied or separated according to the European Statistical Office (EUROSTAT, 2024). Adverse events in their home communities forced such youth to have their education disrupted and undergo challenging and dangerous journeys in pursuit of safety, stability, and protection (Chase, 2010; Kohli, 2006). However, reaching their intended destination and finally requesting refuge and humanitarian protection does not offer a resolution for UASCs. UASCs often experience a variety of challenges, ranging from racist and discriminatory abuse to complex immigration and legal bureaucracies that have systematically disrupted or prevented their access to education. Nevertheless, several qualitative, quantitative, and mixed-methods studies have uncovered various resilience factors that empower UASCs in various high-income countries to achieve positive educational experiences and outcomes despite the adverse events they often experience in host countries. This study conducted a systematic mixed-methods review to identify 26 risk and resilience factors that impacted the education of UASCs at different socio-ecological levels: child, microsystem, mesosystem, exosystem, and macrosystem.

3.1.2 Objectives

The main research question of this study was to understand what current evidence exists on risk and resilience factors that influence the educational trajectories of UASCs in high-income countries. The review employed a systematic mixed-methods approach to examine empirical studies conducted from 2000 to 2020, focusing on the education of UASCs in high-income nations. By utilizing a combination of qualitative meta-integration and meta-ethnographic synthesis, the study aimed to identify the socio-ecological factors that either facilitated (resilience factors) or impeded (risk factors) the educational progress of UASCs. The review attempted to address this research question through two objectives. First, the review explored what existing

quantitative and mixed-methods studies revealed about risk and resilience factors that influenced the educational outcomes of UASCs. Second, the review explored what existing qualitative and mixed-methods studies revealed about risk and resilience factors that influenced the educational experiences of UASCs. Findings from this review were then synthesized and discussed with regard to their research implications for both the study of the education of UASCs and the broader field of resilience research, as well as their implications for educational and social care policy and practice for UASCs in countries with significant populations of children with refugee and forced migrant backgrounds.

3.2 Literature Review

With rising numbers of UASC worldwide, evidence supporting their educational success is increasingly needed. The educational experiences and outcomes of UASCs are an important area of focus. As a particularly vulnerable group, understanding factors that can support the resilience and positive educational outcomes of UASC is critical. This literature review examines research on the educational resilience of UASC who have resettled in high-income countries. It offers a comprehensive examination of the legal definitions and frameworks pertaining to UASCs. It also provides a concise summary of previous systematic reviews that are relevant to the topic. Additionally, it establishes a conceptualization of educational resilience as the presence of positive educational outcomes and experiences despite exposure to adversity (Masten, 2014; Rutter, 2012), shaped through interaction between the child and their environment (Luthar et al., 2000; Luthar & Cicchetti, 2000; Ungar, 2008).

3.2.1 Conceptualizing Unaccompanied and Separated Children

The conceptualization of 'Unaccompanied and Separated Children' used in this review is rooted in international legal frameworks around what defines a refugee, an unaccompanied child, and a separated child. Incorporating both definitions is important for fully comprehending the double layer of risk and vulnerability attributed to being UASC. On being a refugee, the Refugees

Convention (1951), ratified by 146 countries, and the Refugees Refugee Protocol (1967), ratified by 147 countries, defined refugee status as:

> Owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it. (A/CONF.2/108, art. 1, para. A.2; A/RES/2198(XXI), art. 1, para. 2)

On being unaccompanied, the Committee on the Rights of the Child (United Nations, 2005) defines unaccompanied status as having been "separated from both parents and other relatives and not being cared for by an adult who, by law or custom, is responsible for doing so" (CRC/GC/2005/6, para. 7). On being separated, the Committee on the Rights of the Child (United Nations, 2005) defines separated status as having been "separated from both parents, or from their previous legal or customary primary caregiver, but not necessarily from other relatives. These may, therefore, include children accompanied by other adult family members" (CRC/GC/2005/6, para. 8). The review also includes asylum seekers as refugees to be in line with the UNHCR (2006). These definitions form the basis for determining UASCs in international law. However, frameworks for refugee status determination differ by country, leading UASCs to undergo difficult and uncertain bureaucratic processes (Zetter, 1991, 2007).

3.2.2 Education of Unaccompanied and Separated Children

According to a systematic review on the mental health of displaced and refugee children resettled in high-income countries, being unaccompanied on entry to a new country puts the child at risk of negative mental health outcomes (Fazel et al., 2012). However, there has not yet been a systematic review that exclusively examines the educational outcomes of UASCs. Given rising interest in the trajectories of UASCs after settlement, investigations of both educational outcomes

and various risk and resilience factors appeared in several reviews. One systematic review examining the impact of accommodation placement type on the educational outcomes of UASCs in high-income countries found through qualitative synthesis that living in foster care, particularly same-ethnic foster care, contributed to better educational outcomes than living alone or in large-scale detention centers (O'Higgins et al., 2018). Another systematic review explored the risk and protective factors associated with mental health among UASCs in high-income countries (Höhne et al., 2020). Through a qualitative synthesis, the study found that one of the most frequently investigated educational risk factors for poor mental health in UASCs was having a low level of education or a school diploma as the highest educational qualification. They also reported that being in a safe and supportive school environment was the most reliable educational protective factor for UASCs in deterring poor mental health outcomes.

There has only been one systematic review on the resilience of UASCs conducted by Mitra and Hodes (2019). However, the study only examined psychological resilience and reviewed only quantitative studies, and there is yet to be a review that specifically examines the educational resilience of UASCs. Given the increasing need and heterogeneity of both current and former UASCs, there is a growing need for evidence to understand the impact of different resilience factors on their educational success. Moreover, refugee and migrant support services invest heavily in the provision of quality educational programming for unaccompanied refugee children in their care. The present review seeks to complement and further the existing evidence by identifying and reviewing predictors of educational outcomes for unaccompanied refugee children. In so doing, it extends the findings from reviews on the educational success gap between UASCs and their peers, such as those mentioned above, as well as providing information on their resilience and risk factors.

3.2.3 Conceptualizing Educational Resilience

It is not uncommon for practitioners and policymakers to confuse resilience as being an internal trait or characteristic of the child and develop programs and activities based on this

misuse of terminology (Luthar & Cicchetti, 2000). This necessitates an operational conceptualization of educational resilience that is applicable to educational and social policy and interventions to inform this review. As a starting point, this review endorses Rutter (2006) and Masten (2014), who define resilience as not the result of an internal trait or characteristic of the individual but rather, in relation to adverse childhood experiences, stemming from positive outcomes. Ungar (2008) further shifts the concept away from the child and to the child's socio-ecological system, stating that resilience is both a process of navigation towards positive outcomes and a process of negotiation with the wider system (e.g., parents, teachers, community, society) to achieve those outcomes. Taking from these conceptualizations, this review defines educational resilience as the presence of positive educational outcomes and experiences despite exposure to significant risk or severe adversity (Masten, 2014; Rutter, 2012). Educational resilience is also the result of a dynamic engagement between the child and their immediate environment (Luthar et al., 2000; Luthar & Cicchetti, 2000) and is specific to the socio-ecological and socio-interactional context of the child (Ungar, 2008).

In addition to educational resilience itself, this review aims to determine which internal and external factors function as risk or resilience factors for the education of UASCs. To adequately determine this, it is important to first note that risk factors and resilience factors function differently according to the child's socio-ecological context. On the one hand, risk factors, commonly associated with negative experiences and outcomes, must be seen as contextually specific, constructed, and indefinite across populations. On the other hand, resilience factors, commonly associated with positive experiences and outcomes, must be seen as multidimensional and unique to each context. These factors can help predict the experiences and outcomes that a child and their immediate environment will encounter, as defined by their own perspective and the dynamics of their immediate ecosystem (Sameroff, 2006; Ungar, 2004). This review relates the child's exposure to risk and resilience closely to characteristics of their immediate

microsystem shaped by the wider macrosystem and concerns an interaction of the child with the wider ecosystem (Bronfenbrenner, 1977, 1986; Vygotsky, 1967, 1978).

3.3 Methods

This study employed a concurrent parallel design in the form of a systematic mixed-methods review. The review involved the extraction, transformation, and separate analysis of both quantitative and qualitative data from eligible studies. Subsequently, the findings were synthesized together to facilitate a comprehensive interpretation (Noblit & Hare, 1988; Nye et al., 2016). The eligibility criteria and the selection process were predetermined into a protocol, which has been registered and published on IDESR (International Database of Education Systematic Reviews) under the reference IDESR000002 (Aleghfeli & Hunt, 2021). Documentation of the review process was completed in accordance with PRISMA guidelines (Shamseer et al., 2015).

3.3.1 Inclusion Criteria

Inclusion criteria were established to ensure that the review focuses on relevant and high-quality evidence related to the aim and scope of identifying risk and resilience factors for UASCs in high-income countries. The review's inclusion criteria encompassed the following elements:

Study Types. The review included any quantitative, qualitative, or mixed-methods study that examines or explores the association between risk and resilience factors on the one hand and the educational outcomes of UASCs on the other. Included studies must be: 1) written in English or any other language, provided that an adequate translation is provided; 2) set to high-income countries, as defined by the World Bank (2024a); 3) published from the year 2000 and onwards, so as to contextualize the review around more recent migrant crises (UNHCR, 2024); and 4) included the conditions for the types of studies, the population of review, the variables of review, and the outcomes of review. This condition included experimental designs, quasi-experimental designs, and non-experimental designs. Mixed-methods studies were only to be considered if data from the quantitative or qualitative components can be clearly extracted. For studies in languages other than English, the authors of those studies were contacted for an English translation.

Population. The review included in scope all research on all UASCs who arrived at the ages of 0–18 in a high-income country (United Nations, 2005; World Bank, 2024). Accordingly, the review only included studies where the population of the study is wholly or partially current or former UASCs. In addition, this study included research on the perspectives of UASCs' immediate ecosystem, such as foster caregivers, teachers, school staff, and social workers who have given their perspective on the resilience of the children they cared for.

Variables. The review includes studies that capture evidence on all variables associated with educational resilience in UASCs. In other words, studies that include: 1) risk factors that are associated with a lower likelihood of positive educational outcomes and a higher likelihood of negative or socially undesirable educational outcomes; and 2) resilience factors that are associated with a higher likelihood of positive educational outcomes and a lower likelihood of negative or socially undesirable educational outcomes (Feinstein et al., 2021; Luthar et al., 2006; Sameroff, 2006). Studies that only included risk factors for educational outcomes but not resilience factors were not selected for this review.

Outcomes. The review looked only at educational outcomes. As such, the review included studies that used at least one educational outcome. Accepted educational outcomes included: 1) educational attainment (e.g., graduation rates, retention rates); 2) academic competency (e.g., test scores, exam results, grade point averages); 3) language and literacy (e.g., first language acquisition, second language acquisition, reading levels, writing levels); 4) school enrollment (e.g., enrollment, disenrollment, dropping out); and 5) school attendance (e.g., attendance rates, absenteeism, skipping school). The review additionally captured UASCs' educational experience of navigating towards positive educational outcomes and negotiating with the wider ecosystem for positive educational outcomes (Ungar, 2008). The results section reported findings on both.

3.3.2 Information Sources

The following electronic bibliographic databases and websites were selected to identify peer-reviewed journal articles and gray literature, namely doctoral theses and dissertations. These databases were selected after consultation with Bodleian Libraries at the University of Oxford:

1. EBSCOhost (Anthropology Plus, British Education Index, Child Development & Adolescent Studies, Cumulative Index to Nursing and Allied Health Literature, EBSCOhost OpenDissertations, Education Abstracts, Education Administration Abstracts, Family & Society Studies Worldwide, Teacher Reference Center);
2. Elsevier SCOPUS;
3. Google Scholar (first 200 search results)
4. Informit (Indigenious Collection, AGIS Plus Text);
5. Microsoft Academic;
6. ProQuest (Applied Social Sciences Index & Abstracts, Criminal Justice Database, Education Database, Education Resources Information Center, International Bibliography of the Social Sciences, National Criminal Justice Reference Service, Social Science Database, Sociological Abstracts, Sociology Database, ProQuest Dissertations & Theses Global);
7. SAGE Journals;
8. Taylor & Francis Online;
9. Ovid (PsycARTICLES, AMED, Embase, Global Health, MEDLINE, PsycINFO);
10. PubMed Central;
11. Web of Science (Arts & Humanities Citation Index, Book Citation Index, Conference Proceedings Citation Index, Emerging Sources Citation Index, Science Citation Index Expanded, Social Sciences Citation Index); and
12. Wiley Online Library.

3.3.3 Search Strategy

After an initial piloting, the following search terms, with the following Boolean search operator combinations, were used to search the information sources for records:

(Unaccompanied)

AND

(Refugee* OR Asylum-seek* OR "Asylum seek*" OR "Displaced person" OR "Forced ADJ4 migrant*" OR "Independent child migrant*" OR "Independent migrant child*")

AND

(Child* OR Kid* OR "Young person" OR "Young people" OR Youth OR Adolescent* OR Minor* OR Teenage*)

AND

(Resilien*)

These search terms were identified in line with the research question and the selection criteria. Initially, the search term combination included terms reflecting educational outcomes. However, upon piloting the initial search term combination and comparing it with the current combination, the initial search term combination was found to produce fewer search results than the latter. Accordingly, the review opted for the current search term combination without search terms on educational outcomes to maximize the sensitivity of the search. Moreover, all searches were conducted to cover full text and abstracts rather than abstracts only. Lastly, to ensure literature saturation, all reference lists of eligible studies were manually searched for relevant studies that were not found in the systematic search. The search record, including a full list of search terms and the combinations of terms used for each database, is available in Appendix B1.

3.3.4 Data Management

This review ensured research validity and reliability using two data management conditions. First, the selection process was governed by a dual-reviewer blind screening approach,

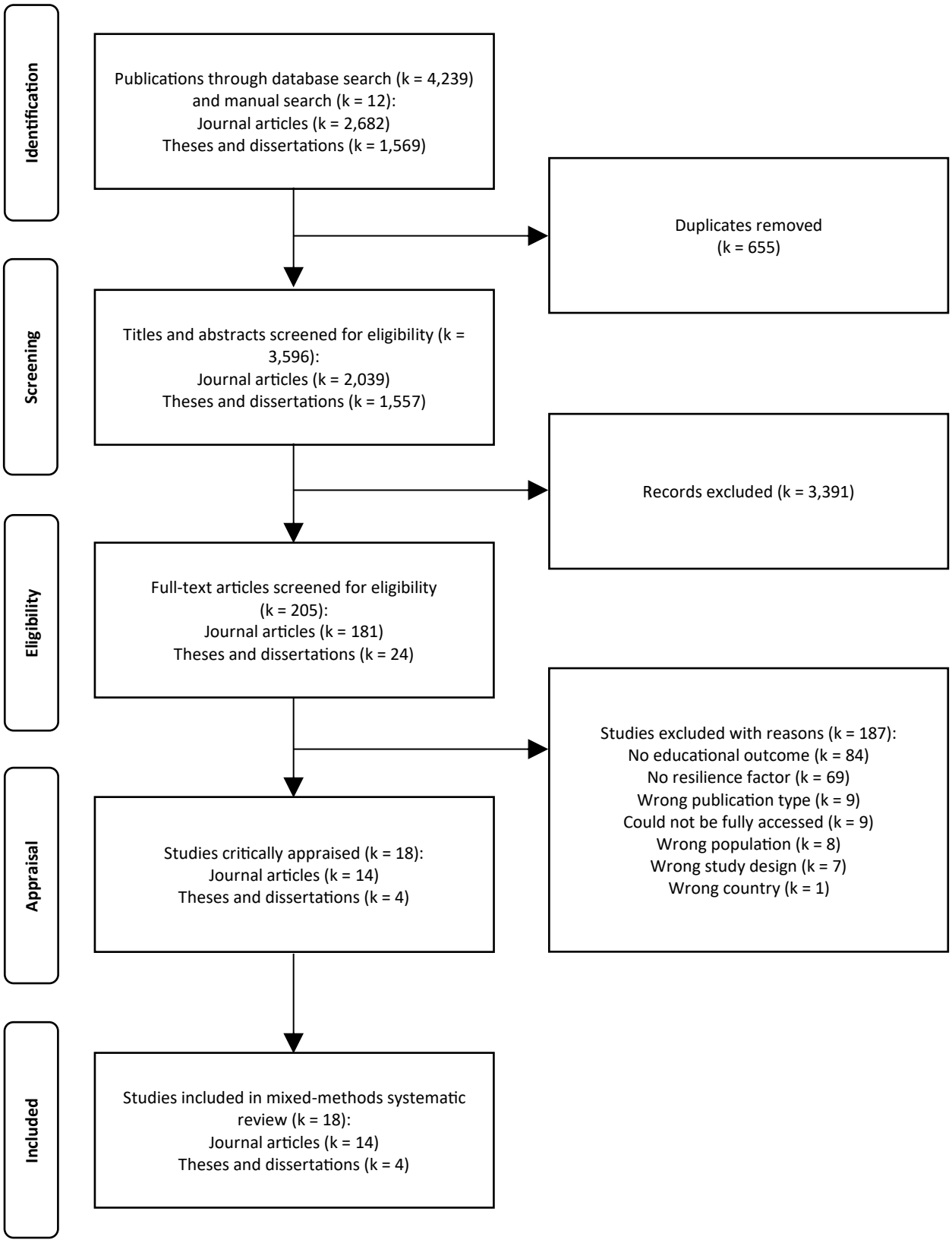
where the two coders – the researcher (myself with research expertise in refugee and forced migrant education) and another independent coder (a doctoral student and former schoolteacher with research expertise in refugee and forced migrant education recruited as a research assistant) – independently screened the search results at both the title and abstract screening stage and the full text screening stage. The two coders then met in regular discussion sessions to review all discrepancies that occurred during individual screening and agreed to resolve them by consensus. This screening approach has been proven to be more effective in identifying relevant studies than single-reviewer screening (Gartlehner et al., 2020) and dual-reviewer blind screening at the title and abstract screening only (Stoll et al., 2019). Second, the data collection process was governed by intercoder reliability, where two coders independently coded the eligible studies using the same coding scheme (MacPhail et al., 2016). The two coders then met in regular discussion sessions to review all discrepancies that occurred during individual coding sessions and agree to resolve them by consensus. The following software were used for this review: 1) Mendeley, a reference management software (Lorenzetti & Ghali, 2013), used for deduplication and overall reference management; 2) Rayyan, a systematic review management software (Ouzzani et al., 2016), used for the selection process and the dual-reviewer blind screening approach; and 3) NVivo, a qualitative and mixed-methods data management software (Jackson & Bazeley, 2019), used for data extraction through the quantitative meta-integration method (Frantzen & Fetters, 2016; Onwuegbuzie & Combs, 2010) and for meta-ethnographic synthesis (Noblit & Hare, 1988; Nye et al., 2016).

3.3.5 Selection Process

The process for selecting the eligible studies followed a three-stage approach. First, the returned search results were uploaded to Mendeley, a reference management software (Lorenzetti & Ghali, 2013), for a first round of deduplication, and then onto Rayyan, a systematic review management software (Ouzzani et al., 2016), for a second round of deduplication. Second, the filtered results underwent a title and abstract screening process, where the two coders

independently screened each study in accordance with the dual-reviewer blind screening approach. This process occurred on Rayyan. The two coders then met in regular discussion sessions to review all discrepancies that occurred during individual screening sessions and agreed to resolve them by consensus. Third, the filtered results underwent a full-text screening process, where the two coders independently screened each study in accordance with the dual-reviewer blind screening approach. This process occurred on Rayyan. The two coders then met in regular discussion sessions to review all discrepancies that occurred during individual screening and agreed to resolve them by consensus. Upon passing the third and final stage, the eligible studies for the mixed-methods review were identified. Figure 6 displays the flow diagram for the study selection process according to the PRISMA guidelines (Shamseer et al., 2015).

Figure 6. *PRISMA flow diagram for the study selection process (Study 1)*



3.3.6 Data Selection Process

The data selection process involved data extraction and transformation. In terms of data extraction, once search results were filtered according to the eligibility criteria, quantitative and qualitative data were extracted from the final included studies (Noblit & Hare, 1988; Nye et al., 2016). In order to pursue an integrative review process, the review pursued the quantitative meta-integration method, where the quantitative data was transformed into a qualitative format (QUAN → QUAL) in order to render it synthesizable with the qualitative (QUAL) data (Frantzen & Fetters, 2016; Onwuegbuzie & Combs, 2010). To do this, the eligible studies were uploaded to NVivo 12, a qualitative and mixed-methods data management software (Jackson & Bazeley, 2019), to enable the two coders to perform line-by-line coding of the studies' data in accordance with intercoder reliability and group the data into QUAN → QUAL and QUAL. Once the line-by-line coding was complete, the QUAL data and the QUAN → QUAL data were analyzed using meta-ethnographic synthesis (Noblit & Hare, 1988; Nye et al., 2016).

3.3.7 Data Items

For all studies, descriptive data is extracted regarding the study population, sample size and breakdown, study methodology, types of factors investigated, and types of outcomes investigated. For quantitative studies, all statistical data on the educational outcomes of UASCs (such as educational attainment, academic competency, language and literacy, school enrollment, and school attendance) are extracted, including statistical and inferential data. For qualitative studies, all experiential data on the educational outcomes of UASCs (such as educational attainment, academic competency, language and literacy, school enrollment, and school attendance) are extracted, including the analyses and interpretations of the study authors.

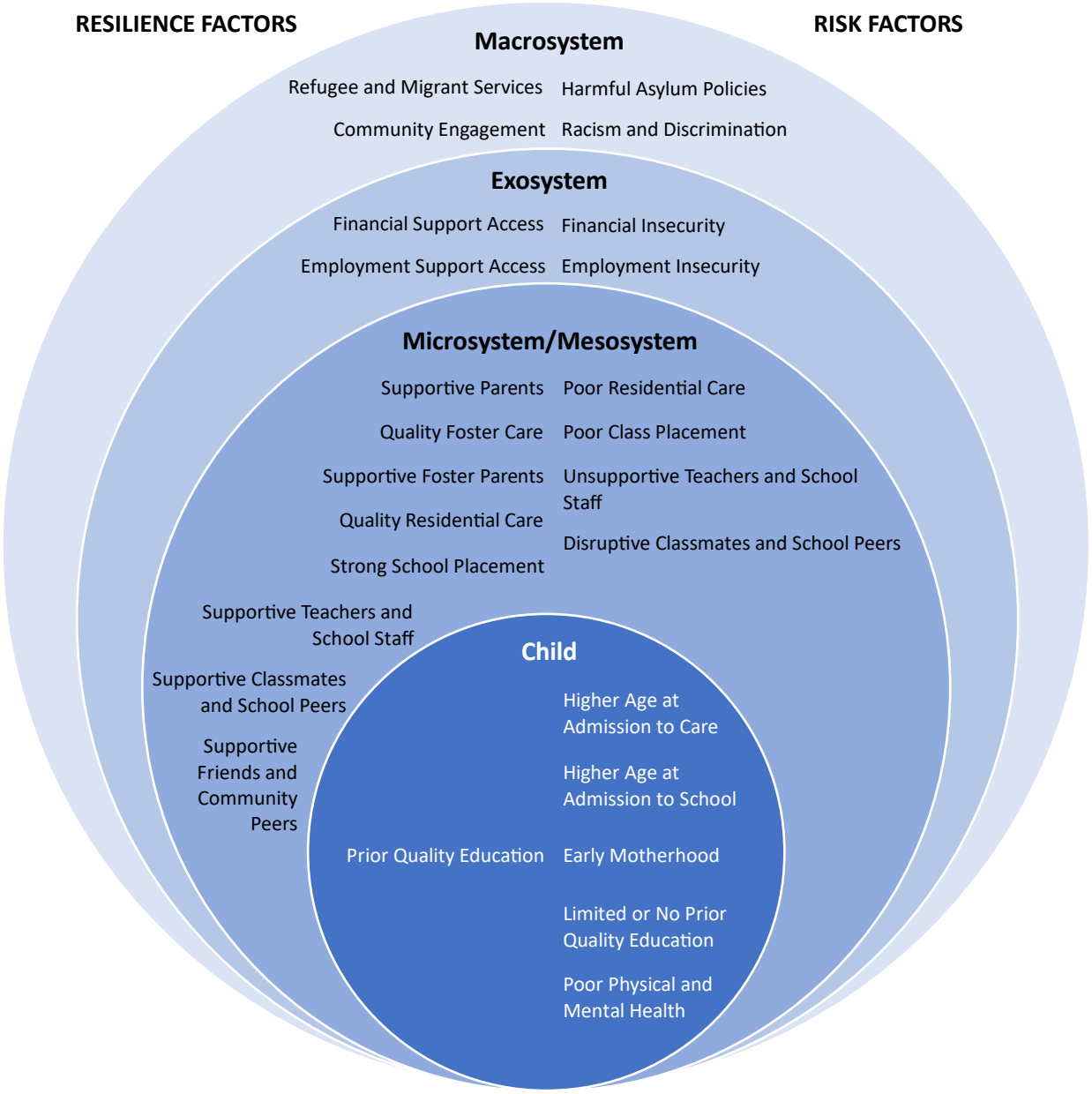
3.3.8 Data Synthesis

The purpose of the data synthesis was to help develop a new thematic understanding of how UASCs' educational resilience dynamics influence their educational trajectories. There is a high degree of heterogeneity in quantitative research around UASCs, making it not feasible to use

meta-analysis for the quantitative data (Sutton & Higgins, 2008). Consequently, this review pursued meta-ethnographic synthesis, characterized by line-of-argument synthesis and third-order interpretation (Noblit & Hare, 1988; Nye et al., 2016). First, the QUAL data and the QUAN → QUAL data were analyzed separately into analytical memos (Finfgeld-Connett, 2010). Second, the QUAL and the QUAN → QUAL analytical memos were brought back together as MIXED data to undergo a lines-of-argument synthesis, with the purpose of making an inference about the overall resilience-building processes of UASCs (Noblit & Hare, 1988; Nye et al., 2016). Finally, third-order interpretations were inferred from the MIXED data, which are themes based on the researchers' interpretation of the included studies' authors' interpretation (second order) of the experience of UASCs (first order) (Noblit & Hare, 1988; Nye et al., 2016).

The socio-ecological framework provides an ideal theoretical framework for understanding the educational resilience of UASCs in a cross-cultural, cross-contextual, and systematic way. Accordingly, the review utilized the socioecological model of development by Bronfenbrenner (1977, 1986) to examine the emerging risk and resilience factors. Bronfenbrenner's model envisions human development to occur in an ecosystem with the child at the center, composed of: 1) the microsystem, the complex relationships and physical settings experienced by the child; 2) the mesosystem, the interrelations between the microsystems; 3) the exosystem, the formal and informal social structures that do not contain but may directly influence the child; and 4) the macrosystem, the socio-cultural and socio-economic norms that shape and influence the various systems around the child. Figure 7 illustrates the risk and resilience factors identified by the review.

Figure 7. *Resilience and risk factors of education among unaccompanied and separated children (Study 1)*



3.3.9 Critical Appraisal

All studies eligible for inclusion were critically appraised for risk of bias, trustworthiness, and methodological quality using the CASP checklists (2022), where each study has been assessed by the appropriate checklist based on their methodological characteristics. To ensure the reliability of the review, both coders independently appraised each study using the appropriate checklist. The two coders then met in regular discussion sessions to review all discrepancies that occurred during individual critical appraisal sessions and agreed to resolve them by consensus.

3.3.10 Confidence in Cumulative Evidence

Confidence in discrete review findings was assessed using the GRADE-CERQual approach (Lewin et al., 2015, 2018). Assessment of confidence of a given review finding involved evaluating how likely it is that the finding represents a risk or resilience factor for positive educational outcomes in UASCs. This assessment was based upon an evaluation of the following: 1) methodological limitations; 2) coherence; 3) adequacy of data; and 4) relevance. Consequently, a summary table was produced listing each review finding, primary contributing studies, evaluations of the above four domains, an overall confidence rating (high, moderate, low, or very low), and an explanation of the rating judgment.

3.3.11 Ethical Approval

Given that the review did not involve the collection or processing of personal data or human participants, ethical approval was not required. The full protocol for this review has been registered and published on IDESR under the reference IDESR000002 (Aleghfeli & Hunt, 2021).

3.4 Critical Appraisal of Eligible Studies

The final 18 eligible studies included in the review were 14 journal articles and 4 doctoral theses and dissertations (Abunimah & Blower, 2010; Auger-Voyer et al., 2014; Aytar & Brunnberg, 2016; Bitzi & Landolt, 2017; Çelikaksoy & Wadensjö, 2019; Crea et al., 2018; Doggett, 2012; Evans et al., 2018; Farmbrough, 2014; Ghaeminia et al., 2017; J. S. Lee, 2012; Luster et al., 2010; Macciomei, 2017; O'Higgins, 2018; Pastoor, 2017; Peña et al., 2018; Rana et al., 2011; Rania et al.,

2014). The studies were from nine high-income countries: Ireland, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, the United Kingdom (UK), and the United States of America (US) (World Bank, 2024a), and the cumulative sample of participants is 23,498 UASCs. All studies have been critically appraised for risk of bias, trustworthiness, and methodological quality using the CASP checklists (2022), with each study assessed based on its methodological characteristics by the appropriate checklist. The results of the critical appraisal process are available in Appendix B2.

Eight studies used quantitative methods; three studies were longitudinal; and five studies were cross-sectional. Three studies used primary survey data self-reported by the child participant, while five studies used secondary administrative data. Self-reported survey data can be more susceptible to measurement error than administrative data due to potential issues of social desirability bias, meaning when the child responds to survey questions in a manner that is socially acceptable by others (Krumpal, 2013), and recall bias, meaning when the child is unable to remember past events or experiences accurately (Bell et al., 2019). However, administrative data may be more susceptible to other potential issues, such as missingness, where the rate of missing data results in biased estimates of parameters (Peugh & Enders, 2004). In terms of quantitative analytical approaches, four studies used regression analyses (linear regression, logistical regression, probit modeling, and fixed-effects multilevel modeling), with only one of these using interaction analysis. Other approaches pursued were ANOVA analyses, correlation analysis, chi-square analysis, independent sample t-tests, and cluster analysis. Only two studies compared the outcomes of UASCs with the outcomes of accompanied refugee children, enabling them to identify findings particular to the condition of being UASCs and not a condition of being refugees.

Fourteen studies used qualitative methods, with a range of designs including ethnographic approaches, case studies, grounded theory, phenomenology, narrative inquiry, qualitative program evaluation, and life story interviews. Only three studies either did not specify the design

or simply referred to it as ‘qualitative research’. Data collection involved the use of interviews, participant observation, focus groups, photo elicitation, and social work case files. The majority of studies used purposive sampling, while a minority used snowball and representative sampling. Also, it was unclear whether each study’s findings were particular to the condition of being UASCs or a condition of being refugees. Due to their socially constructed nature, research findings are often subconsciously susceptible to the researcher’s preconceived beliefs, ideas, and experiences. Such biases prompt questions about whose authority, style, and voice are being represented in the findings. Accordingly, critical self-reflection in the form of reflexivity, especially when studying refugee child populations, becomes a necessity (Attia & Edge, 2017). Only four qualitative studies were determined to be transparent and critically reflexive about how the researcher’s identity and positionality may have influenced the relationship between the researcher and participants. For example, Ghaeminia and colleagues (2017) relayed that one of the authors was a former UASC themselves, even falling in the same age category as the study participants, and explained how this allowed for an empathetic ability to relate to the social and psychological realities of the participants. Table 7 lists details of the eligible studies, including study participants, country of origin, country of settlement, sample sizes, age range of participants, study methodologies, factors identified, and outcomes examined.

Table 7. *Summary of eligible studies (Study 1)*

Study (Location)	Participants	Number (Child)	Age (Child)	Number (Adult)	Methods	Factors	Outcomes
Abunimah & Blower (2010) Ireland	Separated children seeking asylum from Nigeria, Somalia, DR Congo, Angola, Georgia, and other unnamed countries.	100	Age at data collection: 7-17 Age at arrival: 7-17	N/A	**QUAN:** Longitudinal study with cluster analyses of social work case files and other administrative data from the Irish health services. **QUAL:** Case study design of separated children seeking asylum using thematic content analysis of social work case files of youth.	Child, exosystem, macrosystem	Educational, attainment, academic competency, language and literacy, school enrollment, school attendance
Auger-Voyer, Montero-Sieburth & Peres (2014) Spain	Unaccompanied African youth from Morocco, Senegal and other African countries in a reception center, and their social workers and center staff	16	Age at data collection: 15-22 Age at arrival: Up to 17	13	**QUAL:** Ethnography of unaccompanied African youth in a reception center using thematic content analysis of participant observation and interviews with youth and reception center staff.	Child, microsystem, mesosystem, macrosystem	Educational attainment, language and literacy, school enrollment, school attendance
Aytar & Brunnberg (2016) Sweden	Unaccompanied asylum-seeking children and in a resilience support center, and their mentors.	17	Age at data collection: 12-19 (mean = 16)	3	**QUAN:** Longitudinal study with quasi-experimental design and correlation analyses of self-reported survey data. **QUAL:** Qualitative evaluation of a resilience support center for unaccompanied asylum-seeking children using thematic content analysis of open-question surveys with the children and of interviews with center mentors.	Microsystem, mesosystem, macrosystem	Educational attainment, academic competency, school enrollment, school attendance
Bitzi & Landolt (2017) Switzerland	Unaccompanied asylum-seeking children from Afghanistan, Eritrea, and Iran enrolled in school.	4	Age at data collection: 16	N/A	**QUAL:** Ethnography of the educational experiences of unaccompanied asylum-seeking children using thematic content analysis of interviews with youth and participant observation.	Child, microsystem, mesosystem, exosystem	Academic competency, language and literacy, school enrollment, school attendance
Çelikaksoy & Wadensjö (2019) Sweden	Unaccompanied minors from Syria, Afghanistan, Iraq, Iran, Somalia,	22,803 (from a sample of 2,210,889)	Age at data collection: 19-27 Age at arrival: 16-17	N/A	**QUAN:** Longitudinal study with probit modelling regression analyses on factors that predict education	Child, exosystem,	Educational attainment, language and literacy,

	Eritrea, Morocco, Algeria, Ethiopia, Gambia, Uganda, and other unnamed countries.				attainment and employment from linking several Swedish administrative datasets.		school enrollment
Crea, Hasson, Evans, Cardoso & Underwood (2018) USA	Unaccompanied refugee minors exiting foster care from El Salvador, Honduras, Guatemala, Mexico, Myanmar, DR Congo, Somalia, Eritrea, Afghanistan, Ghana, India, Iran, Tanzania, Belize, China, Congo, Haiti, Ivory Coast, Kenya, Liberia, Pakistan, and Thailand.	193	Age at data collection: 5-17 (mean = 17)	N/A	**QUAN:** Cross-sectional study with independent sample t-tests, chi-square analyses, and logistic regression on factors associated with educational attainment using administrative data from the Unaccompanied Refugee Minor program in the US.	Child, microsystem, mesosystem, macrosystem	Educational attainment, academic competency, school enrollment
Doggett (2012) England	Unaccompanied asylum-seeking children from Afghanistan and Iran.	3	Age at data collection: 16-19 (mean = 17) Age at arrival: 14-15 at arrival	N/A	**QUAN:** Cross-sectional study with descriptive statistics of survey data collected using the Resiliency Scales for Children and Adolescents (Prince-Embury, 2008). **QUAL:** Narrative inquiry of the resilience of unaccompanied asylum-seeking children in a local authority using thematic and structural content analysis of interviews with youth.	Child, microsystem, mesosystem, exosystem	Educational attainment, language and literacy, school enrollment
Evans, Pardue-Kim, Crea, Coleman, Diebold & Underwood (2018) USA	Unaccompanied refugee minors in foster care from Myanmar, Afghanistan, DR Congo, Honduras, El Salvador, Ethiopia, and Somalia.	30	Age at data collection: 19-25 (mean = 21) Age at arrival: Up to 18	N/A	**QUAN:** Cross-sectional study on the factors associated with education, employment, health, and well-being outcomes using chi-square analyses of survey data.	Microsystem, mesosystem	Educational attainment, school enrollment, school attendance
Farmbrough (2014) England	Unaccompanied asylum-seeking children from Afghanistan and unnamed African countries, and their foster caregivers and social workers.	5	Age at data collection: 18-20 (mean = 19) Age at arrival: 15-17	11	**QUAL:** Phenomenology of the educational experiences of unaccompanied asylum-seeking children using thematic content analysis of interviews with youth and focus groups with social	Microsystem, mesosystem, macrosystem	Academic competency, language and literacy

					workers and foster caregivers.		
Ghaeminia, Ghorashi & Crul (2017) Netherlands	Unaccompanied asylum-seeking minors from unnamed Africa, Asian and North American countries.	12	Age at data collection: 27-33 Age at arrival: 14-16	N/A	**QUAL:** Thematic content analysis of life story interviews with youth on their educational trajectories.	Child, microsystem, mesosystem, exosystem, macrosystem	Educational attainment, language and literacy, school enrollment, school attendance
Lee (2012) USA	Unaccompanied refugee minors from Sudan, Ethiopia, Kenya, Haiti, Guinea, Liberia, and Egypt.	15	Age at data collection: 21-37 (mean = 26) Age at arrival: 12-18 (mean = 16)	N/A	**QUAL:** Grounded theory design using semi-structured interviews with former unaccompanied refugee minors who exited the Unaccompanied Refugee Minor program in the US.	Macrosystem	Educational attainment, language and literacy, school enrollment
Luster, Qin, Bates, Rana & Lee (2010) USA	Unaccompanied refugee minors from Sudan, and their foster caregivers.	19	Age at data collection: 18-26 (mean = 22) Age at arrival: 11-17 (mean = 15)	20	**QUAL:** Thematic content analysis of interviews with youth and their foster caregivers on their educational resilience.	Child, microsystem, mesosystem, exosystem, macrosystem	Educational attainment, academic competency, school enrollment
Macciomei (2017) USA	Central American unaccompanied migrant minors from El Salvador, Guatemala and Honduras enrolled in one high school.	61 (from a sample of 92)	Age at data collection: 12-19 (mean = 16)	N/A	**QUAN:** Longitudinal study using ANOVA and fixed-effects multilevel modelling regression analyses on factors that predict education outcomes using a school administrative dataset. **QUAL:** Thematic content analysis of interviews with Central American unaccompanied migrant high school students.	Macrosystem	Academic competency, school attendance
O'Higgins (2018) England	Refugee and asylum-seeking children who were in care for 12 months or more.	167 (from a sample of 641,149)	Age at data collection: 16	N/A	**QUAN:** Cross-sectional study using ANOVA, correlation, and linear regression analyses on factors that predict education outcomes from linking several administrative datasets from the UK Department of Education.	Child, microsystem, mesosystem	Educational attainment, academic competency, school enrollment, school attendance
Pastoor (2017) Norway	Unaccompanied young refugee students across five schools from Afghanistan, Somalia, Eritrea, Ethiopia, Iraq, Iran, Russia, Nigeria, and Zimbabwe, and	40	Age at data collection: 16-23 Age at arrival: Up to 18	65	**QUAL:** Ethnographically oriented case study design of the educational experiences of unaccompanied young refugee students using thematic content analysis of interviews with youth and their social workers.	Microsystem, mesosystem, exosystem, macrosystem	Educational, attainment, academic competency, language and literacy, school enrollment

	their social workers.						
Peña, Jones, Orange, Simieou and Márquez (2018) USA	Unaccompanied immigrant children from El Salvador and Guatemala enrolled in one high school, and their parents and teachers.	3	Age at data collection: 16	11	**QUAL:** Exploratory case study design with thematic content analysis of interviews with youth, participant observation, and photo elicitation.	Microsystem, mesosystem	Language and literacy
Rana, Qin, Bates, Luster & Saltarelli (2011) USA	Unaccompanied refugee minors from Sudan, and their foster caregivers.	19	Age at data collection: 18-26 (mean = 22) Age at arrival: 11-17 (mean = 15)	20	**QUAL:** Thematic content analysis of interviews with youth and their foster caregivers on their educational resilience.	Child, microsystem, mesosystem, exosystem, macrosystem	Educational, attainment, academic competency, language and literacy, school enrollment
Rania, Migliorini, Scalvo, Cardinali & Lotti (2014) Italy	Separated and unaccompanied adolescents from Albania, Egypt, Greece Kosovo, Morocco, and Senegal in community centers for adolescents in Italy	10	Age at data collection: 17-21 (mean = 19) Age at arrival: Up to 18 (mean = 16)	N/A	**QUAL:** Grounded theory-oriented evaluation of educational interventions using thematic content analysis of interviews with separated and unaccompanied adolescents	Exosystem, macrosystem	Language and literacy, school enrollment

3.5 Results

Using the socio-ecological framework, the review synthesized evidence into Bronfenbrenner's socio-ecological model of development (1977, 1986): the child, microsystem, mesosystem, exosystem, and macrosystem. The quality of the evidence was carefully assessed using the GRADE-CERQual assessment (Lewin et al., 2015, 2018). Results of the assessment for all factors, along with their overall confidence ratings and an explanation justifying each rating, are available in Appendix B3.

3.5.1 The Child

At the child-level, the eligible studies reported evidence on six risk and resilience factors for the education of UASC students, covering four domains: age, gender, educational status, and health status.

Age. Higher age at admission to care and higher age at admission to school were found to be risk factors for the education of UASCs.

Higher Age at Admission to Care as a Risk Factor. Higher age at admission to care puts UASC students at risk of lower educational attainment and academic competency outcomes, as well as more absences and more school changes. Among UASCs exiting a federally sponsored foster care program in the USA, for example, each additional year of age of admission to care was significantly associated with a lower likelihood of exiting care without a high school diploma (Crea et al., 2018). Likewise, in the UK, UASCs who entered care at a higher age were significantly more likely to have more school changes, more absences, lower examination scores, and lower educational attainment (O'Higgins, 2018).

Higher Age at Admission to School as a Risk Factor. Higher age at admission to school puts UASC students at risk of lower educational attainment outcomes. In Sweden, UASC students are often more likely to be in education at later ages than non-UASC students and Swedish students, attributing it to UASC students entering schools later, leading them to undergo different educational trajectories (Çelikaksoy & Wadensjö, 2019). Higher age at admission to

school often contributed to negative educational experiences as well. In Switzerland, several Afghan and Eritrean UASCs expressed their discomfort at being placed in classes incompatible with their age and thus being the oldest (Bitzi & Landolt, 2017). This resulted in inconsistent attendance and a desire to disenroll from school. In Spain, Arab and African UASCs below 16 years old were enrolled in public schools with local Spanish peers, while those over 16 were often enrolled in vocational programs for special needs youth (Auger-Voyer et al., 2014). When comparing the two, social workers explained that UASCs registered in vocational programs often displayed poorer attendance records.

Gender. Early pregnancy and motherhood were together found to be a risk factor for the education of UASC girls.

Early Motherhood as a Risk Factor. UASC girls are often at greater risk of lower educational attainment outcomes. In the USA, UASC boys exiting foster care were significantly less likely to exit care while still enrolled in K–12 education, implying boys are more likely to exit care with a high school diploma or be enrolled in college than girls (Crea et al., 2018). In Sweden, UASC girls also exit education later than boys (Çelikaksoy & Wadensjö, 2019). However, one study reports different results. In Ireland, separated girls seeking asylum are often as likely as boys to be resilient, highly motivated to be educated, do very well in school, and become active in the community. Despite these varied results on gender, young UASC mothers are often vulnerable to negative educational experiences. Due to the financial burden and stress of parenting, young Sudanese mothers in the USA, for example, had to reduce their secondary and tertiary education attendance (Rana et al., 2011). A few were even expelled when it was discovered that they were pregnant. In Ireland, social workers noted that girls who arrived pregnant and were likely to be victims of sexual assault were found to not report any good progress in school and were missing school regularly (Abunimah & Blower, 2010).

Educational Status. Limited or no prior quality education was found to be a risk factor for the education of UASCs, while prior quality education was found to be a resilience factor for the education of UASCs.

Limited or No Prior Quality Education as a Risk Factor. Limited to no prior education often contributed to negative educational experiences. In a reception center in Spain, for example, Arab and African UASCs with little exposure to education in their countries of origin were often not motivated to attend school or participate in the center's educational programming, resulting in poor attendance (Auger-Voyer et al., 2014). In the UK, several Afghan UASCs initially found the school routine and expectations challenging due to never having been to school (Doggett, 2012). In the USA, despite receiving English language instruction in refugee camps, several Sudanese UASCs and their foster caregivers reported that the initial years of schooling were challenging, especially when it came to English reading, writing, and comprehension (Luster et al., 2010; Rana et al., 2011).

Prior Quality Education as a Resilience Factor. Exposure to prior quality education often contributed to positive educational experiences. In the Netherlands, several UASCs attributed their educational attainment to exposure to quality schooling in their countries of origin prior to it being abruptly disrupted by war (Ghaeminia et al., 2017). In the USA, foster caregivers of Sudanese UASCs noted that those who had received an education in the refugee camp were often more likely to succeed in secondary and higher education (Luster et al., 2010; Rana et al., 2011). However, several UASCs have pointed out that educational institutions often overlook or disregard their previous educational outcomes and experiences. In Switzerland, Afghan and Iranian UASCs participating in an educational program at a reception center often complained that the center did not take into consideration their prior educational knowledge when it came to their class placement (Bitzi & Landolt, 2017).

Health Status. Poor physical and mental health were together found to be a risk factor for the education of UASCs.

Poor Physical and Mental Health as a Risk Factor. Poor physical and mental health outcomes were found to be predictors of lower educational attainment, academic competency, and attendance outcomes. In the UK, UASCs with poor scores in the Strengths and Difficulties Questionnaire, an emotional and behavioral screening questionnaire for children and young people, were significantly more likely to have higher school absences, lower educational attainment, and lower GCSE scores (O'Higgins, 2018). In Ireland, UASCs who were traumatized with physical and mental health problems and in need of higher levels of support were also highly likely to miss school regularly (Abunimah & Blower, 2010). Poor mental and physical health outcomes often contribute to negative educational experiences as well. In the USA, foster caregivers of several Sudanese UASCs expressed that those with mental health problems such as posttraumatic stress disorder and depression or previous physical trauma (such as head injuries and malnutrition) were at an increased risk of failing at school, having difficulties with English language acquisition, or finishing high school on time (Luster et al., 2010; Rana et al., 2011). In the UK, several Afghan UASCs expressed that school gave them anxiety, making learning the English language initially challenging for them (Doggett, 2012).

3.5.2 Microsystem/Mesosystem

At the micro-level and meso-level, the eligible studies reported evidence on twelve risk and resilience factors for the education of UASC students, covering eight domains: parents, foster caregivers, residential accommodation, educational placement, teachers and school staff, classmates or school peers, and friends and community peers.

Parents. Supportive parents were found to be a resilience factor for the education of UASCs.

Supportive Parents as a Resilience Factor. Few studies exist on the effect of parents on the educational outcomes of UASC students. In a homework tutoring program in Sweden, half of the participating UASCs attributed their school enrollment to their parents encouraging them to do well in school (Aytar & Brunnberg, 2016). Nevertheless, the presence of

parents often contributed to positive educational experiences. In one high school teaching Sudanese UASCs in the USA, several UASCs and their foster caregivers credited the UASCs' commitment to educational attainment to the psychological presence of their parents (Rana et al., 2011). In the Netherlands, several UASCs similarly expressed gratitude to their parents for instilling in them strong educational values, thereby enabling their educational attainment (Ghaeminia et al., 2017). In another high school teaching Central American UASCs in the USA, several English as a Second Language teaching staff and parents reunited with their children. The physical presence of parents and their participation in school activities had a positive influence on the UASCs' English language acquisition (Peña et al., 2018).

Foster caregivers. Quality foster care and supportive foster caregivers were found to be resilience factors for the education of UASCs.

Quality Foster Care as a Resilience Factor. Quality foster care was found to be a strong predictor of better educational attainment, academic competency, and school enrollment outcomes. In the USA, longer periods in foster care were significantly associated with higher levels of educational attainment for UASCs (Crea et al., 2018). Every month in foster care was significantly associated with a lower likelihood of exiting care without a high school diploma, a greater likelihood of exiting care with a high school diploma, and a greater likelihood of exiting care while enrolled in higher education. Another study revealed that UASCs exiting a federally sponsored foster care program in the USA were enrolled in post-secondary education at a significantly higher rate than UASCs who exited domestic foster care – thereby emphasizing the role of quality foster care (Evans et al., 2018). In the UK, UASCs in foster care were significantly more likely to have higher educational attainment and higher GCSE scores than those in other forms of care (O'Higgins, 2018). In a homework tutoring program in Sweden, half of the participating UASCs attributed their school enrollment to their foster caregivers, emphasizing the importance of schoolwork (Aytar & Brunnberg, 2016).

Supportive Foster Caregivers as a Resilience Factor. Supportive and caregiving foster caregivers often contribute to positive educational experiences. In the USA, several Sudanese UASCs attributed their educational attainment and academic competency to their foster caregivers being supportive and caring (Rana et al., 2011). Examples included homework support and tutoring, help with school choice, transportation to school, financial assistance, educational planning and priority-setting, addressing discrimination and peer harassment, and being their advocates at school through participating in school activities. In the Netherlands, some UASCs indicated that their foster caregivers supported their educational attainment, while others noted that their foster caregivers were unsupportive because they did not have enough faith in them (Ghaeminia et al., 2017). Lastly, in the USA, ESL teaching staff teaching Central American UASCs found that the support of foster families was crucial for enhancing English language acquisition (Peña et al., 2018).

Residential Accommodation. Poor residential care was found to be a risk factor for the education of UASCs, while quality foster care was found to be a resilience factor for the education of UASCs.

Poor Residential Care as a Risk Factor. Few studies exist that connect residential care with negative educational attainment outcomes for UASC students. In the UK, UASCs in residential care centers or group homes were significantly more likely to have lower educational attainment and lower GCSE scores than those in other forms of care (O'Higgins, 2018). Residential care, which is unsupportive of educational development, often contributes to negative educational experiences. Social workers in Norway noted that several UASCs did poorly in school or with their Norwegian language acquisition because they did not feel adequately supported in residential care centers or that group homes were not yet recognized as formal child welfare placements (Pastoor, 2017). Lack of recognition meant that these group homes were restricted in the types of support they could offer. In the Netherlands, some UASCs experienced a lack of

motivation and focus on their education due to the presence of co-residents who displayed a reluctance to attend school (Ghaeminia et al., 2017).

Quality Residential Care as a Resilience Factor. Residential care that is supportive of educational development often contributes to positive educational experiences. In Norway, social workers noted how residential care centers continued to support UASCs through activities and assets such as homework planning and support, staff members having teacher training, sports and outdoor activities, lessons on cooking and life skills, and holiday celebrations (Pastoor, 2017). At a reception center in Spain, intercultural mediators employed by the center supported Arab and African UASCs by acting as their cultural brokers, running individual and group tutoring sessions on Spanish literacy skills, and advising on immigration paperwork (Auger-Voyer et al., 2014). In the Netherlands, several UASCs felt motivated by their counselors, whom they often saw as parental figures, and by their co-residents to go to school (Ghaeminia et al., 2017).

Educational Placement. Poor class placement was found to be a risk factor for the education of UASCs, while strong school placement was found to be a resilience factor for the education of UASCs.

Poor Class Placement as a Risk Factor. Poor class placement often contributed to negative educational experiences. In the USA, several Sudanese UASCs felt challenged in grades that were too advanced for them (Rana et al., 2011). This was because they came from academic contexts where grade placement was based on knowledge of the content area, unlike in their American schools, in which grade placement was based on age. This made their adjustment to the new educational context challenging, resulting in several UASCs having to repeat grades. At a reception center in Switzerland, several Afghan and Iranian UASCs complained that by ignoring their prior educational background, they felt misplaced in classes with other UASCs who were comparatively illiterate (Bitzi & Landolt, 2017). This resulted in inconsistent attendance and the UASCs wishing to disenroll from school. In Spain, several Arab and African UASCs were

demotivated to attend vocational programs adapted to the needs of Spanish youth with learning impediments, thereby resulting in poor attendance records (Auger-Voyer et al., 2014).

Strong School Placement as a Resilience Factor. Strong school placement was found to be a strong predictor of higher educational attainment and attendance outcomes. In the UK, refugee and asylum-seeking children in care enrolled in mainstream schools have significantly higher exam scores than children in other education settings, while refugee and asylum-seeking children in care not enrolled in mainstream schools were significantly more likely to have lower educational attainment and lower GCSE scores and are more likely to be absent from school (O'Higgins, 2018). Strong school placement often contributes to positive educational experiences as well. In the UK, several Afghan UASCs found being in mainstream schools a positive experience because it enabled them to learn English and gain vocational qualifications for future employment (Doggett, 2012). In Norway, however, several UASCs noted that non-mainstream schools were not helpful for their Norwegian language skills (Pastoor, 2017). In Switzerland, several Afghan and Eritrean UASCs found education at the mainstream school better than the education they received in their reception center (Bitzi & Landolt, 2017). Given the evidence, further research is required on additional school-related factors that enable UASCs in mainstream schools to have positive educational experiences.

Teachers and School Staff. Unsupportive teachers and school staff were found to be a risk factor for the education of UASCs, while supportive teachers and school staff were found to be a resilience factor for the education of UASCs.

Unsupportive Teachers and School Staff as a Risk Factor. Unsupportive teachers and school staff often contribute to negative educational experiences. In the USA, several Sudanese UASCs encountered difficulties with the teaching methods and educational resources provided, which ultimately resulted in their decision to withdraw from school (Luster et al., 2010; Rana et al., 2011). Their foster caregivers expressed frustration at teachers who had low expectations of UASCs or conditioned their aptitude on having culture-specific knowledge in

subjects such as American history or American government. In the Netherlands, several UASCs often felt unmotivated by their teachers in secondary vocational education and higher education, negatively impacting their Dutch language (Ghaeminia et al., 2017). In the UK, several Afghan and Iranian UASCs noted that their school experience was initially negative due to not making a connection with their teachers (Doggett, 2012).

Supportive Teachers and School Staff as a Resilience Factor. *S*upportive teachers and school staff often contribute to positive educational experiences. In the UK, several UASCs credited their enhanced English language skills to the personalized teaching methods employed by their English for Speakers of Other Languages instructors (Farmbrough, 2014). Examples included teachers being willing to home tutor, schools placing children in small learning groups of 2-3 students, communication between teachers and social workers, and ESOL teaching staff themselves being ethnically and nationally diverse, thus enabling students to relate to their teachers. Foster caregivers and social workers reiterated the UASCs' sentiments and commended the various strategies used by ESOL teachers to facilitate their education. Examples of teaching strategies include incorporating a sensitivity to the cultural, religious, and personal needs of the children, engaging with foster caregivers or social workers on children's welfare, and pursuing an individualized approach where the needs of the children are addressed individually – rather than treating them as a homogenous population. In the USA, ESL teaching staff teaching Central American UASCs relied on an instructional strategy based on collaborative learning and an individualized approach to teaching, enabling them to group students based on language proficiency and pursue more targeted teaching (Peña et al., 2018). In the USA, Sudanese UASCs and their foster caregivers praised teachers for being supportive, even going to the extent of providing extra instruction (Luster et al., 2010; Rana et al., 2011). In the Netherlands, several UASCs attributed their educational attainment to positive relationships they had developed with teachers, whom they considered parental figures (Ghaeminia et al., 2017).

Classmates and School Peers. Disruptive classmates and school peers were found to be a risk factor for the education of UASCs, while supportive classmates and school peers were found to be a resilience factor for the education of UASCs.

Disruptive Classmates and School Peers as a Risk Factor. Disruptive classmates and school peers often contribute to negative educational experiences. In Switzerland, several Afghan and Eritrean UASCs found it challenging to establish relationships with Swiss classmates due to age differences, to the extent that one Eritrean girl expressed plans to leave school and pursue employment (Bitzi & Landolt, 2017). In the Netherlands, several UASCs felt demotivated due to classmates who refused to interact or communicate with them, which made it difficult for them to learn the Dutch language (Ghaeminia et al., 2017). Regardless, a few UASCs did not feel discouraged by this, as they stopped feeling estranged when they reached university. In the USA, several Sudanese UASCs found it challenging to establish connections with school peers whom they felt were less mature or lacked the kinds of early life experiences they had faced, while others complained that disruptive classmates made it difficult for them to focus (Rana et al., 2011). The UASCs' foster caregivers similarly noted how disruptive classmates often contributed to UASCs' lower grades. In Spain, social workers attributed the poor attendance of Arab and African youth in vocational programs to their inability to establish relations with their Spanish peers (Auger-Voyer et al., 2014). Lastly, in the UK, several Afghan and Iranian UASCs noted that the inability to make friends made their school experience negative (Doggett, 2012).

Supportive Classmates and School Peers as a Resilience Factor. Supportive classmates and school peers often contribute to positive educational experiences. In the UK, several UASCs benefited from interacting with same-age British classmates and particularly the acquisition of appropriate English language colloquialisms and cultural communication used by their same-aged British classmates (Farmbrough, 2014). In the USA, several Sudanese UASCs felt warmly received by their American classmates. They formed friendships through activities like sports, which had a positive impact on their school adjustment (Rana et al., 2011). In Norway,

several UASCs attending schools with diverse ethnic populations developed positive relationships with classmates, thereby leading to positive experiences (Pastoor, 2017). In the UK, several Afghan and Iranian UASCs also noted that school was a positive experience because it had become a means for them to make friends and consequently had helped to reduce the English language barrier (Doggett, 2012).

Friends and Community Peers. Supportive friends were found to be a resilience factor for the education of UASCs.

Supportive Friends and Community Peers as a Resilience Factor. Supportive friends and community peers often contribute to positive educational experiences. In Norway, several UASCs spoke fondly of their Norwegian friends, with whom they engaged in activities such as sports. They remarked that these friendships helped enhance their Norwegian language skills (Pastoor, 2017). In the Netherlands, several UASCs felt supported in their trajectory to educational attainment by friendships, romantic relationships, and relationships with the parents of friends, whom they viewed as parental figures (Ghaeminia et al., 2017). In the USA, Sudanese UASCs acted as an emotional support group for each other (Rana et al., 2011). They engaged in activities such as playing sports together and motivated each other in their trajectories towards educational attainment.

3.5.3 Exosystem

At the exo-level, the eligible studies reported evidence on four risk and resilience factors for the education of UASC students, covering two domains: financial status and employment status.

Financial Status. Financial insecurity was found to be a risk factor for the education of UASCs, while financial support access was found to be a resilience factor for the education of UASCs.

Financial Insecurity as a Risk Factor. Financial insecurity puts UASC students at greater risk of lower educational attainment outcomes. In Sweden, UASC students are often more

likely to be in education at later ages than non-UASC students and Swedish students due to financial limitations (Çelikaksoy & Wadensjö, 2019). Financial restraints often contributed to negative educational experiences as well. In the USA, Sudanese UASCs and their foster caregivers explained how financial uncertainty forced UASCs, particularly young mothers, to reduce their school attendance and eventually disenroll (Luster et al., 2010; Rana et al., 2011). In Ireland, social workers named financial restrictions as a leading cause for UASCs having inconsistent school attendance, dropping out of school, or having never enrolled in school in the first place (Abunimah & Blower, 2010). In Norway, one Kenyan UASC explained that she was compelled to pursue part-time employment due to not having the financial resources to pay rent and being unable to receive financial help from her parents (Pastoor, 2017).

Financial Support Access as a Resilience Factor. Access to financial support often contributes to positive educational experiences. In the USA, several Sudanese UASCs and their foster caregivers noted how access to financial grants from the local foster care agency enabled UASCs to enroll in higher education (Luster et al., 2010; Rana et al., 2011). In the Netherlands, one UASC revealed that financial aid from a local non-governmental organization enabled him to enroll in higher education while his asylum application was pending (Ghaeminia et al., 2017). In Italy, several UASCs receiving educational support from a community center noted in their feedback to the center that more work grants were needed to support their professional development (Rania et al., 2014).

Employment Status. Employment insecurity was found to be a risk factor for the education of UASCs, while employment support access was found to be a resilience factor for the education of UASCs.

Employment Insecurity as a Risk Factor. Having career and employment insecurity often contributes to negative educational experiences. At a reception center in Spain, several Arab and African UASCs saw education as distracting them from employment, thereby reducing their attendance in the center's educational programming activities (Auger-Voyer et al.,

2014). In Switzerland, one Eritrean girl skipped school to get to work and planned to disenroll to find employment instead (Bitzi & Landolt, 2017). In the USA, several Sudanese UASCs explained that working long hours to financially support relatives in Sudan took time away from their education (Luster et al., 2010).

Employment Support Access as a Resilience Factor. In pursuit of economic stability, it is quite common for UASC students to work and study at the same time. In Sweden, UASC students are more likely to combine their studies and work when compared to non-UASC students and their Swedish peers (Çelikaksoy & Wadensjö, 2019). Career development for youth often contributes to positive educational experiences as well. At a community center in Italy, several UASCs reported that more personalized professional training, internships, or ways to find jobs or plan their careers could play a positive role in their educational development (Rania et al., 2014). In the UK, several Afghan UASCs valued completing school because it would give them vocational qualifications in areas such as nursing and mechanics (Doggett, 2012). In Norway, one Kenyan UASC pursued part-time employment to improve her Norwegian language skills and become a nurse (Pastoor, 2017). In the USA, several Sudanese UASCs saw employment as an indicator of success, inspiring them to graduate from school (Luster et al., 2010). In the Netherlands, several UASCs attributed their educational attainment to their ambition for a stable professional future (Ghaeminia et al., 2017).

3.5.4 Macrosystem

At the macro-level, the eligible studies reported evidence on four risk and resilience factors for the education of UASC students, covering three domains: immigration policy, racism and discrimination, and community resources.

Immigration Policy. Harmful immigration policies were found to be a risk factor for the education of UASCs.

Harmful Asylum Policies as a Risk Factor. Negative asylum outcomes are predictors of lower educational attainment outcomes. In the USA, UASCs who had obtained legal

permanency (Green Card, USA Citizenship) were significantly more likely to exit foster care with a high school diploma than those who had not (Crea et al., 2018). Negative asylum outcomes are often the result of harmful asylum policies, such as immigration detention. UASC students who experienced immigration detention are often at greater risk of lower educational attainment and attendance outcomes. In one high school district in the USA, Central American UASCs who had been detained once recorded a smaller year-on-year increase in GPA and a higher year-on-year increase in mean days absent (Macciomei, 2017). UASC students with pending immigration status report negative educational experiences as well. In the USA, several UASCs were compelled to postpone schooling due to their pending immigration status (J. S. Lee, 2012). In the Netherlands, several UASCs without a residence permit had their school trajectory abruptly halted at the age of 18. UASCs who had had their schooling disrupted often referred to those years spent out of education as their 'lost years' (Ghaeminia et al., 2017). In Ireland, social workers noted how UASCs waiting for their asylum application outcome often attended school less (Abunimah & Blower, 2010).

Racism and Discrimination. Racism and discrimination were found to be risk factors for the education of UASCs.

Racism and Discrimination as a Risk Factor. Irrespective of context, experiences of racism and discrimination at school often contribute to negative educational experiences. This was evident in the perspectives of UASC students, foster caregivers, and social workers. In the USA, several Sudanese UASCs frequently experienced bullying from their American peers due to their darker skin tone (Rana et al., 2011). It did not matter whether they were in a majority white American school or in majority African American schools – they still experienced color-based discrimination. Foster caregivers similarly noted that Sudanese UASCs experienced harassment regularly. As their guardians, they employed several strategies to help the UASCs sustain their educational progress and deal with discrimination and peer harassment at school. These strategies included serving on school boards to act as their advocates, maintaining regular

communication with teachers, and providing them with continued emotional support. In the Netherlands, UASCs often felt othered out at their schools due to their skin color or poor language skills (Ghaeminia et al., 2017). In Norway, several UASCs craved the opportunity to be active in their schools, make friends, and improve their Norwegian language skills (Pastoor, 2017). However, UASCs often found it difficult to socialize with their Norwegian peers, even reporting that they avoided sitting next to them and ignored their questions. In the UK, foster caregivers and social workers explained how schools themselves can act as barriers to the UASCs' educational trajectories (Farmbrough, 2014). They stated how some teachers and schools neither facilitated UASCs' integration nor protected them from racist bullying that, in extreme circumstances, resulted in violence and harm being inflicted on them.

Community Resources. Refugee and migrant support access and community engagement opportunities were found to be resilience factors for the education of UASCs.

Refugee and Migrant Support Access as a Resilience Factor. The presence of refugee and migrant support services often contributes to positive educational experiences. At a community center in Sweden, several UASCs appreciated the homework tutoring services they received, which enabled them to meet school expectations (Aytar & Brunnberg, 2016). At a community center in Italy, UASCs spoke positively of the educational support resources they received, such as professional training activities, indoor sports activities, and work grants (Rania et al., 2014). The adolescents also spoke highly of the educators and the fact that the community environment was supportive and caring. In the USA, Sudanese UASC students and their foster caregivers named the refugee resettlement agency as the most important source of social support thanks to resources such as caseworkers who served as cultural brokers helping the UASCs adjust to their new life, financial support until the age of 21, financial aid grants for college tuition until the age of 23, independent living skills classes such as cooking and financial literacy, regular tutoring services, and training for foster caregivers (Luster et al., 2010; Rana et al., 2011). One UASC in the Netherlands explained how support from a dedicated foundation for refugee students

had allowed them to continue their studies and move on to higher education, despite the fact that their asylum application was still pending (Ghaeminia et al., 2017).

Community Engagement Opportunities as a Resilience Factor. Community engagement and volunteering often contribute to positive educational experiences. In the Netherlands, several UASCs attributed completing secondary or higher education to having their sense of belonging reaffirmed through participating in activities such as volunteering work, giving back to the community, or acting as a role model for other youth (Ghaeminia et al., 2017). In Norway, several UASCs attributed improvements in their Norwegian language skills to their participation in volunteering and youth organizations (Pastoor, 2017). At a reception center in Spain, several Arab and African UASCs felt they had improved their Spanish language skills through voluntarily tutoring other youth (Auger-Voyer et al., 2014). Several UASC students frame education as a means of supporting their home communities. In the USA, Sudanese UASC students noted that one of the primary objectives they set for themselves upon resettling in the USA was giving back and rebuilding Sudan (Luster et al., 2010). In another study, Sudanese UASC students in the USA attributed their educational attainment to their ambition to contribute to rebuilding their communities in Sudan (J. S. Lee, 2012).

3.6 Discussion and Conclusion

The review reported important findings about the risk and resilience factors that support the education of UASCs in high-income countries. At the child level, the eligible studies examined evidence on six risk and resilience factors for the education of UASC students, covering four domains: age, gender, educational status, and health status. The review found higher age at admission to care, higher age at admission to school, early motherhood, limited or no prior education, and poor physical and mental health as child-level risk factors. The review also found prior quality education to be the sole child-level resilience factor. At the micro-level and meso-level, the eligible studies reported evidence on twelve risk and resilience factors for the education of UASC students, covering eight domains: parents, foster caregivers, residential accommodation,

friends and community peers, school placement, teachers and school staff, class placement, and classmates or school peers. The review found poor residential care, unsupportive teachers, poor class placement, and disruptive classmates as micro- and meso-level risk factors. The review also found supportive parents, quality foster care, supportive foster caregivers, quality residential care, supportive friends and community peers, strong school placement, supportive teachers, and supportive classmates and school peers as the micro-level and meso-level resilience factors. At the exo-level, the eligible studies reported evidence on four risk and resilience factors for the education of UASC students, covering two domains: financial status and employment status. The review found financial insecurity and employment insecurity as exo-level risk factors. The review also found financial support access and employment support access as exo-level resilience factors. At the macro-level, the eligible studies reported evidence on four risk and resilience factors for the education of UASC students, covering three domains: immigration policy, racism and discrimination, and community resources. The review found harmful asylum policies and racism and discrimination as macro-level risk factors. The review also found refugee and migrant support and community engagement as macro-level resilience factors. In short, these findings contribute to knowledge about the educational resilience of UASCs because they provide evidence on the important role that microsystemic (representing the complex relationships and physical settings experienced by the child) and mesosystemic (representing the interrelations between the microsystems) factors play in the educational resilience of UASCs (Bronfenbrenner, 1977, 1986).

The study displayed several methodological strengths that enabled it to contribute to knowledge about the educational resilience of UASCs in high-income countries. The review's strengths lie in its rigorous methodology, applicability across contexts, and actionable framework for supporting resilience. The review provides a comprehensive synthesis of the current state of knowledge regarding the educational resilience of unaccompanied asylum-seeking children. By adopting a socio-ecological lens, it highlights the multidimensional and complex nature of building educational resilience in UASCs and other children with refugee and forced migrant

backgrounds. Gaining a socio-ecological understanding of what enables educational resilience provides practitioners with a helpful conceptual framework to effectively deliver educational and social care services to UASC students. Knowledge about UASCs' individual, home, school, and community contexts is necessary for understanding the ideal environment for enabling youth to academically thrive. The design of a sensitive search strategy allowed for the synthesis and interpretation of evidence from heterogeneous methodologies, contexts, and findings. The insights gained can inform policy and practice to better support the education and well-being of this vulnerable population. As evident from the search strategy and eligible studies, evidence on the effectiveness of educational interventions for UASC students is mixed, echoing the heterogeneous findings observed in prior reviews (Fazel et al., 2012; Höhne et al., 2020; O'Higgins et al., 2018). Moreover, factors such as race, ethnicity, or pre-migration language acquisition skills were not studied. Further research is needed to address key gaps, including the role of individual factors like race, ethnicity, and language, as well as testing targeted interventions. Strengthening the evidence base on risk and resilience factors in education is necessary to build better educational interventions. The specifically educational findings from this review build on the results of previous reviews on risk and resilience factors for UASC students (Fazel et al., 2012; Höhne et al., 2020; O'Higgins et al., 2018) and are intended to contribute to future studies. While scope remains for deeper investigation, it meaningfully advances knowledge in an understudied area with major humanitarian significance. By elucidating educational resilience processes, it provides practitioners and policymakers with vital insights to uplift UASCs seeking safety and opportunity through migration.

The review reports some methodological limitations that should be carefully considered. First, the generalizability of the findings is limited by the small number of countries represented in the eligible studies, with the majority coming from the USA. It is also relevant to note that the USA is not a party to the Refugee Convention, unlike the other countries represented. The specific context, policies, and support systems in high-income countries may differ significantly from

those in low- and middle-income countries. Therefore, the transferability of findings to different settings should be approached with caution. Future systematic reviews could explore risk and resilience factors for education for UASC students resettled in middle- and low-income studies to supplement and broaden the findings of this review. Conducting systematic reviews focused specifically on middle- and low-income host countries could reveal how different contexts influence educational resilience. Second, despite the search terms being designed and piloted to maximize search sensitivity and literature saturation, it remains likely that the review did not identify all relevant studies. For example, the search strategy may have filtered out studies that did not meet the eligibility criteria but could have still reported relevant quantitative or qualitative findings related to the education of UASC students. While the search strategy was comprehensive, supplementary searches may uncover additional relevant studies. Consulting non-peer-reviewed sources could help address publication bias concerns. Third, systematic reviews involving quantitative studies may be susceptible to publication bias (Ayorinde et al., 2020). Studies with positive or significant findings are more likely to be published, while those with null or non-significant results may be overlooked. This bias can distort the overall understanding of risk and resilience factors, potentially leading to an overestimation of positive outcomes or protective factors. Addressing these limitations will require dedicated funding and research infrastructure explicitly focused on UASCs and other children with refugee and forced migrant backgrounds. Lastly, and most importantly, although the review was able to identify risk and resilience factors of education for UASCs in high-income countries, it was not able to examine how these risk and resilience factors interact. Studying interactions between factors and across socio-ecological levels would enable a better understanding of the processes through which educational resilience occurs for UASCs. All in all, realizing the full potential of research on the educational resilience of UASCs will depend on the political will to invest in children with refugee and forced migrant backgrounds' futures.

The review carries significant research implications both for the study of the educational trajectories of UASCs and for the broader field of resilience research. First, little is known about the long-term educational development of UASC students after resettlement in high-income countries. As such, there is a need for longitudinal studies on the link between UASC students' educational outcomes and various non-educational outcomes (such as physical health, mental health, immigration, and employment) to assess in aggregate their level of risk and resilience (Feinstein et al., 2021). Second, it is unclear from the eligible studies whether their findings are particular to the condition of being UASC students or just a condition of being refugees. Methodological approaches such as quantitative experimental and quasi-experimental designs, qualitative comparative analysis, and case-selective designs that examine the educational trajectories of UASC and non-UASC students could address this issue. Third, the review emphasizes the important role of the microsystem and mesosystem for UASC students. Future research can explore microsystem and mesosystem contexts more deeply and how they affect the educational experiences and outcomes of UASC students. Lastly, there are opportunities for future meta-analyses to investigate the relationship between one resilience or risk factor and one or more educational outcomes and for future meta-syntheses exploring how particular socio-ecological domains can affect the educational experiences of UASC students. To address the gaps in knowledge about the educational resilience of UASCs, a comprehensive approach is needed. This involves combining research, policy, and practice to understand the various factors and processes that influence the educational resilience of UASCs. With concerted effort, the gaps can be filled to create an inclusive evidence base that informs responsive and ethical policies, ensuring that the educational rights of children with refugee and forced migrant backgrounds worldwide are upheld. More research is needed to gain a complete understanding of the challenges faced by UASCs when trying to access education. Providing holistic support services can help mitigate risks and encourage resilience.

The review has important implications for educational and social care policy and practice for UASCs. The review reveals with very high confidence that harmful asylum policies are linked to negative educational experiences and outcomes. As such, the review makes various recommendations for immigration policies impacting UASC students. First, the review highlights that it is important to ensure educational access for UASC students whose asylum applications are pending. The evidence revealed that having access to education in the host country forcibly disrupted while their immigration status was still pending could strongly impact their self-esteem and motivation for education. Such institutional responses to UASC students can impact their reengagement with their continued learning (Hunt, 2021). Second, the review reaffirms that avoidance of immigration detention is necessary for ensuring that educational experiences do not become negative, echoing findings from other reviews revealing how detention can negatively impact mental health outcomes (Mitra & Hodes, 2019). Third, the review emphasizes that it is important to prioritize family reunification policies for refugees and migrants. The review reported extensive evidence on the importance of both the physical and psychological presence of parents in the lives of UASC students, echoing findings and policy implications reported by other reviews (Fazel et al., 2012). The review findings also have various implications for practitioners supporting the education of UASC students. First, the findings report evidence on the unique vulnerability of sub-groups of UASC students; namely, young mothers, minors who experienced immigration detention, and minors whose immigration statuses are unknown or pending. Such evidence calls for the development and elaboration of specialized interventions and programs for these subgroups that address their unique needs and circumstances and support them in their educational trajectories. Second, the findings identified several quantitative studies that found positive associations between effective delivery of various children and youth services (such as foster care, social work, teaching and instruction, and refugee and migrant services) and UASC students' educational outcomes. Finally, the review identified cross-contextual qualitative evidence on what is perceived to be quality foster care, quality residential care, and quality

teaching from the perspective of UASC students, their foster caregivers, their social workers, and their teachers. Such evidence reaffirms the importance of considering the voice of UASC students in understanding what it means to be educationally resilient (Chase, 2010; Kohli, 2006).

Chapter 4. Study II – Examining socio-ecological factors contributing to the promotion and protection of education for unaccompanied and separated children in Jordan

Summary. OBJECTIVES: Limited research exists on the underlying processes through which socio-ecological factors contribute to the educational resilience of unaccompanied and separated children (UASCs). This can be attributed to a lack of quantitative reporting on the educational outcomes of UASCs. The study examined the relationship between UASC status and educational achievement among Palestinian refugees in Jordan using the PISA 2009 dataset. It identified socio-ecological factors at the student-level, teacher-level, and school-level that are associated with the promotion and protection of education for this vulnerable group. METHODS AND ANALYSIS: The sample comprised 410 Palestinian refugee students in Jordan, of whom 91 were identified as UASCs. Correlational analysis examined the relationship between UASC status and educational achievement. Hierarchical regression analysis then identified socio-ecological factors impacting educational achievement after controlling for student, teacher, and school variables. The main effects and interaction effects in the regression models revealed key promotive and protective processes. FINDINGS: Findings showed that UASC status was negatively correlated with achievement across all subjects. However, female gender, higher educational, social, and cultural status, a positive class disciplinary climate, positive teacher-student relations, and higher school use of ability grouping provided promotive effects on achievement for UASCs. Higher teacher use of structuring and scaffolding strategies provided a protective-enhancing effect on reading achievement for UASCs. Higher school use of ability grouping provided a protective-stabilizing effect on both reading achievement and scientific achievement for UASCs. In contrast, high school academic selectivity provided a vulnerable-reactive effect on scientific achievement for UASCs. NOVELTY AND IMPROVEMENT: The study highlights the importance of adopting a socio-ecological and socio-interactional framework with robust quantitative approaches to gain

an in-depth understanding of UASCs' educational resilience. The identification of microsystemic and mesosystemic factors (those at teacher-level and school-level) as critical promotive and protective assets provides vital insights to inform research, policy, and practice aimed at supporting UASCs' ability to thrive academically despite the risks associated with being UASC.

4.1 Introduction

4.1.1 Rationale

Jordan is home to over 3 million refugees and forced migrants as of 2022 (UNHCR, 2024; UNRWA, 2024). This amounts to 3% of the population of refugees and forced migrants worldwide. The vast majority of refugees in Jordan (over 2.5 million) are UNRWA refugees, all of whom are Palestinian, while a noticeable minority (over 744,000) are UNHCR refugees, with nine out of ten UNHCR refugees being Syrian. Of the refugees and forced migrants in Jordan, a small group are unaccompanied and separated children (UASCs). Palestinian UASCs registered under the UNRWA mandate often enroll in the UNRWA school system (Irfan, 2019), while Syrian UASCs registered under the UNHCR mandate often enroll in Jordanian public schools (Krafft et al., 2022). Despite the cumulative risks associated with being UASC (Derluyn et al., 2009; Fazel et al., 2012; Hodes et al., 2008; Oberg & Sharma, 2023), recent studies have uncovered various socio-ecological factors that contribute positively to the educational resilience of UASCs, thereby enabling them to achieve positive educational outcomes (Aleghfeli & Hunt, 2022; O'Higgins et al., 2018; Ott & O'Higgins, 2019). Currently, there exists a significant knowledge gap regarding how socio-ecological factors contribute to the promotion and protection of education for unaccompanied and separated children in Jordan. This called for the need to understand the underlying interactional processes through which socio-ecological factors contribute to positive educational achievement. However, very little research has been done that focuses on the educational outcomes and resilience of UASCs in Jordan. This can be attributed to a lack of quantitative reporting on the educational outcomes of UASCs (Khan et al., 2019). Only the PISA 2009 dataset was found to contain a sub-sample of Palestinian UASCs in UNRWA schools. Using the PISA 2009 dataset, this study examines the educational achievement outcomes of Palestinian UASCs in UNRWA schools in order to understand how socio-ecological factors contribute to the promotion and protection of education for UASCs in Jordan.

4.1.2 Objectives

The main research question of this study was to understand how socio-ecological factors contributed to the promotion and protection of education for UASCs in Jordan. The study combined correlational and hierarchical regression analyses, as well as main effects plots and interaction plots, to understand the processes by which certain socio-ecological factors enabled (resilience factors) or hindered (risk factors) the educational trajectories of UASCs in Jordan. The study attempted to address this research question through four objectives: First, the study examined whether there was a statistically significant relationship between UASC status and educational achievement among Palestinian students in UNRWA schools in Jordan. The objective of this question was to establish whether UASC status truly functioned as a risk factor with a study sample of refugee students. Second, the study examined whether the relationship between UASC status and educational achievement among Palestinian students in UNRWA schools in Jordan varied when controlling variables at the student-level, teacher-level, and school-level. The objective of this question was to identify which socio-ecological factors functioned as resilience factors that positively impacted the educational achievement of refugee students, regardless of UASC status. Third, the study examined whether there was a statistically significant relationship between educational achievement and the interactions between UASC status and variables at the student-level, teacher-level, and school-level among Palestinian students in UNRWA schools in Jordan. The objective of this question was to understand how UASC status as a risk factor and socio-ecological factors that acted as resilience factors interacted. Fourth, the study explored what student-level variables, teacher-level variables, and school-level variables functioned as promotive factors for positive educational outcomes for UASC students. The objective of this question was to examine how these risk factors and resilience factors interacted to better understand the resilience-building promotive processes for UASCs in Jordan. Lastly, the study explored what student-level variables, teacher-level variables, and school-level variables functioned as protective factors for positive educational outcomes for UASC students. The

objective of this question was to examine how these risk factors and resilience factors interacted to better understand the resilience-building protective processes for UASCs in Jordan. Findings from this study were then synthesized and discussed with regard to their research implications for both the study of the education of UASCs and the broader field of resilience research. Implications for educational and social care policy and practice for UASCs in Jordan and other countries with significant populations of children with refugee and forced migrant backgrounds were also discussed.

4.2 Literature Review

This literature review section explores research on the educational outcomes and resilience of UASCs in Jordan, focusing on Palestinian UASCs in particular. It first provides background on the context of Palestinian UASC in Jordan enrolled in UNRWA schools. Next, it establishes a conceptualization of educational resilience as positive educational outcomes despite exposure to adversity (Masten, 2014; Rutter, 2012), shaped through interaction between the child and their environment (Luthar et al., 2000; Luthar & Cicchetti, 2000; Ungar, 2008). The review then adopts a socio-ecological approach (Bronfenbrenner, 1977, 1986) and a socio-interactional approach (Vygotsky, 1967, 1978) to consider how factors at the individual, home, school, and community levels influence the educational resilience of UASCs. Furthermore, it discusses how these factors may interact to support promotive and protective processes in UASCs in Jordan, outlining statistical approaches to identify them. Lastly, the review argues for combining variable-focused analysis (Tudor & Spray, 2017) to pinpoint factors associated with UASCs' educational outcomes and process-driven approaches (Rudd et al., 2021) to understand how interactions between factors facilitate educational resilience.

4.2.1 Unaccompanied and Separated Children in Jordan

Estimating the number of UASCs in Jordan is difficult, as quantitative reporting on the size of the UASC population is irregular and scarce. For UASCs protected under the UNHCR mandate, UNHCR reported 1,913 registered UASCs in Jordan as of 2022 (UNHCR, 2022). As for

UASCs protected under the UNRWA mandate, the most recent data dates back to 2010, which indicated 553 Palestinian refugee orphans registered with UNRWA in Jordan (UNRWA, 2011). It is also likely that several UASCs in Jordan are not registered with either UNHCR or UNRWA, rendering them undocumented and making them hard to quantify as well. Access to education for UASCs also varies. Physical integration in school alone does not necessarily translate to social or educational integration (Ager & Strang, 2008; McIntyre & Abrams, 2021). On the one hand, studies on Syrian UASCs in Jordan revealed that UASCs are exposed to several pre-migration challenges stemming from being separated from their family (Chandler et al., 2020) as well as post-migration challenges, such as statelessness, poverty, malnutrition, poor educational access, poor health, high levels of child labor and child marriage, and societal stigma due to perceived loss of kinship identity (AlMakhamreh & Hutchinson, 2018). Such challenges prevented them from feeling fully integrated in education. On the other hand, little is known about the educational trajectories of Palestinian UASCs.

In response to the ethnic cleansing of Palestinians in what is termed as the *Nakba,* النكبة (In Arabic: 'catastrophe') (Bashir & Goldberg, 2018; Khalidi, 2020; Pappé, 2007; Sa'di & Abu-Lughod, 2007), UNRWA was created in 1949 as a relief and human development agency to provide direct relief and works programs for Palestinian refugees in Jordan, Lebanon, Syria, and the Palestinian territories (East Jerusalem, the West Bank, and Gaza Strip) (Irfan, 2019). Education is a core function of UNRWA. In Jordan alone, UNRWA operated 161 schools serving 113,485 Palestinian refugee students (UNRWA, 2023). Despite major disruptions throughout its history (e.g., the Arab-Israeli Wars, the Lebanese Civil War, the First and Second Intifadas, the Syrian Civil War, and the blockade and military campaigns against the Gaza Strip), the UNRWA education program continued to display resilient functioning, with Palestinian refugee students displaying good educational outcomes, making it integral to Palestinian child development and learning (Irfan, 2019). A World Bank study (Abdul-Hamid et al., 2016) found that UNRWA students in 2007 outperformed their peers at public schools in Jordan by the equivalent of one

year's worth of learning, despite their socioeconomic disadvantages. However, not all Palestinian refugee children in Jordan enroll in UNRWA schools due to socio-economic conditions, such as financial barriers, domestic duties, and a lack of school engagement (UNICEF, 2020; UNRWA, 2012). Additionally, many Palestinian refugee families integrated into Jordanian society over time and received Jordanian citizenship, enabling the parents to enroll their children in public or private schools in Jordan (Irfan, 2019; UNRWA, 2012). Despite the existence of evidence on the educational resilience of Palestinian refugee students (Abdul-Hamid et al., 2016; Irfan, 2019), such evidence does not usually capture the educational resilience of Palestinian UASCs.

4.2.2 Conceptualizing Educational Resilience for UASCs in Jordan

UASC status has often been identified as a risk factor in various studies on refugees' mental health outcomes. Both unaccompanied children (Hodes et al., 2008) and separated children (Derluyn et al., 2009) were found to have experienced a higher number of adverse events when compared to non-UASCs, such as separation from family members (Geltman et al., 2005; Hjern et al., 1998). However, in education, some UASCs still overcame those odds by reporting positive educational outcomes or displaying positive educational experiences (Aleghfeli & Hunt, 2022). In investigating the educational achievement outcomes of UASCs in Jordan, this study hoped to understand both the socio-ecological factors and the promotive and protective processes that are associated with UASCs improving educationally. There is consensus in the literature that concludes that resilience should neither be viewed as an internal trait nor as a personal characteristic of the individual. Instead, the literature recognizes that the display of resilience concerns an interaction of the individual with the wider system (Aleghfeli, 2021; Cicchetti, 2010; Feinstein et al., 2021; Luthar et al., 2000; Luthar & Cicchetti, 2000; Masten, 2001). Rutter (2012) exemplifies this perspective when he defines resilience as:

> Reduced vulnerability to environmental risk experiences, the overcoming of a stress or adversity, or a relatively good outcome despite risk experiences … it is an interactive concept in which the presence of resilience has to be inferred from individual variations

> in outcome among individuals who have experienced significant major stress or adversity (p. 336).

Since resilience is not a trait of the child, Rutter (1979, 1987) emphasizes the need to focus on the processes underlying individual differences in disadvantage, such as promotive processes, which enhance a child's development and well-being, regardless of the presence of adversity or stressors, and protective processes, which mitigate the negative impact of adverse experiences or stressors on a child's development and well-being. As such, understanding UASCs' educational resilience would necessitate investigating their education outcomes in comparison to their non-UASC counterparts and identifying what individual characteristics and environmental factors are associated with ameliorating risk and achieving positive educational outcomes. Taking this conceptualization into consideration, this study defines educational resilience as the presence of positive educational outcomes despite exposure to significant risk or severe adversity (Masten, 2014; Rutter, 2012). Educational resilience is also the result of a dynamic engagement between the child and their immediate environment (Luthar et al., 2000; Luthar & Cicchetti, 2000) and is specific to the socio-ecological and socio-interactional context of the child (Ungar, 2008).

4.2.3 Socio-ecological Factors and Educational Resilience

This study utilized the socio-ecological theory of development (Bronfenbrenner, 1977, 1986) to consider the role that various factors existing at the student-level, teacher-level, and school-level play in improving educational outcomes for UASCs. In a systematic review of risk and resilience factors in education for UASCs in high-income countries, Aleghfeli and Hunt (2022) identified socio-ecological factors existing at the student-level, teacher-level, and school-level that enable positive educational trajectories for UASCs in high-income countries. At the individual level, they recognized that some personal characteristics, such as prior quality education, contributed to UASCs' educational resilience. However, they found that most of the influential factors in education for UASCs were found externally in their immediate environment.

Such microsystemic and mesosystemic factors were found to have enabled UASCs to overcome adversity, adapt to new environments, and persist in their educational pursuits. In particular, Aleghfeli and Hunt (2022) found that teacher-level factors and school-level factors, including access to quality education and supportive learning environments, inclusive schools, well-trained teachers, and appropriate resources, were crucial for UASCs' educational resilience. In conclusion, a socio-ecological approach to understanding educational resilience among UASCs recognized the interplay of student-level, teacher-level, and school-level factors. It provided a comprehensive framework to explore the multiple systems influencing educational resilience and promoted a holistic understanding of UASCs' educational experiences. By adopting this approach, the study was able to also communicate findings in a manner that can inform future researchers, practitioners, and policymakers; elaborate existing educational programming; and create supportive class and school environments that foster the educational resilience of UASCs.

4.2.4 Promotive and Protective Processes behind Educational Resilience

Resilience processes can be further illustrated through the identification of how resilience factors function as promotive and protective factors in the presence of UASC status as a risk factor. This study followed a socio-interactional approach (Vygotsky, 1967, 1978) that considered how the interactions between risk and resilience factors occurred and explained how they contributed to educational resilience-building processes for UASCs in Jordan. Prior conceptual work extensively discussed and reported on how risk and resilience factors can be observed statistically based on the direction and function of a statistical effect (Luthar et al., 2000; Rutter, 1979, 1987; Sameroff, 2006). On the one hand, risk factors are often understood to be factors associated with a lower likelihood of positive outcomes and a higher likelihood of negative or socially undesirable outcomes. In statistical terms, risk factors function as any observed negative effect. For the purposes of this study, the key risk factor investigated is UASC status, which prior studies have identified as a risk factor for refugee students (Aleghfeli & Hunt, 2022; Derluyn et al., 2009; Fazel et al., 2012; Hodes et al., 2008).

On the other hand, resilience factors are often understood to be factors associated with a higher likelihood of positive outcomes and a lower likelihood of negative or socially undesirable outcomes (Aleghfeli, 2021; Feinstein et al., 2021). They can be observed in two ways (Luthar et al., 2000; Rutter, 1979, 1987; Sameroff, 2006). The first way is as a promotive factor, whose positive effects are the same regardless of whether the level of risk is high or non-existent. In statistical terms, they function as a main effect. The second way is as a protective factor, whose positive effects are stronger when the level of risk is high than when the level of risk is low. In statistical terms, they function as an interaction effect. It's important to note that protective and promotive factors function differently according to the socio-ecological and socio-interactional context of the child (Bronfenbrenner, 1977, 1986; Vygotsky, 1967, 1978). As such, protective and promotive factors identified by this study must be seen as multidimensional, socially constructed, and contextually specific, as defined by the child and their immediate context (Luthar et al., 2000; Rutter, 1979, 1987; Sameroff, 2006). As such, this study's investigation of protective factors and promotive factors allows for exploring how a child's contextual factors contribute to educational resilience-building through their interaction with UASC status as a risk factor.

4.2.5 Operationalizing Educational Resilience for Analysis

Variable-focused analyses and process-driven approaches offered complementary perspectives that were valuable for operationalizing educational resilience among UASCs for quantitative investigation. These statistical approaches offered nuanced insights into the socio-ecological factors and socio-interactional processes that contribute to UASCs' educational resilience. One way to gain an understanding of how educational resilience in UASCs occurs is through variable-focused analyses (Tudor & Spray, 2017). These analyses helped identify specific variables that are linked to positive educational outcomes in UASCs. In this study, variable-focused analyses required examining variables existing at the student-level, teacher-level, and school-level that played a role in the educational achievement of UASCs. Such analyses also

facilitated comparisons between UASCs and other groups, providing insights into specific risk factors and resilience factors that uniquely impacted UASCs' educational trajectories.

On the other hand, process-driven approaches (Rudd et al., 2021) offered a deeper understanding of the dynamic and contextually embedded processes that contributed to educational resilience among UASCs. This study used process-driven approaches to examine the main effects and the interaction effects of variables at the student-level, teacher-level, and school-level on the educational outcomes of UASCs. The goal was to understand the process by which these factors shape their educational resilience. By examining the effects of these variables on educational outcomes, the study was able to identify the promotive and protective role that various socio-ecological factors have in facilitating educational resilience. All in all, by combining variable-focused analyses and process-driven approaches, the study identified socio-ecological factors and socio-interactional processes that could clarify the educational resilience among UASCs. Gaining such a comprehensive understanding will be especially crucial for the development and elaboration of evidence-based educational programs and policies that support UASCs in overcoming challenges and achieving positive educational outcomes.

4.3 Methods

This methods section explains how the cross-sectional study utilized data from the PISA 2009 that was sampled and analyzed. PISA is an international large-scale assessment by the OECD that assesses the extent to which students have acquired, near the end of their compulsory education, key knowledge and skills that are essential for full participation in modern society (OECD, 2024). The dataset contained educational achievement data alongside contextual variables for 410 Palestinian refugee students of which 91 were UASC, enrolled in 13 UNRWA schools (OECD, 2010, 2012). Outcome variables were reading, mathematics, and science achievement. The main predictor was UASC status, with additional student-level, teacher-level, and school-level variables included. The study used correlation analyses to assess the relationship between UASC status and achievement. Additionally, hierarchical regression analyses were

conducted to examine variations in this relationship when controlling for different variables. The goal was to identify factors enabling educational resilience. The estimation procedures used in this study took into account PISA's complex survey design by incorporating the recommended steps and survey weights for analyzing pooled plausible values (OECD, 2012; Rubin, 1987). Missing data patterns were assessed and determined to be missing completely at random (D. B. Rubin, 1976).

4.3.1 Dataset

Reliable data on the real number of UASCs or the educational outcomes of UASCs is often unavailable or limited (Khan et al., 2019). After reviewing various international large-scale assessments, only the PISA 2009 dataset was found to contain a sub-sample of UASCs. Two datasets were then obtained from the PISA 2009 cycle and merged to be used in the study:

- The PISA 2009 Jordan Student Database (henceforth known as the student dataset) contains assessment results from 6,486 15-year-old students and their responses to the student information questionnaire.
- The PISA 2009 Jordan School Database (henceforth known as the student dataset) contains responses from principals of 210 schools to the school information questionnaire.

PISA measures the scholastic performance of 15-year-old students in reading, mathematics, and science (OECD, 2024). PISA 2009 was administered in 65 countries over a 42-day testing period between 1 March 2009 and 31 August 2009 (OECD, 2010, 2012). The assessments were also supplemented by detailed student-level and school-level questionnaires that were filled out by students and school principals, respectively. Jordan's school types in PISA 2009 were represented by four different strata: Public, Private, UNRWA, and Discovery schools, the latter being schools managed through public-private partnerships. Data on UNRWA students and UNRWA schools were taken from the student dataset and the school dataset, respectively, and then merged by linking the 5-digit school identification number (SCHOOLID). The selection of the PISA 2009 cycle over other cycles of PISA was mainly due to the fact that it was the last cycle where Jordan

allowed for the calculation of results by school type. From the PISA 2012 cycle onwards, Jordan opted to not disclose the calculation of results by school type, replacing the school type indicators with 'Undisclosed Stratum' in the PISA dataset.

4.3.2 Sample

The final dataset comprises 410 students, including 91 with UASC status, identified by their student identification number, and enrolled in 13 UNRWA schools in Jordan, identified by their school identification number. The final dataset also contains 680 variables, including PISA assessment results, student information, and school information. The PISA 2009 tests were conducted using a nationally representative, two-stage stratified sample, where Level 1 are schools that were randomly sampled, and Level 2 are students that were randomly sampled within these schools (OECD, 2010, 2012). The OECD determined the sample size using systematic probability proportional to size sampling, where the number and distribution of PISA-eligible students were set in order to be representative of the total number of enrolled 15-year-old students in Jordan in 2009 (107,254) and their distribution in the four different strata in Jordan: Public schools (54.46%), Discovery schools (32.3%), Private schools (6.92%), and UNRWA schools (6.32%). Accordingly, 410 students from 13 UNRWA schools were deemed PISA-eligible and selected to undergo the PISA assessments. These 410 students were selected from the PISA 2009 dataset (91 of whom have UASC status). The 410 students represent 26.68% of the cumulative student population of the 13 UNRWA schools. However, since it was only possible to identify UASCs who are refugees under the UNRWA mandate from the dataset, the study only examines the educational outcomes of Palestinian UASCs. This means that UASCs who are refugees under the UNHCR mandate, such as Syrian UASCs and Iraqi UASCs, were not examined in this study.

In an attempt to understand this sample of 410 students in relation to the population of 1,537 students, the study used their proportion sizes to approximate the margin of error with a confidence interval set at 95% using Cochran's formula (Cochran, 1977), which is written as:

$$e = Z\sqrt{\frac{p(1-p)}{(N-1)(\frac{n}{N-n})}} \quad (1)$$

Equation (1) shows e as the margin of error that expresses the sampling error in the measurement, Z as the Z-score for a confidence interval of 95%, which is 1.96, N as the cumulative student population of the 13 schools included in the PISA student dataset, which is 1,537 students, and n as the final sample of students included in the PISA student dataset, which is 410 students. The equation produced a margin of error is 3.67%, meaning that, given that this sample was collected at random, there is a 95% chance that the true parameter for the cumulative student population of the 13 schools is within ±3.67% of the sample estimate. However, it should be recognized that, given that the design of this study is correlational and does not intend to establish causal inference, this margin of error should only be taken as a guide when reading through the results.

4.3.3 Variables

For this study, the outcome variables were the three educational achievement means from the student database. The UASC status variable was generated from the student database using existing conceptualizations by the Committee on the Rights of the Child of unaccompanied children and separated children (United Nations, 2005). The student, teacher, and school variables were selected based on socio-ecological factors that were previously found to impact the education of UASCs (Aleghfeli & Hunt, 2022). The study used Little's MCAR (Missing Completely at Random) test on SPSS (Little, 1988) to identify whether the missing data is missing at random or not (D. B. Rubin, 1976). The data was determined to be MCAR as per Little's MCAR test, $X^2(29761) = 2631, p = 1$. Given that the data is MCAR, the study uses pairwise deletion to deal with missingness, which omits cases with missing values in one or more variables in analyses that examine those variables (Allison, 2002).

Outcome Variables. Three domains were assessed in PISA 2009: reading achievement, mathematical achievement, and scientific achievement. Reading achievement is defined as "an individual's capacity to understand, use, reflect on and engage with written texts, in order to

achieve one's goals, to develop one's knowledge and potential, and to participate in society" (OECD, 2010, p. 14). Mathematical achievement is defined as "an individual student's capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgements and to use and engage with mathematics in ways that meet the needs of that individual's life as a constructive, concerned and reflective citizen" (OECD, 2010, p. 14). Scientific achievement is defined as "an individual's scientific knowledge and use of that knowledge to identify questions, to acquire new knowledge, to explain scientific phenomena, and to draw evidence-based conclusions about science-related issues, understanding of the characteristic features of science as a form of human knowledge and enquiry, awareness of how science and technology shape our material, intellectual, and cultural environments, and willingness to engage in science-related issues, and with the ideas of science, as a reflective citizen" (OECD, 2010, p. 14). Positive scores achieved in each outcome indicated higher skills in each domain. Additionally, the OECD (2012) reported each variable as demonstrating good internal consistency for Jordan, with Cronbach's $\alpha = .91$ (reading achievement), $\alpha = .88$ (mathematical achievement), and $\alpha = .86$ (scientific achievement).

To generate student achievement estimates, OECD utilized the plausible value method (Mislevy, 1991; Mislevy et al., 1992; OECD, 2012). The plausible value methods used all available information for each student to impute missing achievement estimates, thereby generating several plausible values for each student. In PISA, each outcome was represented by five plausible values and scaled on 0-600 points (e.g., for reading achievement: PV1READ ~ PV5READ). It is important to note, however, that the use of plausible values meant that these achievement items were not actual student test scores and cannot be used to report individual achievement. Instead, these items are only suitable for reporting population achievement or sub-population achievement (Rutkowski & Rutkowski, 2010). Additionally, the OECD (2012) states that survey weights must be applied to an averaging of the plausible values to generate valid parameter estimates and calculate appropriate standard errors. As such, the study uses the same sampling

weights recommended by the OECD to ensure that the study's analytical strategy calculated appropriate final estimates and standard errors. Steps to generate those final estimates and standard errors are explained in the estimation procedures section.

UASC Status Variable. The predictor variable of interest and risk factor of the study is UASC status. Identifying UASC status in the student dataset relied on information regarding student enrollment in UNRWA schools. Students who were enrolled in UNRWA schools were determined to have refugee status, as UNRWA schools only enroll Palestinian refugees under the UNRWA mandate (Irfan, 2019). The conceptualization of UASC status used in this study was rooted in international legal frameworks around what defines an unaccompanied child and a separated child. On being unaccompanied, the Committee on the Rights of the Child (United Nations, 2005) defined unaccompanied status as having been "separated from both parents and other relatives and are not being cared for by an adult who, by law or custom, is responsible for doing so" (CRC/GC/2005/6, para. 7). On being separated, the Committee on the Rights of the Child (United Nations, 2005) defined separated status as having been "separated from both parents, or from their previous legal or customary primary caregiver, but not necessarily from other relatives. These may, therefore, include children accompanied by other adult family members" (CRC/GC/2005/6, para. 8). As such, UASC status was determined based on students' responses to the item question, 'ST08: Who usually lives at <home> with you?'. Students who answered 'no' to the item question's options for 'Mother' and 'Father' were determined to have UASC status.

Student Variables. The student database contained student-reported demographic information and information on home environment (OECD, 2012). The demographic information taken from the student database is age and gender. Age is a continuous variable that was calculated from the difference between the year and month of the testing and the year and month of a student's birth, while gender is a categorical dichotomous variable, where 1 is female and 2 is male. The home environment taken from the student database is economic, social, and cultural

status, a scale index constructed from three items: home possessions (wealth, cultural, and educational; books at home); higher parental occupation; and higher parental education, with positive scores in the scale index indicating a higher economic, social, and cultural status. The OECD (2012) reports the scale as demonstrating acceptable internal consistency for Jordan with a Cronbach's $\alpha = .72$.

Teacher Variables. The teacher dataset contained student-reported information on the class environment (OECD, 2012). It included information on four continuous variables: class disciplinary climate, teacher-student relations, teacher simulation of reading engagement, and teacher use of structuring and scaffolding strategies. Positive scores in these variables indicated positive student perceptions of these four domains. The OECD (2012) reported each variable as having good internal consistency for Jordan, with Cronbach's $\alpha = .81$ (class disciplinary climate), $\alpha = .81$ (teacher-student relations), $\alpha = .83$ (teacher simulation of reading engagement), and $\alpha = .87$ (teacher use of structuring and scaffolding strategies).

School Variables. The school dataset contained school principal-reported information on the school environment (OECD, 2012). For school policy, principals reported information on school academic selectivity and school use of ability grouping. School academic selectivity is a categorical dichotomous variable referring to the academic selectivity of the school for admittance, which is based on the student's prior academic record (including placement tests) and the recommendation of the student's previous school. For this variable, 1 indicated that the school was academically selective and 0 indicated that the school was not. School use of ability grouping is a categorical dichotomous variable referring to the school's ability to organize instruction and group classrooms differently for students with different abilities. For this variable, 1 indicated that the school did at least some ability grouping and 0 indicated that the school did not. For school culture, principals reported information on student behavior at school and teacher behavior at school. Positive scores for both variables indicate positive behavior as perceived by the school principals. The OECD (2012) reported each variable as having acceptable internal

consistency for Jordan, with Cronbach's $\alpha = .84$ (student behavior at school) and $\alpha = .89$ (teacher behavior at school).

Descriptive Statistics. In reading achievement, UASC students ($M = 396.48, SD = 81.89$) scored lower on reading achievement than non-UASC students ($M = 420.24, SD = 87.53$). In mathematical achievement, UASC students ($M = 389.37, SD = 67.78$) scored lower on mathematical achievement than non-UASC students ($M = 409.16, SD = 75.14$). In scientific achievement, UASC students ($M = 413.14, SD = 74.68$) scored lower on scientific achievement than non-UASC students ($M = 441.20, SD = 80.27$). In terms of student variables, the mean age of UASC students ($M = 15.88, SD = 0.27$) is close to the mean age of non-UASC students ($M = 409.16, SD = 75.14$), and the ratio of girls to boys among UASC students (47% to 53%) is close to the ratio of girls to boys among non-UASC students (46% to 54%), whereas UASC students reported somewhat lower economic, social, and cultural status ($M = -0.88, SD = 0.97$) than non-UASC students ($M = -0.81, SD = 0.92$). In terms of teacher variables, UASC students reported lower class disciplinary climate ($M = 0.36, SD = 1.01$) than non-UASC students ($M = 0.53, SD = 0.91$), lower teacher-student relations ($M = 0.38, SD = 1.15$) than non-UASC students ($M = 0.61, SD = 1.08$), lower teacher stimulation of reading engagement ($M = 0.42, SD = 1.22$) than non-UASC student ($M = 0.59, SD = 1.19$), and lower teacher use of structuring and scaffolding strategies ($M = 0.19, SD = 1.3$) than non-UASC student ($M = 0.37, SD = 1.19$). In terms of school variables, the ratio of UASC students who were in academically selective schools to UASC students who were not in academically selective schools (65.5% to 34.5%) was smaller than the ratio of non-UASC students who were in academically selective schools to non-UASC students who were not in academically selective schools (68.5% to 31.5%). Conversely, the ratio of UASC students in schools with ability grouping to UASC students in schools without ability grouping (93% to 7%) was larger than the ratio of non-UASC students in schools with ability grouping to non-UASC students in schools without ability grouping (91% to 9%). Lastly, UASCs

students were more likely to be in schools that report positive student behavior ($M = 0.13, SD = 1.13$) than non-UASC students ($M = -0.15, SD = 1.23$), but less likely to be in schools that report negative teacher behavior ($M = -0.54, SD = 1.14$) than non-UASC students ($M = -0.87, SD = 1.04$). Table 8 shows the descriptive statistics of the study variables.

Table 8. *Descriptive statistics of study variables among Palestinian students (Study 2)*

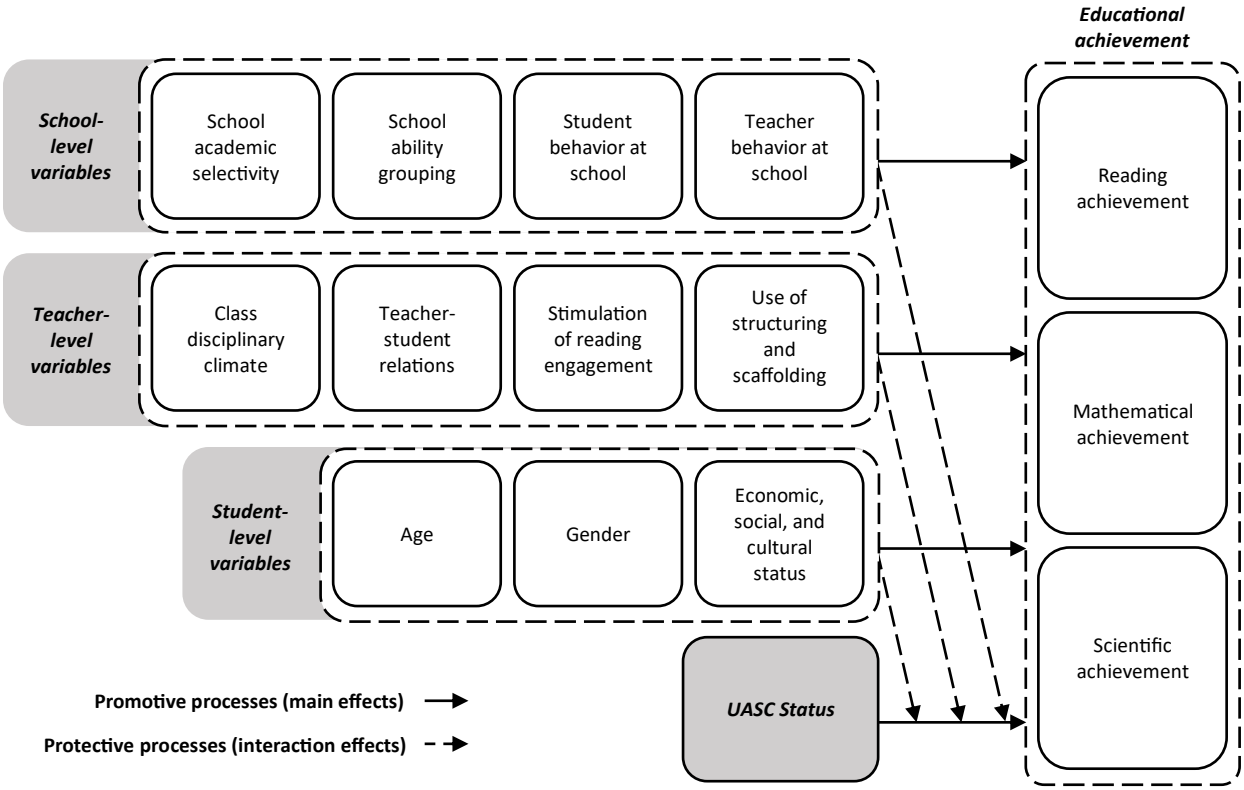
	UASC (N = 91)		Non-UASC (N = 319)		Total (N = 410)	
Outcome variables						
Reading achievement (Mean, SD)	396.48	81.89	420.24	87.53	414.94	86.91
Mathematical achievement (Mean, SD)	389.37	67.78	409.16	75.14	404.74	74.04
Scientific achievement (Mean, SD)	413.14	74.68	441.20	80.27	434.93	79.95
Student variables						
Age (Mean, SD)	15.88	0.27	15.83	0.28	15.84	0.28
Gender: girls (n, %)	43	46.8	150	45.59	193	45.86
Gender: boys (n, %)	48	53.2	169	54.41	217	54.14
Economic, social, and cultural status (Mean, SD)	-0.88	0.97	-0.81	0.92	-0.82	0.93
Teacher variables						
Class disciplinary climate (Mean, SD)	0.36	1.01	0.53	0.91	0.49	0.94
Teacher-student relations (Mean, SD)	0.38	1.15	0.61	1.08	0.56	1.1
Stimulation of reading engagement (Mean, SD)	0.42	1.22	0.59	1.19	0.55	1.2
Use of structuring and scaffolding strategies (Mean, SD)	0.19	1.3	0.37	1.19	0.33	1.22
School variables						
Academic selective school: Yes (n, %)	59	65.51	220	68.5	279	67.83
Academic selective school: No (n, %)	32	34.49	99	31.5	131	32.17
School with ability grouping: Yes (n, %)	85	93.1	291	90.74	376	91.26
School without ability grouping: No (n, %)	6	6.9	28	9.26	34	8.74
Student behavior at school (Mean, SD)	0.13	1.13	-0.15	1.23	-0.08	1.22
Teacher behavior at school (Mean, SD)	-0.54	1.14	-0.87	1.04	-0.8	1.07

4.3.4 Analytical Strategy

The study pursues an analytical strategy composed of various descriptive, correlational, and regression analyses to address the research questions. First, the study employed correlational analyses to examine if there was a statistically significant relationship between UASC status and educational achievement outcomes. Second, the study employed hierarchical regression analyses to examine if the statistically significant relationship between UASC status and educational achievement outcomes varied when controlling for variables at the student-level, teacher-level, and school-level. Third, the study employed hierarchical regression analyses with interactions to

examine if there was a statistically significant relationship between educational achievement outcomes and interactions between UASC status and variables at the student-level, teacher-level, and school-level. The effects identified from the interaction analyses were then examined, with variables having main effects on educational achievement determined as being promotive factors and variables having interaction effects on educational achievement determined as being protective factors (Luthar et al., 2000; Rutter, 1979, 1987; Sameroff, 2006). Figure 8 illustrates the conceptual model for educational resilience of UASCs used to analyze the data.

Figure 8. *Conceptual model for identifying promotive and protective processes (Study 2)*



Correlational Analyses. The first research question examined whether there was a statistically significant relationship between UASC status and educational achievement outcomes among Palestinian students in UNRWA schools in Jordan. This question concerned whether UASC status functions as a risk factor within this sample of refugee students. To address this research question, the study employed correlational analysis to examine the interrelationships

among the variables of study to determine if changes in one variable are associated with changes in another variable (Cohen et al., 2002). Accordingly, the study calculated Pearson's correlation coefficient (1900) to measure the strength and direction of the linear relationship between two variables. A positive correlation coefficient indicated a direct or positive relationship, while a negative correlation coefficient indicated an inverse or negative relationship. The study also calculated p-values for each correlation coefficient, with the significance level for the correlation analysis set at $\alpha = .05$, meaning that if the calculated p-value is less than 0.05, the correlation coefficient is considered statistically significant, indicating evidence of a relationship between the variables. All correlations in the study were then illustrated through a correlation matrix.

Correlational analyses were done on R (Wickham et al., 2023) using the `cor.sdf` command, which is part of the `EdSurvey` package (Bailey et al., 2020; M. Lee et al., 2022). Estimating the means and standard deviations for the descriptive data was done using the `pisa.mean.pv` and the `pisa.mean` commands, both of which are part of the `intsvy` package (Caro & Biecek, 2017). Procedures to pool the plausible values to generate correlation results were based on Rubin's rules (1987). Survey weights have also been applied, as recommended by the OECD (2012). A post-hoc power analysis was conducted using G*Power 3.1 (Faul et al., 2007) for power estimation of the correlation analysis. Using a significance criterion of $\alpha = .05$, the sample size of the study (N = 410) was sufficiently powered to find a large effect size ($\rho = 0.8, 1 - \beta = 1$), a medium effect size ($\rho = 0.5, 1 - \beta = 1$), and a small effect size ($\rho = 0.2, 1 - \beta = 0.98$) in a given correlation analysis. Thus, the obtained sample size of N = 410 was found to be more than adequate to test the study hypothesis.

Hierarchical Regression Analyses. The second research question examined if the statistically significant relationship between UASC status and educational achievement outcomes varied when controlling for variables at the student-level, teacher-level, and school-level among Palestinian students in UNRWA schools in Jordan. This question is intended to identify which socio-ecological factors function as resilience factors that impact the educational achievements of

refugee students regardless of UASC status. To address this research question, the study constructed and analyzed models to examine variations in the relationship between UASC status and educational achievement. Cronbach (1949) and Campbell (1963) emphasized the importance of systematically adding sets of control variables in a hierarchical way based on their theoretical relevance. In the case of UASCs, various socio-ecological factors present at the student-level, teacher-level, and school-level were found to influence the education of UASCs (Aleghfeli & Hunt, 2022). Thus, it was determined to be theoretically relevant to pursue a hierarchical approach where the effect of UASC status on educational achievement was examined, followed by adding student variables, then teacher variables, then school variables.

Procedures to pool the plausible values to estimate regression coefficients and standard errors of the regression models are based on Rubin's rules (1987). Survey weights have also been applied as recommended by the OECD (2012). A post-hoc power analysis was conducted using G*Power 3.1 (Faul et al., 2007) for power estimation of the regression analysis. Using a significance criterion of $\alpha = .05$, the sample size of the study (N = 410) was sufficiently powered to find a large effect size ($f^2 = 0.8, 1 - \beta = 1$), a medium effect size ($f^2 = 0.5, 1 - \beta = 1$), and a small effect size ($f^2 = 0.2, 1 - \beta = 1$) in a given regression analysis. Thus, the obtained sample size of N = 410 was found to be more than adequate to test the study hypothesis.

Alongside the regression estimates, the study calculated standard errors and p-values, with the significance level for the regression analysis set at $\alpha = .05$, meaning that if the calculated p-value is less than 0.05, the relationship between UASC status and educational achievement is statistically significant. The study also calculated a coefficient of determination (R^2) to measure the proportion of the variance in the educational achievement outcomes that can be explained by the model (Pearson et al., 1930). A higher R^2 indicated a better fit of the regression model to the data. The study also conducted Wald's test (1943) to assess the statistical significance of individual coefficients in each model to determine whether they have a significant impact on the educational achievement outcome variables. The significance level for Wald's test was set at $\alpha = .05$, meaning

that if the calculated p-value is less than 0.05, the variables within the regression model are considered to have a statistically significant impact on the educational achievement outcome variable.

Model 0: The Unconditional Model. Given that the dataset was the result of the merger of two datasets, one student and one school, it was important to determine whether adding a multi-level structure to the regression was needed or not. Appendix C1 illustrates the distribution of UASC students and non-UASC students in the sample by school. The sample being composed of 410 students distributed across 13 schools implied that there may be some between-school variability. In such circumstances, Hox and colleagues (2017) suggested constructing an unconditional model to inspect the distribution of variance at the student-level and the school-level and determine whether there is a need for multilevel analyses. As part of the unconditional model, the study calculated the interclass correlation coefficient (ICC) (Fisher, 1925) to inspect the proportion of total variance in the outcome variables that is attributed to between-school variability. If the ICC was found to be close to zero, between-school variability was minimal, indicating that there was no need for multilevel analyses and that single-level regression analyses may be sufficient (Hox et al., 2017). The unconditional model for this study was written as:

$$y_{ij} = \beta_{0j} + u_{0j} + \varepsilon_{ij} \quad (2)$$

$$u_{0j} \sim N(0, \sigma^2_{u0}) \quad (3)$$

$$\varepsilon_{ij} \sim N(0, \sigma^2_{\varepsilon}) \quad (4)$$

Equation (2) shows y_{ij}, which is the average mean score on the educational achievement outcome variable for refugee student i within UNRWA school j in Jordan. Fixed effects are denoted by β_0, where β_{0j} is the intercept for school j. Random effects are denoted by μ_{0j} and ε_{ij}, where μ_{0j} represents the school-level random intercepts and ε_{ij} represents the student-level residuals. Equations (3) and (4) refer to the conditions that the random effects are normally distributed with a mean of zero and a common variance. $\sigma^2_{u_0}$ is the school-level random intercept variance, and σ^2_{ε}

is the student-level residual variance. The equation used to calculate the ICC from the unconditional model was written as:

$$ICC = \frac{\sigma_{u_0}^2}{\sigma_{u_0}^2 + \sigma_\varepsilon^2} \tag{5}$$

Equation (5) shows the ICC, which is calculated using both the school-level random intercept variance and the student-level residual variance. Building the unconditional model, including generating the ICC, was done on R (Wickham et al., 2023) using the `mixed.sdf` command, which is part of the `EdSurvey` package (Bailey et al., 2020; M. Lee et al., 2022).

Model 1: Adding UASC Status. The aim of this model was to examine the effect of UASC status on each educational outcome with no control variables. Thus, the equation to regress each educational achievement outcome on UASC status was written as:

$$y_i = \beta_0 + \beta_1 Unaccompanied_i + \varepsilon_i \tag{6}$$

$$\varepsilon_i \sim N(0, \sigma_\varepsilon^2) \tag{7}$$

Accordingly, equation (6) additionally includes $\beta_1 Unaccompanied_i$, which is the effect of UASC status on the average mean score of the outcome variable for refugee student i, and ε_i, which represents the student-level residuals. Equation (7) refers to the condition that the student-level residuals are normally distributed with a mean of zero and a common variance. Building Model 1, including generating the R^2, was done on R (Wickham et al., 2023) using the `lm.sdf` command, while the Wald's test statistic is estimated using the `waldTest` command, both of which are part of the `EdSurvey` package (Bailey et al., 2020; M. Lee et al., 2022).

Model 2: Adding Student Variables. The aim of this model was to examine the effect of UASC status on each educational outcome upon adding student variables as control variables. Thus, the extended model is written as:

$$y_i = \beta_0 + \beta_1 Unaccompanied_i + \beta_2 X_i + \varepsilon_i \tag{8}$$

$$\varepsilon_i \sim N(0, \sigma_\varepsilon^2) \tag{9}$$

Accordingly, equation (8) additionally includes $\beta_2 X_i$, which is the effect of a student variable on the outcome variable for Refugee student i. Equation (9) refers to the condition that the residuals are normally distributed with a mean of zero and a common variance. Building Model 2, including generating the R^2, were done on R (Wickham et al., 2023) using the `lm.sdf` command, while the Wald's test statistic is estimated using the `waldTest` command, both of which are part of the `EdSurvey` package (Bailey et al., 2020; M. Lee et al., 2022).

Model 3: Adding Teacher Variables. The aim of this model was to examine the effect of UASC status on each educational outcome upon adding student variables and teacher variables as control variables. Thus, the extended model is written as:

$$y_i = \beta_0 + \beta_1 Unaccompanied_i + \beta_2 X_i + \beta_3 Z_i + \varepsilon_i \quad (10)$$

$$\varepsilon_i \sim N(0, \sigma_\varepsilon^2) \quad (11)$$

Accordingly, equation (10) additionally includes $\beta_3 Z_i$, which is the effect of a teacher variable on the outcome variable for Refugee student i. Equation (11) refers to the condition that the residuals are normally distributed with a mean of zero and a common variance. Building Model 3, including generating the R^2, was done on R (Wickham et al., 2023) using the `lm.sdf` command, while the Wald's test statistic is estimated using the `waldTest` command, both of which are part of the `EdSurvey` package (Bailey et al., 2020; M. Lee et al., 2022).

Model 4: Adding School Variables. The aim of this model was to examine the effect of UASC status on each educational outcome upon adding student variables, teacher variables, and school variables as control variables. Thus, the extended model is written as:

$$y_i = \beta_0 + \beta_1 Unaccompanied_i + \beta_2 X_i + \beta_3 Z_i + \beta_4 W_i + \varepsilon_i \quad (12)$$

$$\varepsilon_i \sim N(0, \sigma_\varepsilon^2) \quad (13)$$

Accordingly, equation (12) additionally includes $\beta_4 W_i$, which is the effect of a school variable on the outcome variable for Refugee student i. Equation (13) refers to the condition that the residuals are normally distributed with a mean of zero and a common variance. Building Model 3, including

generating the R^2, was done on R (Wickham et al., 2023) using the `lm.sdf` command, while the Wald's test statistic is estimated using the `waldTest` command, both of which are part of the `EdSurvey` package (Bailey et al., 2020; M. Lee et al., 2022).

Hierarchical Regression Analyses with Interactions. The third research question examined whether there was a statistically significant relationship between educational achievement outcomes and interactions between UASC status and variables at the student-level, teacher-level, and school-level among Palestinian students in UNRWA schools in Jordan. This question was intended to identify which socio-ecological factors enable promotive and protective processes that are associated with positive educational achievement outcomes for UASC students. To address this research question, the study added interaction terms to the hierarchical regression model. Interaction terms are useful because they help uncover whether the impact of UASC status on the educational achievement outcome variables depends on the presence or absence of another variable, leading to a more nuanced interpretation of the data (Yule, 1900). Thus, the extended model (henceforth referred to as Model 5) was written as:

$$y_{ij} = \beta_{0j} + \beta_1 Unaccompanied_i + \beta_2 X_i + \beta_3 Z_i + \beta_4 W_i + \beta_5\, Unaccompanied_i X_i \quad (14)$$
$$+ \beta_6 Unaccompanied_i Z_i + \beta_7 Unaccompanied_i W_i + \varepsilon_i$$

$$\varepsilon_i \sim N(0, \sigma_\varepsilon^2) \quad (15)$$

Accordingly, equation (14) additionally includes the following: $\beta_5\, Unaccompanied_i X_i$, which is the effect of an interaction between UASC status and a student variable on the outcome variable for Refugee student i; $\beta_5\, Unaccompanied_i X_i$, which is the effect of an interaction between UASC status and a teacher variable on the outcome variable for Refugee student i; and $\beta_5\, Unaccompanied_i W_i$, which is the effect of an interaction between UASC status and a school variable on the outcome variable for Refugee student i. Equation (15) refers to the condition that the residuals are normally distributed with a mean of zero and a common variance. Building Model 5, including generating the R^2, was done on R (Wickham et al., 2023) using the `lm.sdf`

command, while the Wald's test statistic is estimated using the `waldTest` command, both of which are part of the `EdSurvey` package (Bailey et al., 2020; M. Lee et al., 2022).

4.3.5 Missing Data

Secondary data analysis is known to be susceptible to measurement error as a result of missingness, where the rate of missing data in variables can result in biased estimates of parameters (Peugh & Enders, 2004). Appendix C2 illustrates those missing data patterns in the entire UNRWA database and among the variables of the study. The rate of missingness in the entire database is only 6.6%, which is low considering that a rate of missingness of 15% to 20% is common in educational and psychological studies (Enders, 2003). However, when examining only the variables of the study, the rate of missingness dropped to 0.1%. Appendix C3 illustrates the distribution of missing data among the variables of the study that have been identified to have missing data. Among students who are not UASC, missing values in economic, social, and cultural status, class disciplinary climate, teacher-student relations, teacher simulation of reading engagement, and teacher use of structuring and scaffolding strategies were present in only a few cases of students. Among students who are UASC, only one case reported a missing value in structuring and scaffolding strategies. As such, it seemed that the rate of missingness barely affected the sample of study.

Consequently, the study used Little's MCAR test (Little, 1988) to identify whether the missing data is missing at random or not (D. B. Rubin, 1976). Little's test is a Chi-square test that is particularly useful for testing the assumption of missing completely at random (MCAR) for multivariate, partially observed quantitative data. The null hypothesis of the test was that the data is MCAR, while the alternative hypothesis was that the data is not MCAR. The significance level of the test was set at $\alpha = .05$. If data was found to be MCAR, this meant that the rate of missingness is ignorable for the purposes of this study. Additionally, the expectation–maximization algorithm for Little's MCAR test to estimate the means and covariances (Enders, 2003). The result was that

the study failed to reject the null hypothesis that the data is MCAR, $X^2(29761) = 2631, p = 1$, suggesting that the missing data are consistent with being MCAR.

This test result is understandable given the complex design of PISA. Given that the booklets with the test questions are randomly assigned, each student will be missing some test question responses by design to generate plausible values. As such, it is reasonable to conclude that the data is MCAR (Rutkowski et al., 2013). Since the rate of missingness in the data is low and the data was found to be MCAR, the study used pairwise deletion to deal with missingness. Unlike listwise deletion, which removes cases with missing values from the database entirely, pairwise deletion only omits cases with missing values in one or more variables in analyses that examine those variables (Allison, 2002). Given that pairwise deletion omitted cases on a case-by-case basis, this allowed for the study to retain and examine all cases in the sample, thereby minimizing the loss that would otherwise occur in listwise deletion. Regardless, when describing the study findings, the study shall also report the N sample that was accounted for in each analysis after pairwise deletion was performed for the sake of accountability and transparency.

4.3.6 Estimation Procedures

Given the structure of the dataset containing educational achievement outcome variables made up of a set of plausible values that are multiply imputed, several estimation steps were taken that incorporated PISA's survey weights (OECD, 2012). This was done by following the pooling procedures outlined by Rubin (1987), otherwise known as Rubin's Rules. First, the analysis was run five times, once per plausible value, to generate five parameter estimates and five sampling errors. Second, the five parameter estimates and the five sampling errors were averaged to produce the final parameter estimate and final sampling error, respectively. Third, the magnitude of the imputation error was estimated. Lastly, the final standard error was calculated by combining the sampling error and imputation error. The estimation procedures used in this study also incorporated analytical steps followed by Caro and Biecek (2017), Bailey and colleagues (2020), and Lee and colleagues (2022). The section outlines in further detail how Rubin's rules

were applied to estimate the weighted means and standard deviations for the descriptive analysis, the weighted correlation coefficient for the correlation analysis, and the weighted regression coefficients and the weighted R^2 using the PISA survey weights. Appendix C4 shares the R syntax that was built to perform the analytical and estimation procedures of the study.

Weighted Mean, Standard Deviation, and Frequency Estimation. The procedure for estimating weighted means, standard deviations, and frequencies for the descriptive statistics is summarized in the following steps. The weighted mean estimate (μ_P) was averaged across the plausible values, as shown by Equation (16):

$$\mu_P = \frac{1}{n_p}\sum_{p=1}^{n_p}\frac{\sum_{i=1}^{n} w_i x_{ip}}{\sum_{i=1}^{n} w_i} \tag{16}$$

Equation (16) shows the outcome of the ith unit of the pth set of plausible values (x_{ip}), the weight of the ith unit (w_i), the number of plausible values (n_p), which is five in this study, and the total number of units in the sample (n_p). The weighted mean was then used to estimate the weighted standard deviation, as shown by Equation (17):

$$\sigma_P = \sqrt{\frac{\sum_{i=1}^{n} w_i (x_i - \mu_P)}{\sum_{i=1}^{n} w_i}} \tag{17}$$

Weighted frequencies were then estimated once for each of the plausible values, as shown by Equation (18):

$$Freq = 100 \times \frac{1}{n_p}\sum_{p=1}^{n_p}\frac{\sum_{i\in A_p} w_i}{\sum_{i\in U_p} w_i} \tag{18}$$

Equation (18) shows the sample size of the population of interest (e.g., UASCs) in the pth set of plausible values (A_p) and the sample size of the population containing the population of interest (e.g., refugee students) in the pth set of plausible values (U_p).

Weighted Correlation Coefficient Estimation. The procedure for estimating weighted Pearson correlation coefficients is summarized in the following steps. The weighted Pearson correlation coefficient (r) is calculated according to the following equation:

$$r = \frac{\sum_{i=1}^{n}[w_i(x_i - \bar{x})(y_i - \bar{y})]}{\sqrt{\sum_{i=1}^{n}(w_i(x_i - \bar{x})^2) \quad \sum_{i=1}^{n}(w_i(y_i - \bar{y})^2)}} \tag{19}$$

Equation (19) shows the weighted mean of the dependent variable ($\bar{y}$), the weighted mean for the independent variable ($\bar{x}$), and the number of elements in each variable (n). Equations (20) and (21) show the calculations used for the two earlier weighted means:

$$\bar{y} = \frac{1}{\sum_{i=1}^{n} w_i} \sum_{i=1}^{n} w_i y_i \tag{20}$$

$$\bar{x} = \frac{1}{\sum_{i=1}^{n} w_i} \sum_{i=1}^{n} w_i x_i \tag{21}$$

Weighted Regression Coefficient and Variance Estimation. The procedure for estimating weighted regression coefficients and variances is summarized in the following steps. First, the study estimated the regression coefficient (β_p) of the pth set of plausible values, then averaged the regression coefficients of each plausible value to calculate the final coefficient estimate (β_P), as shown by Equation (22):

$$\beta_P = \frac{1}{n_p} \sum_{p=1}^{n_p} \beta_p \tag{22}$$

Second, the study estimated the variance of the regression coefficient of the pth set of plausible values using the Jackknife Repeated Replication ($\sigma^2_{jrr,p}$), as shown by Equation (23):

$$\sigma^2_{jrr,p} = \gamma \sum_{j=1}^{J} \left(\beta_{jp} - \beta_{0p}\right)^2 \tag{23}$$

Equation (23) shows the regression coefficient of the pth set of plausible values estimated with the jth jackknife replicate weights (β_{jp}), the regression coefficient of the pth plausible value

estimated with the sample weights (β_{0p}), the total number of jackknife replicate weights (J), and a constant equal to 1 for the Jackknife Repeated Replication method (γ). The variance of the regression coefficients of each plausible value were then averaged to produce the sampling variance ($\sigma^2_{jrr,P}$), as shown by Equation (24):

$$\sigma^2_{jrr,P} = \frac{1}{n_p}\sum_{i=1}^{n_p}\sigma^2_{jrr,p} \tag{24}$$

At the same time, the imputation variance (δ_P) was estimated, as shown by Equation (25):

$$\delta_P = \frac{n_p + 1}{n_p(n_p - 1)}\sum_{p=1}^{n_p}\left(\beta_p - \beta_P\right)^2 \tag{25}$$

Third, the variance of the estimated regression coefficient (σ^2_{JP}) was then estimated from the sum of the sampling variance ($\sigma^2_{jrr,P}$) and the imputation variance (δ_P), as shown by Equation (26):

$$\sigma^2_{JP} = \delta_P + \sigma^2_{jrr,P} \tag{26}$$

Finally, a t-statistic was estimate based on the final estimated regression coefficient (β_P) and the square root of the variance of that estimate (σ^2_{JP}), as shown by Equation (27):

$$t = \frac{\beta_P}{\sqrt{\sigma^2_{JP}}} \tag{27}$$

From the t-statistic, weighted standard errors and p-values were further estimated and reported in the study.

Coefficient of Determination Estimation. To establish parsimony and goodness-of-fit, as mentioned earlier, the study estimated an R^2 for each model to identify the total variance in the outcome variable explained by the model overall (Pearson et al., 1930). The R^2 was estimated in the same manner as the weighted regression coefficients, as shown by Equation (28):

$$R^2_P = \frac{1}{n_p}\sum_{p=1}^{n_p}R^2_p \tag{28}$$

Equation (28) shows the R-squared value of the regression analysis of the *p*th set of plausible values.

4.3.7 Ethical Approval

The research involved previously collected, anonymized, and de-identified data by PISA (OECD, 2012). Therefore, ethical approval was not required. Moreover, reporting of the results below was done in the aggregate in order to avoid any direct or indirect identification of participants. All data on PISA can be accessed here: https://www.oecd.org/pisa/data/.

4.4 Results

Below are the results of the correlational and hierarchical regression analyses conducted in this study. The results were then synthesized in the discussion section using the study's operationalization of risk, promotive, and protective factors to better understand the processes of educational resilience in UASCs in Jordan. It is important at this stage to recall the definition of each in statistical terms: risk factors are factors that exhibit a negative effect on educational outcomes; promotive factors are factors that exhibit a positive main effect; and protective factors are factors that exhibit a positive interaction effect (Feinstein et al., 2021; Luthar et al., 2006; Sameroff, 2006).

4.4.1 Relationship between UASC status and Educational Achievement

The first research question examined whether there was a statistically significant relationship between UASC status and educational achievement outcomes among Palestinian students in UNRWA schools in Jordan. This section reports the results of the correlation analyses that were conducted to answer that question. Table 9 shows the correlation matrix for the study variables that resulted from the correlation analyses and reports the coefficients and corresponding p-values.

Table 9. *Correlation matrix of study variables among Palestinian students (Study 2)*

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	UASC status	-														
2.	Reading achievement	-.13**	-													
3.	Mathematical achievement	-.11*	.74***	-												
4.	Scientific achievement	-.15**	.80***	.82***	-											
5.	Age	.07	-.03	-.02	.03	-										
6.	Gender	.01	.32***	.03	.15**	-.02	-									
7.	Economic, social, and cultural status	-.03	.21***	.25***	.24***	-.06	.09	-								
8.	Class Disciplinary Climate	-.08	.21***	.18***	.19***	.05	.05	.03	-							
9.	Teacher-student relations	-.09	.30***	.30***	.27***	-.04	.08	.08	.25***	-						
10.	Stimulation of reading engagement	-.06	.21***	.15**	.17***	-.02	.13*	.00	.15**	.44***	-					
11.	Use of structuring and scaffolding strategies	-.06	.20***	.12*	.16***	-.03	.15**	.05	.15**	.32***	.68***	-				
12.	School academic selectivity	-.03	-.06	.06	.03	.02	-.10*	-.03	.05	-.03	.00	.02	-			
13.	School use of ability grouping	.03	-.12*	.14**	.02	.00	-.34***	-.02	-.03	-.05	-.04	-.09	.45***	-		
14.	Student behavior at school	.10	.14**	-.14**	.02	-.03	.19***	-.12*	.07	.01	-.03	.01	-.08	-.11*	-	
15.	Teacher behavior at school	.13**	.12*	-.15**	-.03	-.01	.22***	-.11*	.03	.01	-.02	.02	-.30***	-.15**	.91***	-

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

When examining the relationship between the educational achievement outcome variables and UASC status, several statistically significant associations were identified that were weakly and negatively correlated. First, the study found that the relationship between reading achievement and UASC status was weakly and negatively correlated, $r(410) = -.13, P < .01$. In other words, on average, UASC students ($M = 396.48, SD = 81.89$) scored lower on reading achievement than non-UASC students ($M = 420.24, SD = 87.53$). Second, the study found that the relationship between mathematical achievement and UASC status was weakly and negatively correlated, $r(410) = -.11, P < .05$. In other words, on average, UASC students ($M = 389.37, SD = 67.78$) scored lower on mathematical achievement than non-UASC students ($M = 409.16, SD =$

75.14). Third, the study found that the relationship between scientific achievement and UASC status was weakly and negatively correlated, $r(410) = -.15, P < .01$. In other words, on average, UASC students ($M = 413.14, SD = 74.68$) scored lower on scientific achievement than non-UASC students ($M = 441.20, SD = 80.27$). When examining the relationship between UASC status and student, teacher, and school variables, the study found only UASC status and teacher behavior at school to be weakly and positively correlated, $r(410) = .13, P < .01$.

4.4.2 Variance in Relationship between UASC and Educational Achievement

The second research question examined if the statistically significant relationship between UASC status and educational achievement outcomes varied when controlling for variables at the student-level, teacher-level, and school-level among Palestinian students in UNRWA schools in Jordan. This section reports the results of the hierarchical regression analyses that were conducted to answer that question.

Model 0 – Unconditional Model. Table 10 presents the results of the hierarchical regression analyses for reading achievement, mathematical achievement, and scientific achievement prior to adding any variable. As mentioned earlier, an unconditional model was necessary to establish whether conducting multilevel regression analyses is necessary or if conducting hierarchical regression analyses would suffice (Hox et al., 2017).

Table 10. *Results of Model 0, the Unconditional Model (Study 2)*

	Reading achievement		Mathematical achievement		Scientific achievement	
	β	*se*	*β*	*se*	*β*	*se*
Fixed effects						
Intercept	422.15	9.77	412.59	12.54	441.89	10.82
Random effects						
School-level random intercept variance	150.9	309.53	631.51	515.83	522.36	484.04
Student-level residual variance	5524.09	387.27	4777.75	310.42	5731.1	356.1
Goodness of Fit						
ICC	0.03		0.12		0.08	
Student N	410		410		410	
School N	13		13		13	

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Reading achievement. The unconditional model revealed that the ICC value for reading achievement was 0.03, suggesting that the total variance in reading achievement attributable to differences between schools was 3%. With such a low ICC value, adding a multilevel structure to the hierarchical regression analyses was found to be not necessary for reading achievement.

Mathematical achievement. The unconditional model revealed that the ICC value for mathematical achievement was 0.12, suggesting that the total variance in mathematical achievement attributable to differences between schools was 12%. With such a low ICC value, adding a multilevel structure to the hierarchical regression analyses was found to be not necessary for mathematical achievement.

Scientific achievement. The unconditional model revealed that the ICC value for scientific achievement was 0.08, suggesting that the total variance in scientific achievement attributable to differences between schools was 8%. With such a low ICC value, adding a multilevel structure to the hierarchical regression analyses was found to be not necessary for scientific achievement.

Model 1 – Adding UASC Status. Table 11 presents the results of the hierarchical regression analyses for reading achievement, mathematical achievement, and scientific achievement after adding UASC status as a predictor variable.

Table 11. *Results of Model 1, after adding unaccompanied and separated status (Study 2)*

	Reading achievement		Mathematical achievement		Scientific achievement	
	β	*se*	*β*	*se*	*β*	*se*
Intercept	422.53***	10.15	409.16***	14.99	441.2***	13.46
UASC status	-24.66***	7.28	-19.79*	9.11	-28.06*	11.08
Goodness of Fit						
R^2	0.02		0.01		0.02	
X^2	11.47***		4.72*		6.41*	
N	410		410		410	

Note. *p < 0.05, **p < 0.01, ***p < 0.001.

Reading achievement. Adding UASC status to the model revealed that UASC students scored lower than non-UASC students in reading achievement ($\beta = -24.66, t(105) = -3.39, p <$

.001). Adding UASC status contributed significantly to the model for reading achievement ($R^2 = 0.02, X^2(1, N = 410) = 11.47, p < .001$).

Mathematical achievement. Adding UASC status to the model revealed that UASC students scored lower than non-UASC students in mathematical achievement ($\beta = -19.79, t(98) = -2.17, p < .05$). Adding UASC status contributed significantly to the model for mathematical achievement ($R^2 = 0.01, X^2(1, N = 410) = 4.72, p < .05$).

Scientific achievement. Adding UASC status to the model revealed that UASC students scored lower than non-UASC students in scientific achievement ($\beta = -28.06, t(97) = -2.53, p < .05$). Adding UASC status contributed significantly to the model for scientific achievement ($R^2 = 0.02, X^2(1, N = 410) = 6.41, p < .05$).

Model 2 – Adding Student Variables. Table 12 presents the results of the hierarchical regression analyses for reading achievement, mathematical achievement, and scientific achievement after adding the student variables as control variables.

Table 12. *Results of Model 2, after adding student variables (Study 2)*

	Reading achievement		Mathematical achievement		Scientific achievement	
	ß	*se*	*ß*	*se*	*ß*	*se*
Intercept	470.06**	164.48	436.41**	134.14	236.55	208.84
UASC status						
Student variables	-24.68**	8.25	-18.75*	7.86	-28.41**	10.85
Age	-3.56	10.29	-0.73	8.57	13.39	13.13
Gender (girls)	46.15**	15.67	0.96	25.81	20	22.97
Economic, social, and cultural status	14.39*	5.51	19.58***	4.32	19.27**	6.24
Goodness of Fit						
R^2	0.15		0.08		0.10	
X^2	22.71***		20.8***		14.43**	
N	409		409		409	

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Reading achievement. Adding the student variables to the model revealed that UASC students scored lower than non-UASC students in reading achievement ($\beta = -24.68, t(104) = -2.99, p < .01$). When inspecting the student variables, the results showed that girls scored higher than boys ($\beta = 46.15, t(112) = 2.95, p < .01$). Moreover, higher economic, social, and cultural

status was associated with higher scores in reading achievement ($\beta = 14.39, t(96) = 2.61, p < .05$). Adding the student variables contributed significantly to the model for reading achievement ($R^2 = 0.15, X^2(3, N = 409) = 22.71, p < .001$).

Mathematical achievement. Adding the student variables to the model revealed that UASC students scored lower than non-UASC students in mathematical achievement ($\beta = -18.75, t(106) = -2.39, p < .05$). When inspecting the student variables, the results showed that higher economic, social, and cultural status was associated with higher scores in mathematical achievement ($\beta = 19.58, t(104) = 4.53, p < .001$). Adding the student variables contributed significantly to the model for mathematical achievement ($R^2 = 0.08, X^2(3, N = 409) = 20.8, p < .001$).

Scientific achievement. Adding the student variables to the model revealed that UASC students scored lower than non-UASC students in scientific achievement ($\beta = -28.41, t(123) = -2.62, p < .01$). When inspecting the student variables, the results showed that higher economic, social, and cultural status was associated with higher scores in scientific achievement ($\beta = 19.27, t(103) = 3.09, p < .01$). Adding the student variables contributed significantly to the model for scientific achievement ($R^2 = 0.1, X^2(3, N = 409) = 14.43, p < .01$).

Model 3 – Adding Teacher Variables. Table 13 presents the results of the hierarchical regression analyses for reading achievement, mathematical achievement, and scientific achievement after adding the teacher variables as control variables.

Table 13. *Results of Model 3, after adding teacher variables (Study 2)*

	Reading achievement		Mathematical achievement		Scientific achievement	
	ß	*se*	*ß*	*se*	*ß*	*se*
Intercept	498.2**	157.61	465.83**	152.63	266.71	195.05
UASC status						
Student variables	-20.92*	7.96	-14.7	7.81	-24.38*	10.38
Age	-6.07	10.15	-3.26	10.02	10.82	12.86
Gender (girls)	39.29**	14.55	-5.78	25.25	12.93	21.99
Economic, social, and cultural status	13.51*	6.01	17.69***	4.28	18.3**	6.54
Teacher variables						

Class disciplinary climate	10.4	5.55	8.6*	4.14	9.75*	4.66
Teacher-student relations	12.38***	3.13	13.35***	2.55	11.62***	2.5
Stimulation of reading engagement	3.55	6.49	3.87	5.53	3.37	5.51
Use of structuring and scaffolding strategies	1.33	4.2	-2.07	4.12	1.03	4.71
Goodness of Fit						
R^2	0.22		0.15		0.16	
X^2	36.72***		46.84***		39.18***	
N	401		401		401	

Note. *p < 0.05, **p < 0.01, ***p < 0.001.

Reading achievement. Adding the teacher variables to the model revealed that UASC students scored lower than non-UASC students in reading achievement ($\beta = -20.92, t(93) = -2.63, p < .05$). When inspecting the student variables, the results showed that girls scored higher than boys ($\beta = 39.29, t(103) = 2.7, p < .01$). Moreover, higher economic, social, and cultural status was associated with higher scores in reading achievement ($\beta = 13.51, t(102) = 2.25, p < .05$). When inspecting the teacher variables, the results showed that more positive teacher-student relations ($\beta = 12.38, t(84) = 3.96, p < .001$) was associated with higher scores in reading achievement. Adding the teacher variables contributed significantly to the model for reading achievement ($R^2 = 0.22, X^2(4, N = 401) = 36.72, p < .001$).

Mathematical achievement. Adding the teacher variables to the model revealed that UASC students scored lower than non-UASC students in mathematical achievement, but this was found to be not statistically significant ($\beta = -14.7, t(111) = -1.88, p = .06$). When inspecting the student variables, the results showed that higher economic, social, and cultural status was associated with higher scores in mathematical achievement ($\beta = 17.69, t(108) = 4.13, p < .001$). When inspecting the teacher variables, the results showed that more positive class disciplinary climate ($\beta = 8.6, t(91) = 2.08, p < .05$) and more positive teacher-student relations ($\beta = 13.35, t(118) = 5.23, p < .001$) were each associated with higher scores in mathematical achievement. Adding the teacher variables contributed significantly to the model for mathematical achievement ($R^2 = 0.15, X^2(4, N = 401) = 46.84, p < .001$).

Scientific achievement. Adding the teacher variables to the model revealed that UASC students scored lower than non-UASC students in scientific achievement ($\beta = -24.38, t(129) = -2.35, p < .05$). When inspecting the student variables, the results showed that higher economic, social, and cultural status was associated with higher scores in scientific achievement ($\beta = 18.3, t(105) = 2.8, p < .01$). When inspecting the teacher variables, the results showed that more positive class disciplinary climate ($\beta = 9.75, t(98) = 2.09, p < .05$) and more positive teacher-student relations ($\beta = 11.62, t(113) = 4.64, p < .001$) were each associated with higher scores in scientific achievement. Adding the teacher variables contributed significantly to the model for scientific achievement ($R^2 = 0.16, X^2(4, N = 401) = 39.18, p < .001$).

Model 4 – Adding School Variables. Table 14 presents the results of the hierarchical regression analyses for reading achievement, mathematical achievement, and scientific achievement after adding the school variables as control variables.

Table 14. *Results of Model 4, after adding school variables (Study 2)*

	Reading achievement		Mathematical achievement		Scientific achievement	
	B	*se*	*B*	*se*	*B*	*se*
Intercept	459.48**	164.18	402.86*	184.2	184.9	204.58
Student variables						
UASC status	-21.77*	8.91	-12.78	8.25	-22.69*	10.98
Age	-3.95	9.9	-3.02	10.66	13.16	12.86
Gender (girls)	37.55**	12.41	8.08	23.06	20.11	18.71
Economic, social, and cultural status	14.59*	6.18	15.94***	3.87	18.24**	6.74
Teacher variables						
Class disciplinary climate	9.42	5.4	9.03*	4.23	8.64	5.26
Teacher-student relations	12.01***	3.32	13.76***	2.7	11.54***	2.76
Stimulation of reading engagement	3.71	6.46	2.18	5.35	2.47	5.45
Use of structuring and scaffolding strategies	1.91	4.11	-0.46	3.5	2.6	4.29
School variables						
Academically selective school	-11.94	15.1	-9.92	15.01	-14.99	19.16
School with ability grouping	6.07	10.28	50.25***	14.67	30.57*	14.6
Student behavior at school	17.95	17.01	4.78	33.87	27.57	31.59
Teacher behavior at school	-14.47	21.49	-15.16	39.84	-33.15	37.36
Goodness of Fit						
R^2	0.24		0.20		0.19	
X^2	6.53		14.46**		7.01	
N	401		401		401	

Note. *p < 0.05, **p < 0.01, ***p < 0.001.

Reading achievement. Adding the school variables to the model revealed that UASC students scored lower than non-UASC students in reading achievement ($\beta = -21.77, t(82) = -2.44, p < .05$). When inspecting the student variables, the results showed that girls scored higher than boys ($\beta = 37.55, t(99) = -3.02, p < .01$). Moreover, higher economic, social, and cultural status was associated with higher scores in reading achievement ($\beta = 14.59, t(100) = 2.36, p < .05$). When inspecting the teacher variables, the results showed that more positive teacher-student relations ($\beta = 14.59, t(100) = 2.36, p < .05$) was associated with higher scores in reading achievement. Adding the school variables did not contribute significantly to the model for reading achievement ($R^2 = 0.24, X\text{^}2(4, N = 401) = 6.53, p = .16$).

Mathematical achievement. Adding the school variables to the model revealed that UASC students scored lower than non-UASC students in mathematical achievement, but this was found to be not statistically significant ($\beta = -12.78, t(97) = -1.55, p = .12$). When inspecting the student variables, the results showed that higher economic, social, and cultural status was associated with higher scores in mathematical achievement ($\beta = 15.94, t(110) = 4.12, p < .001$). When inspecting the teacher variables, the results showed that more positive class disciplinary climate ($\beta = 9.03, t(94) = 2.14, p < .05$) and more positive teacher-student relations ($\beta = 13.76, t(105) = 5.1, p < .001$) were each associated with higher scores in mathematical achievement. When inspecting the school variables, the results showed that students in schools with ability grouping performed better than students in schools with no ability grouping ($\beta = 50.25, t(84) = 3.43, p < .001$). Adding the school variables contributed significantly to the model for mathematical achievement ($R^2 = 0.2, X^2(4, N = 401) = 14.46, p < .01$).

Scientific achievement. Adding the school variables to the model revealed that UASC students scored lower than non-UASC students in scientific achievement ($\beta = -22.69, t(97) = -2.07, p < .05$). When inspecting the student variables, the results showed that higher economic, social, and cultural status was associated with higher scores in scientific achievement ($\beta =$

$18.24, t(101) = 2.71, p < .01)$. When inspecting the teacher variables, the results showed that more positive teacher-student relations ($\beta = 11.54, t(102) = 4.18, p < .001$) was associated with higher scores in scientific achievement. When inspecting the school variables, the results showed that students in schools with ability grouping performed better than students in schools with no ability grouping ($\beta = 30.57, t(70) = 2.09, p < .05$). Adding the school variables did not contribute significantly to the model for scientific achievement ($R^2 = 0.19, X^2(4, N = 401) = 7.01, p = .14$).

4.4.3 Relationship between Educational Achievement and UASC with Interactions

The third research question examined whether there was a statistically significant relationship between educational achievement outcomes and interactions between UASC status and variables at the student-level, teacher-level, and school-level among Palestinian students in UNRWA schools in Jordan. This section reports the results of the hierarchical regression analyses with interactions that were conducted to answer that question.

Model 5 – Adding Interaction Terms. Table 15 presents the results of the hierarchical regression analyses for reading achievement, mathematical achievement, and scientific achievement after adding the interaction terms as control variables.

Table 15. *Results of Model 5, after adding interaction terms (Study 2)*

	Reading achievement		Mathematical achievement		Scientific achievement	
	β	*se*	*β*	*se*	*β*	*se*
Intercept	510.86**	181.52	422.11	217.92	238.8	226.92
UASC status						
Student variables	-451.6	374.77	-26.49	384.25	-301.42	550.14
Age	-6.71	11.14	-4.35	13.05	10.22	14.36
Gender (girls)	36.6**	11.21	7.18	23.13	15.9	19.05
Economic, social, and cultural status	13.88*	6.33	14.07**	4.39	19.18*	7.35
Teacher variables						
Class disciplinary climate	8.78	5.27	8.98*	4.38	7.16	5.74
Teacher-student relations	14.76**	5.21	14.64***	3.76	13.35**	4
Stimulation of reading engagement	2.45	7.45	1.63	6.07	0.98	6.58
Use of structuring and scaffolding strategies	-0.57	3.32	-1.49	3.26	1.06	4.56
School variables						
Academically selective school	-4.3	15.7	-2.2	14.89	-3.49	18.06
School with ability grouping	-8.33	9.85	43.31**	13.95	18.87	13.58
Student behavior at school	18.18	16.8	6.47	33.12	26.95	30.59

Teacher behavior at school	-14.89	21.3	-17.61	40.02	-32.14	37.18
Interaction terms						
UASC x Age	23.57	22.96	0.91	24.6	13.95	33.12
UASC x Gender (male)	9.14	18.61	8.89	19.39	27.16	22.15
UASC x Economic, social, and cultural status	3.07	9.18	8.12	6.03	-4.03	6.56
UASC x Class disciplinary climate	-0.88	7.04	-3.22	7.13	1.2	9.2
UASC x Teacher-student relations	-10.65	10.46	-2.3	5.94	-7.79	9.53
UASC x Stimulation of reading engagement	2.39	10.34	-0.27	7.94	7.01	8.16
UASC x Use of structuring and scaffolding strategies	12.15*	5.43	7.14	7.92	5.7	6.71
UASC x Academically selective school	-39.23	21.22	-35.64	22.4	-69.04*	27.44
UASC x School with ability grouping	76.61**	22.82	28.62	21.1	64.74*	31.7
UASC x Student behavior at school	17.02	22.48	4.02	27.79	37.56	33.41
UASC x Teacher behavior at school	-14.46	22.3	0.65	27.64	-36.55	34.2
Goodness of Fit						
R^2	0.26		0.21		0.22	
X^2	69.45***		45.52***		34.9***	
N	401		401		401	

Note. *p < 0.05, **p < 0.01, ***p < 0.001.

Reading achievement. Adding the interaction terms to the model revealed that UASC students scored lower than non-UASC students in reading achievement, but this was found to be not statistically significant ($\beta = -451.6, t(100) = -1.2, p = .23$). When inspecting the student variables, the results showed that girls scored higher than boys ($\beta = 36.6, t(106) = 3.27, p < .01$). Moreover, higher economic, social, and cultural status was associated with higher scores in reading achievement ($\beta = 13.88, t(131) = 2.19, p < .05$). When inspecting the teacher variables, the results showed that more positive teacher-student relations ($\beta = 14.76, t(88) = 2.83, p < .01$) was associated with higher scores in reading achievement. Among the interaction terms, UASC students with more positive teacher use of structuring and scaffolding performed better than UASC students with less positive teacher use of structuring and scaffolding in reading achievement ($\beta = 12.15, t(88) = 2.24, p < .05$). Moreover, UASC students in schools with ability grouping performed better than UASC students in schools with no ability grouping in reading achievement ($\beta = 76.61, t(103) = 3.36, p < .01$). Adding the interaction terms contributed significantly to the model for reading achievement ($R^2 = 0.26, X^2(11, N = 401) = 69.45, p < .001$).

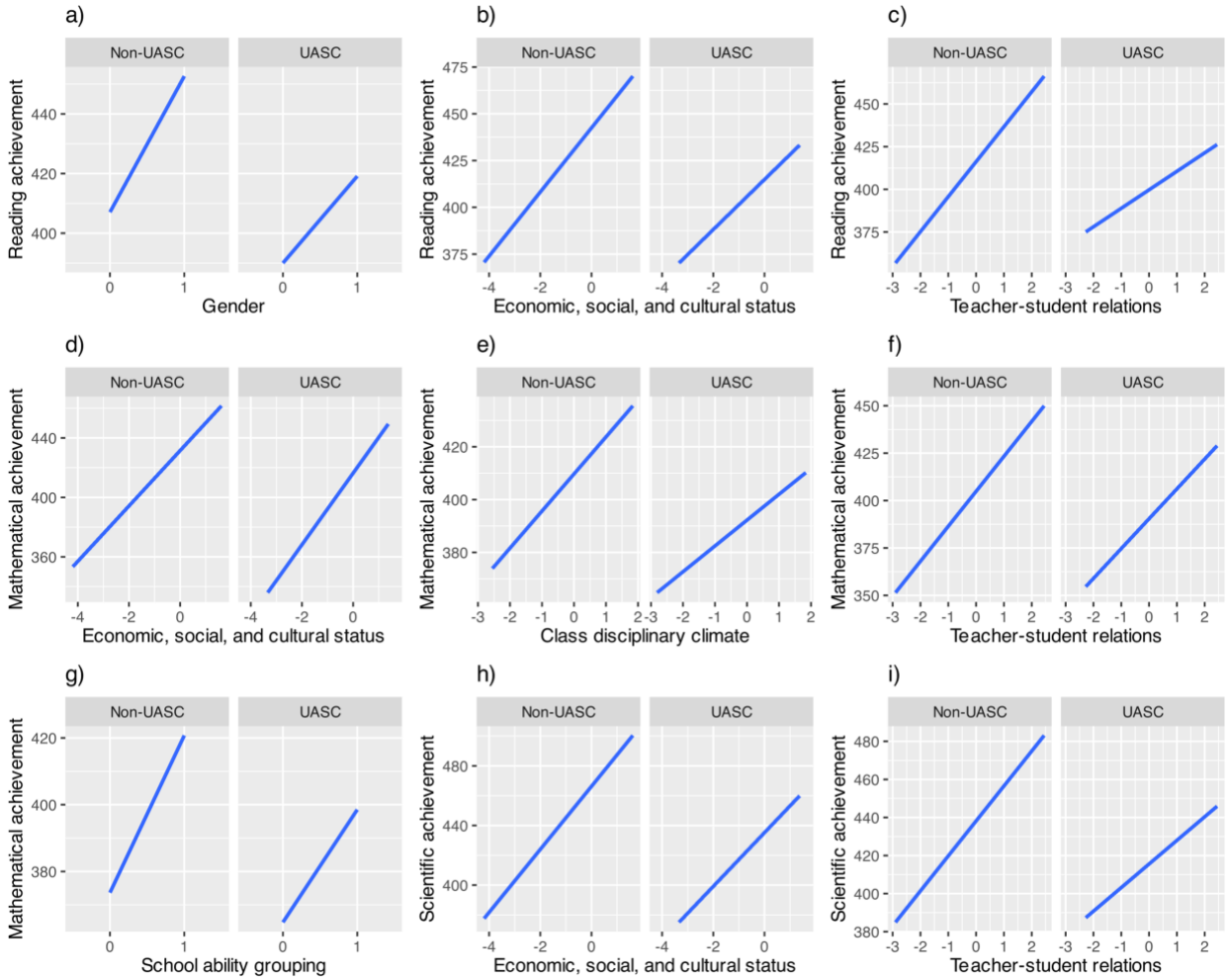
Mathematical achievement. Adding the interaction terms to the model revealed that UASC students scored lower than non-UASC students in mathematical achievement, but this was found to be not statistically significant ($\beta = -26.49, t(91) = -0.07, p = .95$). When inspecting the student variables, the results showed that higher economic, social, and cultural status was associated with higher scores in mathematical achievement ($\beta = 14.07, t(124) = 3.2, p < .01$). When inspecting the teacher variables, the results showed that more positive class disciplinary climate ($\beta = 8.98, t(94) = 2.05, p < .05$) and more positive teacher-student relations ($\beta = 14.64, t(86) = 3.89, p < .001$) were each associated with higher scores in mathematical achievement. When inspecting the school variables, the results showed that students in schools with ability grouping performed better than students in schools with no ability grouping ($\beta = 43.31, t(77) = 3.11, p < .01$). Adding the interaction terms contributed significantly to the model for mathematical achievement ($R^2 = 0.21, X^2(11, N = 401) = 45.52, p < .001$).

Scientific achievement. Adding the interaction terms to the model revealed that UASC students scored lower than non-UASC students in scientific achievement ($\beta = -301.42, t(104) = -0.55, p = .58$). When inspecting the student variables, the results showed that higher economic, social, and cultural status was associated with higher scores in scientific achievement ($\beta = 19.18, t(101) = 2.61, p < .05$). When inspecting the teacher variables, the results showed that more positive teacher-student relations ($\beta = 13.35, t(75) = 3.34, p < .01$) was associated with higher scores in scientific achievement. Among the interaction terms, UASC students in schools that are academically selective performed worse than UASC students in schools that are not academically selective ($\beta = -69.04, t(97) = -2.52, p < .05$). Conversely, UASC students in schools with ability grouping performed better than UASC students in schools with no ability grouping ($\beta = 64.74, t(103) = 2.04, p < .05$). Adding the interaction terms contributed significantly to the model for scientific achievement ($R^2 = 0.22, X^2(11, N = 401) = 34.9, p < .001$).

4.4.4 Promotive Factors in Education for UASCs

The final set of models found several factors that have main (i.e., promotive) effects on the educational achievement outcomes for UASC students. As mentioned earlier, promotive factors are variables whose positive effects are the same regardless of whether the level of risk is high or non-existent (Luthar et al., 2000; Rutter, 1979, 1987; Sameroff, 2006). In statistical terms, they function as a main effect. As revealed by the hierarchical regression analysis results of Model 5, female gender, higher economic, social, and cultural status, and positive teacher-student relations were found to be significantly associated with higher scores in reading achievement. As such, female gender, higher economic, social, and cultural status, and positive teacher-student relations were determined to potentially function as promotive factors for reading achievement for UASC students. Moreover, higher economic, social, and cultural status, positive class disciplinary climate, positive teacher-student relations, and being in a school with ability grouping were revealed to be significantly associated with higher scores in mathematical achievement. As such, higher economic, social, and cultural status, positive class disciplinary climate, positive teacher-student relations, and being in a school with ability grouping were determined to potentially function as promotive factors for mathematical achievement for UASC students. Lastly, higher economic, social, and cultural status and positive teacher-student relations were found to be significantly associated with higher scores in scientific achievement. As such, higher economic, social, and cultural status and positive teacher-student relations were determined to potentially function as promotive factors for scientific achievement for UASC students. Figure 9 displays the main effects plots of the statistically significant relationship between educational achievement (y-axis) and socio-ecological factors (x-axis) by UASC status.

Figure 9. *Main effects plots of promotive factors (Study 2)*



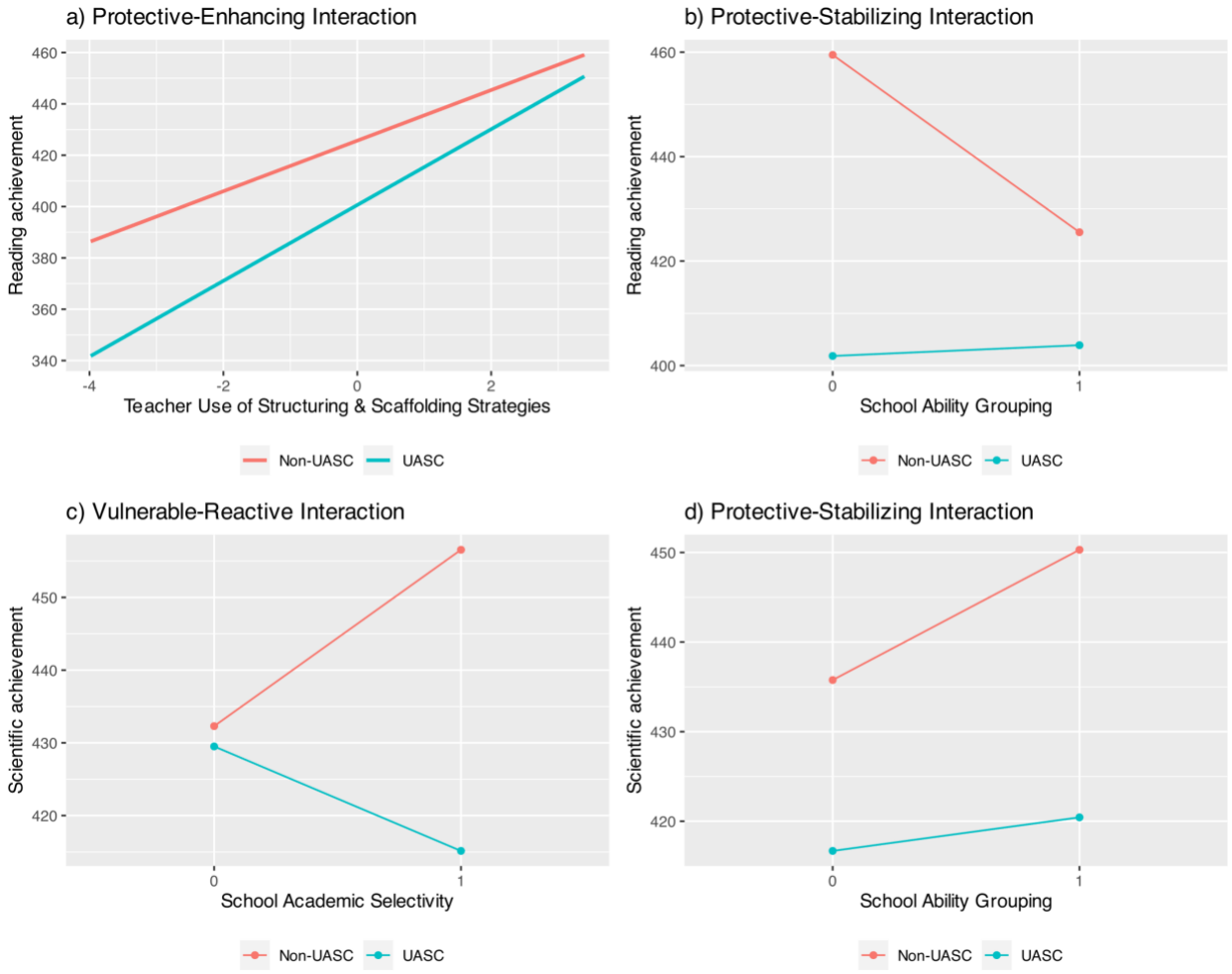
Upon inspecting the plots and observing the nearly parallel patterns and trends for both UASC and non-UASC students, the slopes of most of the factors that were identified as promotive factors displayed the same magnitude and positive direction for both groups, with a few exceptions. Figures 9c and 9i show that the slopes of teacher-student relations for UASC students were relatively smaller slope than the slopes of teacher-student relations for non-UASC students in reading achievement and science achievement, respectively. This indicates the potential presence of a protective effect of positive teacher-student relations for non-UASC students in reading achievement and scientific achievement. Moreover, Figure 9d shows that the slope of economic, social, and cultural status for UASC students was a relatively smaller slope than the

slope of economic, social, and cultural status for non-UASC students in mathematical achievement. This indicates the potential presence of a protective effect of higher economic, social, and cultural status for UASC students in mathematical achievement.

4.4.5 Protective Factors in Education for UASCs

The final set of models also found several factors that have interactive (i.e., protective) effects on the educational achievement outcomes for UASC students. As mentioned earlier, protective factors are variables whose positive effects are stronger when the level of risk is high than when the level of risk is low (Luthar et al., 2000; Rutter, 1979, 1987; Sameroff, 2006). In statistical terms, they function as an interaction effect. As revealed by the hierarchical regression analysis results of Model 5, higher teacher use of structuring and scaffolding strategies interacting with UASC status and higher school use of ability grouping interacting with UASC status were found to be significantly associated with higher scores in reading achievement. As such, higher teacher use of structuring and scaffolding strategies and higher school use of ability grouping were determined to potentially function as protective factors for UASC students in reading achievement. Additionally, higher school use of ability grouping interacting with UASC status was found to be significantly associated with higher scores in scientific achievement, whereas higher school academic selectivity interacting with UASC status was found to be significantly associated with lower scores in scientific achievement. In other words, lower school academic selectivity and higher school use of ability grouping were determined to potentially function as protective factors for UASC students in scientific achievement. Figure 10 displays the interaction effects plots of the statistically significant relationship between educational achievement (y-axis) and socio-ecological factors (x-axis) by UASC status.

Figure 10. *Interaction effects plots of protective factors (Study 2)*



To examine and explain the interaction effects further, the study uses Luthar and colleagues (2000) conceptual study to classify and graphically represent the interaction effects into different types of protective processes. First, Figure 10a indicates that positive teacher use of structuring and scaffolding strategies may have a protective-enhancing effect on reading achievement for UASC students, because positive teacher use of structuring and scaffolding strategies was associated with a positive effect for UASC students, more so than for non-UASC students. Luthar and colleagues (2000) defined protective-enhancing effects as occurring when an attribute allows children to engage with stress such that their competence is augmented with increasing risk. Second, Figure 10b and Figure 10d indicate that high school use of ability

grouping may have a protective-stabilizing effect on reading achievement and scientific achievement, respectively, because, visually speaking, the high school use of ability grouping conferred stability for UASC students, albeit less so than for non-UASC students. Luthar and colleagues (2000) defined protective-stabilizing effects as occurring when an attribute confers stability in competence despite increasing risk. Finally, Figure 10c indicates that high school academic selectivity may have a vulnerable-reactive effect on scientific achievement because, visually speaking, the overall disadvantage associated with high school academic selectivity was particularly heightened for UASC students. Luthar and colleagues (2000) defined vulnerable-reactive effects as occurring when the disadvantage linked with the attribute was heightened with increasing levels of stress.

4.5 Discussion and Conclusion

The study reported important findings about the socio-ecological factors that contribute to the promotion and protection of education for UASCs in Jordan. First, by examining the main effects in the relationship between UASC status and educational achievement, the study was able to identify socio-ecological factors that were associated with promotive effects on the educational achievement of UASC students. These promotive factors are female gender and higher economic, social, and cultural status; positive class disciplinary climate; positive teacher-student relations; and being in a school with ability grouping. Second, by examining the interaction effects in the relationship between UASC status and educational achievement, the study was able to identify socio-ecological factors that were associated with protective effects on the educational achievement of UASC students. Specifically, higher teacher use of structuring and scaffolding strategies was found to have a protective-enhancing effect on reading achievement. School academic selectivity was found to have a vulnerable-reactive effect on scientific achievement. Lastly, school use of ability grouping was found to have a protective-stabilizing effect on both reading achievement and scientific achievement. Whereas student-level factors were found to have only promotive effects on educational achievement for UASCs, teacher-level factors and

school-level factors were found to have both promotive and protective effects on educational achievement for UASCs. These findings contribute to knowledge because they provide empirical evidence about the significant role that microsystemic factors (representing the complex relationships and physical settings experienced by the child) and mesosystemic factors (representing the interrelations between the microsystems) play in the educational resilience of UASCs. The findings also contribute to knowledge through not only the identification of the interactional relationships between risk and resilience factors but also through understanding how these interactions shape promotive and protective processes of education for UASCs.

The study displayed several methodological strengths that enabled it to contribute to knowledge about the educational resilience of UASCs in Jordan. First, a key strength of the study was that it exclusively investigated an entirely refugee sample, allowing for comparing UASC students with other non-UASC refugees. This is unlike prior quantitative studies that often compared UASC students with other non-refugee students (Çelikaksoy & Wadensjö, 2019; O'Higgins, 2018). Second, by adopting a socio-ecological and socio-interactional framework, this study underscored the importance of considering multiple levels of influence in understanding educational resilience among UASCs, such as student, teacher, and school factors. This is in line with prior calls for adopting more multilevel perspectives in studying resilience (Cicchetti, 2010). Such a multilevel approach allowed for a holistic exploration of the various socio-ecological factors that displayed promotive and protective processes associated with positive educational achievement in UASC students. Third, the combined use of variable-focused analyses and process-driven approaches with correlational and hierarchical regression analyses allowed for a more robust examination of variables and the nature of their contribution to positive educational achievement outcomes (Rudd et al., 2021; Tudor & Spray, 2017). Such an analytical strategy enabled the study to gain valuable insights into not only the socio-ecological factors impacting educational resilience for UASCs but also the underlying socio-interactional processes that define these impacts. Finally, the study's focus on UASCs in Jordan provided context-specific and

transferable insights that contribute to understanding the unique challenges faced by Palestinian UASC students in the Jordanian educational system, as well as providing a framework for comprehending the educational resilience of UASCs in other similar contexts. In summary, the study's integration of a socio-ecological and socio-interactional framework with variable-focused analyses and process-driven approaches strengthened its ability to uncover critical insights into the educational resilience of UASCs, including the identification of factors that enact promotive and protective processes that impact educational resilience.

The study reports some methodological limitations that should be carefully considered. First, the use of a cross-sectional design for secondary data analysis prevented the establishment of causality. This is often the challenge with secondary data analyses because they involve the use of existing quantitative data to find answers to a research question that is different from the original work (Smith, 2008). For example, the PISA dataset was not designed with UASC students in mind due to it originating from Western models of education (Hopfenbeck et al., 2018). But given the scarcity of quantitative data on the educational outcomes of UASCs (Khan et al., 2019) and only a review of international large-scale assessments for this study was necessary, it was determined that the PISA 2009 dataset contained the most complete and up-to-date quantitative data on the education of UASCs. It's also important to recognize that many refugee students in Jordan, including UASCs, face socio-economic conditions such as financial barriers, domestic duties, and a lack of school engagement, leading many students to not remain in school long enough to be PISA-eligible students (UNICEF & Jordan Ministry of Education, 2020). Accordingly, future research should consider longitudinal studies that capture quantifiable educational data on UASCs to allow for a more robust quantitative examination of which resilience factors (such as those identified in this study) are salient in predicting change in educational outcomes. Another limitation of the study is that it relied on student-reported and principal-reported responses for the variables. The use of self-reported responses may introduce social desirability bias, which refers to when the child responds to survey questions in a manner

that is socially acceptable by others (Krumpal, 2013), or recall bias, which refers to when the child is unable to remember past events or experiences accurately (Bell et al., 2019). Regardless, the study delivered its best efforts to produce accurate parameter estimates by committing to a strict estimation approach as outlined by the OECD (2012). While the study provides valuable insights, its limitations, including the cross-sectional design and reliance on the PISA dataset, should be considered when interpreting the findings.

The study carries significant research implications both for the study of the educational outcomes of UASCs and for the broader field of resilience research. With regards to the study of UASCs' education, resilience factors and processes provide valuable insights into the potential determinants that contribute to positive educational outcomes in the face of risk and adversity associated with being UASC. Future research can build upon the study's findings to further explore additional variables (e.g., at the home-level or at the community-level) that may influence UASCs' educational outcomes and investigate the promotive and protective processes through which these factors operate. With regards to the field of resilience research, the identification of promotive and protective factors in the educational context of UASCs adds to the growing body of knowledge on resilience processes (Aleghfeli, 2021; Feinstein et al., 2021; Luthar et al., 2006; Sameroff, 2006). By examining how various socio-ecological factors interact and influence UASCs' educational achievement, researchers can shed light on the socio-interactional processes that foster resilience in children of refugee and forced migrant backgrounds. Researchers can also highlight the importance of contextual factors, adaptive strategies, and social support systems for UASCs' educational journeys through qualitative and ethnographic studies in line with calls for further research centering voices and perspectives of UASCs (Taha & Anabtawi, 2024). Lastly, but equally important, the study reaffirmed the benefits arising from making available and open-access data that furthers understanding of the needs and circumstances of UASCs and other children with refugee and forced migrant backgrounds. Researchers, as well as practitioners and policymakers, can respond to prior calls to action by UNICEF, UNHCR, IOM, Eurostat, and OECD

(2018) that call for addressing alarming holes in the availability, reliability, timeliness, and accessibility of data and evidence on children with refugee and forced migrant backgrounds by investing in data systems and quantitative research that center the rights and protection of children on the move. Generating accurate and comprehensive data and making it available for open access will enhance understanding of the needs and circumstances of children with refugee and forced migrant backgrounds and contribute to safeguarding their access to rights and protection.

The study has important implications for educational and social care policy and practice, not only in Jordan but also in other countries with significant populations of UASCs. Understanding the promotive and protective processes that underlie socio-ecological factors' support of UASCs' educational resilience offers policymakers and practitioners needed information to develop targeted interventions and support systems and elaborate existing ones. However, when trying to exact practice and policy implications, the mere identification of promotive and protective processes is not enough. It is also important to distinguish whether a socio-ecological factor functions as a fixed marker or a variable factor. A fixed marker is a factor that precedes the educational outcome and remains fixed regardless of intervention, while a variable factor is a factor that precedes the educational outcome but may be changed or manipulated to affect the outcome (Kraemer et al., 1997). In applying this distinction to the study, student-level factors such as gender and economic, social, and cultural status can be characteristics that precede the educational outcome and may require substantial structural input to change. Conversely, teacher-level factors, such as class disciplinary climate, teacher-student relations, and teacher use of structuring and scaffolding strategies, and school-level factors, such as school use of ability grouping and school academic selectivity, are variable factors that can be improved on to potentially affect the educational outcome of UASCs. In the context of Jordan, practitioners can use knowledge about variable factors to inform the design of new educational and school-based interventions and programming targeting UASCs. For example, teachers can

employ instructional strategies that improve class disciplinary climate, teacher-student relations, and teacher use of structuring and scaffolding strategies, while school leaders such as principals can improve school use of ability grouping and school academic selectivity. In contexts beyond Jordan, countries that have equally large populations of refugees and forced migrants can draw upon these findings to elaborate on their existing educational and school-based interventions and programming that target UASCs. By gaining this understanding of resilience factors and incorporating it into educational and social care policies, policymakers can create inclusive environments that foster UASCs' educational resilience and ensure a resilient and responsive education system in Jordan (UNESCO & Jordan Ministry of Education, 2023).

4.5.1 Note on Recent Events

Since the publication of this study on Palestinian UASCs (Aleghfeli, 2023), the Israeli began an excessive military assault on the Gaza Strip, Palestine in response to attacks by Palestinian militant groups on 7 October 2023. This resulted in over 1200 Israeli deaths, including at least 33 children, and lead to an estimated 120 hostages according to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA, 2024). However, by December 2024, the Israeli military assault on Gaza since 7 October resulted in over 45,000 Palestinian deaths, nearly half of whom are children and women (OCHA, 2024), with more than 10,000 reported missing and the death toll estimated to rise to well over 100,000 (Khatib et al., 2024; Stamatopoulou-Robbins, 2024). Alarmingly, it is estimated that over 50,000 Palestinian children in Gaza could be living without parent (International Rescue Committee, 2024), an unimaginable increase in the number of Palestinian UASCs since the completion of this dissertation. The war also destroyed or seriously damaged at least 88% of school buildings and left approximately 628,000 students with no access to education (OCHA, 2024). Such actions led the ICJ (International Court of Justice, 2024) to declare in the case brought about by South Africa against Israel:

> In the Court's view, the facts and circumstances mentioned above are sufficient to conclude that at least some of the rights claimed by South Africa and for which it is seeking

> protection are plausible. This is the case with respect to the right of the Palestinians in Gaza to be protected from acts of genocide and related prohibited acts identified in Article III, and the right of South Africa to seek Israel's compliance with the latter's obligations under the Convention. (para. 54)

In addition to the ICJ stating that genocide charges are plausible, experts such as the Special Rapporteur on the occupied Palestinian territories (United Nations, 2024a, 2024b), Amnesty International (2024), and Human Rights Watch (2024) have since referred to the actions by the Israeli military as genocide. In light of these genocidal acts and the systematic destruction of Palestinian education, continued scholarship on education for Palestinian students is needed to support the educational efforts in situations of humanitarian crises and sustaining Palestinian education, and hope that this dissertation contributes to that effort. I have since expressed this call in another paper that focused on making education inclusive for Palestinian children (Aleghfeli, 2024).

Chapter 5. Study III – Exploring socio-ecological factors contributing to the navigation and negotiation of education by unaccompanied and separated children in Greece

Summary. OBJECTIVES: Greece is home to large numbers of unaccompanied and separated children (UASCs) who have been forcibly displaced and had their education disrupted. Despite UASC status being associated with high adversity and risk, there is growing research attesting to the educational resilience of UASCs. Recent studies have identified socio-ecological factors that enable UASCs to achieve positive educational outcomes. However, limited research exists on the underlying processes through which these factors contribute to positive educational experiences. The objective of this study was to explore how UASCs in Greece navigate or negotiate situations of risk in their new environment to gain educational resilience in comparison to non-UASCs. METHODS AND ANALYSIS: The study used a qualitatively driven mixed-methods approach using the CYRM-R questionnaire and semi-structured interviews collected in Greece from a sample entirely of children of refugee and forced migrant backgrounds (n=25) composed of UASCs and non-UASCs. Qualitatively, reflexive thematic analysis and open, axial, and selective coding were used to identify resilience factors shared between UASCs and non-UASCs and factors unique to each. Quantitatively, Fisher's exact test and Welch's two-sample t-test were used to examine group differences in participants' responses to the CYRM-R questionnaire. FINDINGS: Quantitative analyses revealed UASCs' personal sense of resilience to be tied to the immediate socio-ecological support system around them, while qualitative analyses revealed supportive social workers and financial support access as resilience factors unique to UASCs, and supportive next of kin, supportive principals and other school staff, and supportive teaching staff at community NGOs as factors unique to non-UASCs. NOVELTY AND IMPROVEMENT: By integrating quantitative and qualitative techniques, the study provides empirical evidence on how the socio-ecological context of UASCs shapes their ability to navigate and negotiate risk situations

to gain positive educational experiences. It identifies the socio-interactional relationship between risk and resilience factors and how they contribute to educational resilience processes.

5.1 Introduction

5.1.1 Rationale

Greece is home to over 190,000 refugees and other forced migrants, according to the UNHCR (2024). This amounts to nearly 2% of Greece's total population in 2022 (UNHCR, 2024; World Bank, 2024). A large portion of Greece's population of refugees and other forced migrants are UASCs, with over 19,000 claiming asylum since 2015 (EUROSTAT, 2024). Many children of refugee and forced migrant backgrounds arrived in Greece without parents or got separated during the journey. Ensuring access to education is a major challenge, as they faced barriers like encampment, waiting periods, and administrative obstacles (Derluyn et al., 2009; Geltman et al., 2005; Hjern et al., 1998; Hodes et al., 2008; Hunt, 2021). Even when offered non-formal education, the quality is often lacking (Hunt, 2021; Vakali, 2020). To improve outcomes, various refugee rights advocates and refugee services call for language programs, specialized teachers, sensitivity training, tailored instruction, and mental health services (Arvanitis, 2020; Gkaintartzi et al., 2020; Hunt, 2021; Papapostolou, 2020; Vakali, 2020). The large number of refugees and forcibly displaced persons that Greece receives can be explained by its geographic location as Europe's eastern gateway, with many refugees simply transiting to end up in more affluent Western European states (UNHCR, 2024; World Bank, 2024). With such a large number arriving in Greece, many UASCs seeking asylum and protection are also entering into an educational system foreign to them, which they must navigate and negotiate with to achieve their educational goals. Coupled with the recent COVID-19 pandemic, many were faced with adverse challenges relating to educational access and continuity. Despite this and the double layers of risk associated with being a refugee and being UASC (Fazel et al., 2012), recent studies have uncovered various resilience factors that empower UASCs to achieve positive educational experiences and outcomes (Aleghfeli, 2023; Aleghfeli & Hunt, 2022). As Greece continues to be a major entry point for refugees and UASCs, more research is still needed to further understand the educational resilience of UASCs in the Greek context. Their voices and experiences should be amplified to

inform policies and practices that can better support their educational access, participation, and achievement; hence, the need to understand what socio-ecological factors contribute to the navigation and negotiation of education by UASCs.

5.1.2 Objectives

The main research question of this study was to understand how socio-ecological factors support UASCs in Greece to navigate or negotiate situations of risk in their new environment to gain positive educational experience in comparison to non-UASCs. This research question was necessary for identifying resilience and risk factors of educational success for UASCs in Greece and exploring how these resilience and risk factors interact to identify the resilience-building processes for UASCs in Greece. The study used a qualitatively driven mixed-methods approach (Hesse-Biber et al., 2015) to understand the processes by which certain socio-ecological factors enable (resilience factors) or hinder (risk factors) the educational trajectories of UASCs in Greece. This qualitatively driven mixed-methods design involved in-depth semi-structured interviews (IDIs), focus group discussions (FGDs), and the CYRM-R questionnaire. The study attempted to address the main research question through four objectives. First, the study examined whether there is a statistically significant difference between UASCs and non-UASCs in their CYRM-R scores. Second, the study examined whether there is a statistically significant difference between UASCs and non-UASCs in their responses to the CYRM-R items. The objectives of both of these questions were to construct profiles of educational resilience for UASCs and non-UASCs. Third, the study explored what risk factors and resilience factors are shared between UASCs and non-UASCs in Greece. Fourth, the study explored what risk factors and resilience factors are unique to UASCs and what factors are unique to non-UASCs in Greece. The objectives of both of these questions were to capture the voices of UASCs and non-UASCs with regard to what helps them navigate and negotiate situations of risk. Lastly, the study explored how UASCs and non-UASCs navigate and negotiate situations of risk differently from non-UASCs in their new environment to achieve positive educational experiences. Findings from this study were then synthesized and

discussed with regard to their research implications for both the study of the education of UASCs and the broader field of resilience research. Implications for educational and social care policy and practice for UASCs in Greece and other countries with significant populations of children of refugee and forced migrant backgrounds were also discussed.

5.2 Literature Review

This literature review section explores research on the educational outcomes and resilience of UASCs in Greece. It first provides background on the challenges that UASCs face in accessing quality education in Greece. Next, it establishes a conceptualization of educational resilience as positive educational experiences despite exposure to adversity (Masten, 2014; Rutter, 2012), shaped through interaction between the child and their environment (Luthar et al., 2000; Luthar & Cicchetti, 2000; Ungar, 2008). The review then adopts a socio-ecological approach (Bronfenbrenner, 1977, 1986) and a socio-interactional approach (Vygotsky, 1967, 1978) to consider how factors at the student, teacher, and school levels influence the educational resilience of UASCs. Furthermore, it discusses how these factors may contribute to supporting UASCs in their navigation and negotiation processes with the educational system in Greece.

5.2.1 Unaccompanied and Separated Children in Greece

Greece has become a major entry point for refugees and forced migrants arriving in Europe over the past decade. Many of these refugees and forced migrants are children who arrive in Greece without parents or adult caregivers, known as unaccompanied children (United Nations, 2005). Others arrive with family members but become separated during the journey and are considered separated children (United Nations, 2005). By April 2020, the United Nations Children's Fund (UNICEF) estimated that 45,300 children of refugee and forced migrant backgrounds were in Greece, of which 4,756 were UASC, with the vast majority originating from Afghanistan, Syria, Iraq, and other countries experiencing conflict, persecution, or poverty (UNICEF, 2020). Ensuring access to formal schooling is a major challenge for UASCs and other children of refugee and forced migrant backgrounds in Greece. Hunt (2021) revealed that young

refugees seeking education are faced with three key institutional bordering practices in Greece: the bordering of space (via encampment), time (via enforced waiting), and public services (via administrative barriers). Such practices often cause the dreams of children of refugee and forced migrant backgrounds seeking education to be diverted or downgraded.

Even with the offer of non-formal educational opportunities by the NGO and voluntary sectors, the quality of education received is often subpar. In a professional narrative about teaching in the non-formal educational sector in Greece, Vakali (2020) reports that teachers often confront the challenges of students dropping out, especially female teenage students, high illiteracy levels, PTSD symptoms, a lack of books and teaching materials, and a lack of training in managing age-diverse and culturally-diverse classrooms. To improve the educational outcomes of UASCs and other students of refugee and forced migrant backgrounds, advocates call for increased funding for Greek and English language acquisition programs, hiring teachers specialized in refugee education, sensitivity training to reduce discrimination, tailored instruction for children who have missed years of school, and youth mental health services to support trauma recovery (Arvanitis, 2020; Gkaintartzi et al., 2020; Hunt, 2021; Papapostolou, 2020; Vakali, 2020). Education is a crucial part of establishing security and opportunity for UASCs and other students of refugee and forced migrant backgrounds after a perilous migration journey. Enabling their access to supportive, inclusive, and high-quality educational experiences is imperative for their personal development and future prospects. Although this study focuses specifically on UASC students in Jordan, it makes contributions for future studies examining the educational resilience of UASCs in other educational contexts.

5.2.2 Refugee Learning across Educational Settings

The study acknowledges that refugee education occurs in various systems and educational settings. The dissertation also recognizes that non-formal learning and informal learning are equally important educational contexts as more formal learning settings, such as schools and universities. As such, the dissertation captured educational trajectories across the following

educational systems and settings: formal education, non-formal education, and informal education (Werquin & OECD, 2010).

Formal education refers to a systematic approach to learning that occurs within designated educational settings, including schools, colleges, universities, and vocational training centers. It adheres to a predetermined curriculum or set of learning goals and is facilitated by qualified educators or instructors. Formal learning is often characterized by the use of standardized assessment methods and the awarding of certificates or diplomas upon completion.

Non-formal education refers to any intentional and structured learning activity that takes place outside of formal educational settings, such as community centers, youth organizations, sports clubs, cultural associations, and vocational training centers. Unlike formal learning, non-formal learning is not necessarily linked to a prescribed curriculum or learning objectives, and it is often based on the needs and interests of the learner. Examples of non-formal learning activities include language courses, computer training, music lessons, and leadership training programs.

Informal education refers to learning that occurs naturally and spontaneously as a part of everyday life, without any formal structure or learning objectives. It can take place in a variety of settings, including at home, in the workplace, during leisure activities, and in social interactions. Examples of informal learning include learning from experience, observing others, reading, watching documentaries, listening to podcasts, and participating in online discussions. Informal learning is often unstructured and not recognized as a formal achievement, but it can contribute significantly to knowledge and skill development, critical thinking, problem-solving, and personal and professional growth.

5.2.3 Conceptualizing Educational Resilience for UASCs in Greece

UASC status has often been identified as a risk factor in various studies on refugees' mental health outcomes. Both unaccompanied children (Hodes et al., 2008) and separated children (Derluyn et al., 2009) were found to have experienced a higher number of adverse events when compared to non-UASCs. Several studies also attributed being UASC to being a risk factor due to

separation from family members (Geltman et al., 2005; Hjern et al., 1998). However, in education, UASCs still overcame those odds by reporting positive educational outcomes or displaying positive educational experiences (Aleghfeli & Hunt, 2022). In investigating the educational experiences of UASCs in Greece, this study is set to understand how they navigate or negotiate situations of risk in their new environment to achieve educational resilience when compared to non-UASCs. Ungar (2008) exemplifies this approach within resilience research, where he defines resilience as:

> In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their well-being, and their capacity individually and collectively to negotiate for these resources to be provided in culturally meaningful ways (p. 225).

Ungar (2004) noted that children's own perspective on their culturally embedded pathways to resilience is often silent in resilience research and that resilience research often emphasizes western-focused outcomes and factors typical of western populations and their definitions of resilience. As such, it is important to incorporate qualitative and socio-interactional approaches to better study the personal agency of the child in seeking educational or social care support (navigation processes) and in seeking the provision of educational and social care resources in ways that are meaningful to the child (negotiation processes) (Ungar, 2008). There is also consensus in the literature that resilience should not be viewed as an internal trait or characteristic of the individual but rather as an interaction of the individual with a wider system (Cicchetti, 2010; Luthar et al., 2000; Luthar & Cicchetti, 2000; Masten, 2001). As such, understanding UASCs' educational resilience would necessitate investigating both the process of UASCs navigating towards educational resources and the capacity of UASCs to negotiate for these educational resources on their own terms. Taking from these conceptualizations, this study defines educational resilience as the presence of positive educational experiences despite exposure to significant risk or severe adversity (Masten, 2014; Rutter, 2012). Educational

resilience is also the result of a dynamic engagement between the child and their immediate environment (Luthar et al., 2000; Luthar & Cicchetti, 2000) and is specific to the socio-ecological and socio-interactional context of the child (Ungar, 2008).

5.2.4 Educational Resilience Factors and Processes

Pursuing a socio-ecological approach to understanding educational resilience among UASCs is of paramount importance as it recognizes the interplay between various ecological systems that shape children's educational experiences. The study utilized a socio-ecological systems approach (Bronfenbrenner, 1977, 1986) to consider the role that various factors existing at the individual-level, 'home'-level, school-level, and community-level play in improving educational outcomes for UASCs. The study also followed a social interaction approach (Vygotsky, 1967, 1978) in order to consider how the interactions between risk and resilience factors occur and explain how they contribute to resilience-building processes for UASCs in Greece. In a systematic review of risk and resilience factors for the education of UASCs in high-income countries, Aleghfeli and Hunt (2022) identified socio-ecological factors existing at the student-level, teacher-level, and school-level that are associated with positive educational trajectories for UASCs. At the individual level, they recognized that some personal characteristics, such as prior quality education, contributed to UASCs' educational resilience. However, they found that most of the influential factors in education for UASCs were found externally in their immediate environment.

Such microsystemic and mesosystemic factors were found to have enabled UASCs to overcome adversity, adapt to new environments, and persist in their educational pursuits. In particular, Aleghfeli and Hunt (2022) found that teacher-level factors and school-level factors, including access to quality education and supportive learning environments, inclusive schools, well-trained teachers, and appropriate resources, were found to be crucial for UASCs' educational resilience. In conclusion, incorporating a socio-ecological approach (Bronfenbrenner, 1977, 1986) and a socio-interactional approach (Vygotsky, 1967, 1978) provides a comprehensive framework

to explore the multiple systems influencing educational resilience and promotes a holistic understanding of UASCs' educational experiences. By adopting this approach, the study is also able to communicate findings in a manner that can inform future researchers, practitioners, and policymakers on how to elaborate existing educational programming and create supportive class and school environments that foster educational resilience and improve the educational experiences of UASCs.

5.2.5 Operationalizing Educational Resilience for Analysis

Although primarily used for quantitative investigation, person-centered analyses and process-driven approaches offered complementary perspectives that were valuable for operationalizing educational resilience among UASCs for mixed-methods investigation. These approaches offered nuanced insights into the socio-ecological factors and navigation and negotiation processes that contribute to their educational resilience (Ungar, 2008). On the one hand, person-centered analyses (Tudor & Spray, 2017) allowed for the comparison of a higher-risk group (UASCs, given their adverse experience of family separation) and a lower-risk group (non-UASCs), thereby gaining an understanding of how the educational resilience of UASCs occurred differently from non-UASCs. In this study, person-centered analyses involved both the quantitative examination of group differences and the qualitative exploration of shared and unique experiences of educational resilience.

On the other hand, process-driven approaches (Rudd et al., 2021) offered a deeper understanding of the dynamic and contextually embedded processes that contributed to educational resilience among UASCs. This study used process-driven approaches to explore the navigation and negotiation processes that characterized the impact of socio-ecological factors on the educational experiences of UASCs. The goal was to understand the process by which these factors shape their educational resilience. All in all, by integrating person-focused analyses and process-driven approaches, the study was able to obtain a comprehensive understanding of the socio-ecological factors and of the navigation and negotiation processes that influenced

educational resilience among UASCs. Gaining such a comprehensive understanding will be especially crucial for the development and elaboration of evidence-based educational programs and policies that support UASCs in overcoming challenges and achieving positive educational experiences.

5.3 Methods

This mixed-methods study examined the educational resilience of refugee youth in Greece, including both UASCs and non-UASCs. The sample comprised 25 refugee youth aged 16–23 and six education stakeholders. Data collection involved focus groups with stakeholders, semi-structured interviews with the refugee youth participants, and the CYRM-R questionnaire. Quantitative data was analyzed using descriptive statistics and statistical tests to compare UASC and non-UASC. Qualitative data was analyzed through reflexive thematic analysis to identify risk and resilience factors, as well as navigation and negotiation processes. Findings were synthesized to understand how the interaction between risk and resilience factors enables navigation and negotiation processes that can facilitate educational resilience. Ethical considerations for this study included informed consent procedures and ethics approval.

The main source of data in this study is the voice and perspective of UASCs and non-UASCs, which is why it is necessary to pursue an approach that prioritizes this qualitative information. As such, this study uses a qualitatively driven mixed-methods approach that privileges qualitative data as the core with quantitative methods taking a secondary role (Hesse-Biber et al., 2015). In such mixed-method designs, the qualitative component forms the basis for exploring the research questions, while the quantitative component assists in elaboration or clarification. In this study, the quantitative data is only intended to provide descriptive and correlational information on the personal and relational resilience of the youth participants in order to assist in better contextualizing the interpretation of the qualitative data.

5.3.1 Sample

Using a socio-ecological approach (Bronfenbrenner, 1977, 1986) and a socio-interactional approach (Vygotsky, 1967, 1978), the study aimed to uncover individual factors, 'home' factors, school factors, and community factors that enable (resilience factors) or hinder (risk factors) the educational outcomes or trajectories of the youth. There are two groups of participants in the study: youth participants and adult participants. The first group (N = 25) were youth participants made up of refugee youth, both UASC (N = 15) and non-UASC (N = 10), who arrived in Greece seeking asylum as minors. Data was collected from the first group through questionnaires and semi-structured interviews during the fieldwork data collection phase in Greece. The second group (N = 6) were adult participants made up of education stakeholders who are experts on the educational resilience of UASCs in Greece. Two were directors of separate NGOs, two were teachers, one was a social worker, and one was a gender rights activist. Data was collected from the adult group through focus groups during the pilot data collection phase prior to the fieldwork. Cumulatively, the number of participants in this study was N = 31.

Inclusion Criteria. For the youth participants, the inclusion criteria were: 1) The participant is a current or former refugee youth, both UASC and non-UASC, aged 16–23 years old; 2) The participant has attained at least one year of educational provisioning, including both formal and non-formal, in Greece; 3) The participant has provided consent to participate in the study; and 4) The availability of a competent interpreter and transcriptionist. For the adult participants, the inclusion criteria were: 1) The participant is an expert professional on the topic of the educational resilience of UASCs in Greece (e.g., could be a legal guardian, social worker, cultural mediator, teacher, refugee education coordinator); and 2) The participant has provided consent to participate in the study.

Recruitment. For the adult participants, the education stakeholders were recruited through snowball sampling. An informational email was sent to each stakeholder inviting them to participate in the study, where the project, its aims, methods, and proposed outputs were

explained. Upon obtaining informed consent, focus group sessions were scheduled with the educational stakeholders online. For the youth participants, the refugee youth, both UASC and non-UASC, have been recruited through snowball sampling with the help of three Athens-based NGO partners. Prior to me contacting them directly, the partners contacted the participants (and their legal guardian if aged 16–17) to get initial consent to participate. Once the partners confirmed the participants' interest, an informational email was sent to each potential youth participant (and their legal guardian if aged 16–17) inviting them to participate in the study. Upon obtaining informed consent, the semi-structured interview and questionnaire sessions were scheduled with the refugee youth at either the office of the local NGO partners or online, based on the preference of the participant.

5.3.2 Data Collection

The first phase was the pilot study, which was completed from November 2021 to January 2022 and involved online focus groups with adult participants. The pilot study was a small-scale trial run of the semi-structured interviews and the CYRM-R questionnaire prior to use in the field (Krueger & Casey, 2015). The purpose was to detect weaknesses in the study design and allow revision of the procedures. The second phase was the fieldwork study, which was completed from February to May 2022 and involved conducting semi-structured interviews with refugee youth participants and collecting their responses to the CYRM-R questionnaire. Fieldwork involves gathering information, data, and impressions by means of observation, documentation analysis, interviewing, and developing a reflective record in field notes of what has been learned during the process (H. J. Rubin & Rubin, 2012). The purpose of the fieldwork was to acquire a degree of inside understanding through exposure to and involvement in the study setting.

Focus Group Discussions. During the pilot data collection phase of the study, focus groups were employed to explore education stakeholders' perceptions on the resilience factors and risk factors affecting UASCs in education, their perceptions on how youth navigate situations of risk to achieve educational resilience, gain their valuable input on how to contextualize the

CYRM-R questionnaire and the semi-structured interview schedule, and ensure how they can be culturally sensitive to the topic of the educational resilience of UASCs in Greece. Focus groups are a carefully planned series of discussions designed to obtain perceptions in a defined area of interest in a permissive, nonthreatening environment (Krueger & Casey, 2015). In total, six educational stakeholders were invited to participate in three focus groups. Each focus group was audio-recorded after receiving permission from each participant. Written observational notes were also taken whenever appropriate and, if not too distracting, to capture agreements and disagreements between the focus group participants. The focus group took, on average, 1.5 hours. Appendix D1 shows the focus group schedule used with the stakeholders.

The Child & Youth Resilience Measure. The first research instrument administered to the youth participants is the CYRM-R questionnaire, which is a self-reported measure of the youth's socio-ecological resilience (Jefferies et al., 2019; Resilience Research Centre, 2018). The CYRM-R overall resilience score (henceforth referred to as the resilience score) is made up of 17 items and provides an overall score of resilience. In addition to the overall resilience score, two sub-scales are also derived from the questionnaire: the CYRM-R personal resilience score and CYRM-R relational resilience score. The CYRM-R personal resilience score (henceforth referred to as the personal resilience score) is made up of 10 items and relates to intrapersonal and interpersonal manifestations of resilience, while the CYRM-R relational resilience score (henceforth referred to as the relational resilience score) is made up of 7 items and relates to characteristics associated with important relationships shared with caregivers. The version of the questionnaire used in the study is the simplified language version, which uses the 3-point scoring system to avoid the possibility that some respondents may have literacy or comprehension issues or that they may potentially struggle to differentiate between response options on the less simplified version. Although given the option to skip an item if they preferred, none of the youth participants skipped any item, resulting in no missing data. Participants took an average of 10–

15 minutes to complete the questionnaire. Appendix D2 shows the CYRM-R questionnaire used with the youth participants in the study.

Semi-structured Interviews. After completing the CYRM-R questionnaires, in-depth, open-ended and semi-structured interviews were conducted to allow each youth participant to become comfortable by first introducing themselves in their own words, then speaking about their educational pathways in Greece, including the challenges they faced, the various internal and external factors that enabled or hindered their educational experiences, and their future educational outlook. Semi-structured interviews involve open-ended questions guided by a loose interview protocol to allow for in-depth exploration of research topics while maintaining flexibility in the conversation (H. J. Rubin & Rubin, 2012). The same semi-structured interview schedule was used for both UASC and non-UASC refugee youth to identify salient and specific themes between both groups. Each interview was further contextualized for each individual UASC and non-UASC. Moreover, each interview was audio-recorded after receiving permission from each participant and then transcribed into interview transcripts for analysis. Written field notes were also taken during the semi-structured interview process whenever appropriate and, if not too distracting, to capture moments where the participants felt anxious and moments where they exhibited motivation towards education or aspiration towards future goals (Phillippi & Lauderdale, 2018). However, the intention behind taking written field notes was not to analyze them alongside the interview transcripts but simply to capture more subtle aspects of the interview, such as emotions, non-verbal cues, and the researcher's reflections. Participants took an average of 30–45 minutes to complete the semi-structured interview. Appendix D3 shows the semi-structured interview schedule used with the youth participants in the study.

Demographic Information. During fieldwork, further demographic information was also collected from the youth participants prior to conducting the CYRM-R questionnaire. These were:

- UASC status, a categorical variable denoting whether the refugee youth is UASC or accompanied.
- Current age, a continuous ordinal variable.
- Age at arrival to Greece, a continuous ordinal variable.
- Gender, a categorical variable denoting the gender identity of the refugee youth.
- Country of origin, a categorical variable denoting which country the refugee youth originated from.
- Highest educational level, a categorical variable denoting the current or latest educational status of the refugee youth.
- 'Home', a categorical variable denoting the home environment of the refugee youth. This study recognizes 'Home' as being a stable and supportive environment where the physical, emotional, and psychological needs of refugee youth, including UASCs, are met, and where they can experience safety, belonging, and care, whether it's with family, or in a residential, semi-independent, or independent accommodation setting.
- Employment status, a categorical variable denoting the home environment of the refugee youth.
- Asylum status, a categorical variable denoting whether the refugee youth is currently an asylum-seeker or a recognized refugee in Greece.

5.3.3 Analysis

Quantitative data collected from the CYRM-R questionnaire and from demographic information will be analyzed using descriptive and correlational statistical methods, whereas qualitative data collected from the semi-structured interviews and focus groups will be analyzed using thematic content analysis.

Quantitative Data Analysis. Descriptive statistics were used to compare the demographic information and questionnaire responses between the UASCs and non-UASCs,

while correlational analyses were run to determine whether the differences in the CYRM-R questionnaire between the UASCs and non-UASCs are statistically significant or not. Given the small sample size of the youth participants, the study used Fisher's exact test (1935) to examine differences between UASCs and non-UASCs on the CYRM-R items and Welch's two-sample t-test (1938) to examine differences between UASCs and non-UASCs on the CYRM-R scores. Fisher's exact test and Welch's two-sample t-test are both valuable statistical tests when working with small sample sizes.

Fisher's exact test (1935) is a statistical test used to determine the significance of the association between two categorical variables in a 2x2 contingency table. It is particularly useful in situations where the sample size is small and the assumptions required for other tests, such as the chi-square test, are not met. It also provides an exact calculation of p-values without relying on asymptotic approximations, making it suitable for analyzing categorical data with sparse cell frequencies. In cases where the categorical variables are in contingency tables that are larger than 2x2, Freeman and Halton's extension (1951) of the Fisher's exact test is applied by using Monte Carlo simulation methods to estimate the p-value.

Welch's two-sample t-test (1938) is a statistical test commonly used to compare means between two groups or conditions for continuous variables. It is advantageous for small sample sizes when the assumption of equal variances is violated (Satterthwaite, 1941). It also offers a robust alternative to the traditional t-test by accommodating unequal variances, allowing for more accurate inference even with limited data.

An a priori power analysis was conducted using G*Power 3.1 (Faul et al., 2007) for sample size estimation based on census figures from UNICEF (2020). Using a significance criterion of $\alpha = .05$ and power = .95, the minimum sample size needed is N = 18 for a Fisher's exact test and N = 24 for a two-tailed t-test. Thus, the study obtained a sample size of N = 25 to test the study hypothesis. The significance level is set at $\alpha = .05$. The Welch's two-sample t-test is calculated

using the `T.test` command while the Fisher's exact test is estimated using the `fisher.test` command, both part of the `stats` package in R (Wickham et al., 2023).

Qualitative Data Analysis. Reflexivity is a critical component of qualitative research that requires researchers to reflect on their experiences, perspectives, and biases that might influence their study (Attia & Edge, 2017). To incorporate a reflexive approach to the data analysis, the study employs a combination of open, axial, and selective coding techniques (Glaser & Strauss, 1967) and reflexive thematic analysis (Braun & Clarke, 2006) using a six-step procedure. This approach emphasizes researcher reflexivity and promotes a rigorous and comprehensive analysis of qualitative data.

First, the two coders – the first author (with research expertise in refugee education) and another independent coder (a master's student and former schoolteacher recruited as a research assistant) – familiarized themselves with the interview transcripts through the open coding of the first three interview transcripts. The purpose of the open coding was to identify any risk and resilience process from the interview transcript. Once coding of the first three interview transcripts was completed, the two coders then discussed and agreed on the final open codes together.

Second, after the two coders agreed on the final open codes, the primary coder used a socio-ecological framing of the educational resilience of UASCs (Aleghfeli & Hunt, 2022) to organize the open codes into an initial codebook and to develop axial codes and selective codes. The purpose of the axial codes was to name the domains in which the risk or resilience processes occur. The purpose of the selective codes was to name the socio-ecological system that contains the domains where the risk or resilience processes occur. Once an initial codebook was developed, the two coders met to discuss and enhance it based on the secondary coder's feedback and agree on the final codebook together.

Third, with the final codebook developed, a more directed coding of the first three interview transcripts was done, then discussed between the two coders to agree on the final codes

together. After coding each transcript, the two coders discussed and agreed on the final codes together, and the primary coder iteratively improved the codebook based on discussions with the secondary coder.

Fourth, once the directed coding of the first three interview transcripts was finalized, the two coders applied the same process to the rest of the interview transcripts. The two coders continued to discuss and agree on the final codes together after each transcript, and the primary coder iteratively improved the codebook accordingly. The final codebook can be found in Appendix D4.

Fifth, once all transcripts were coded, the primary coder cross-tabulated the codes on NVivo to illustrate and examine the frequency of the codes between UASCs and non-UASCs. The aim of this cross-tabulation analysis was to identify which open codes were specific to UASCs and which were shared between UASCs and non-UASCs. Results of the cross-tabulation analysis can be found in Appendix D5.

Sixth, based on the results of the cross-tabulation analysis, the primary coder wrote analytical memos on the open codes that were specific to UASCs and those shared between UASCs and non-UASCs. The purpose of the analytical memos was to identify how navigation of existing educational resources and negotiation for new resources occurred. The primary coder then edited the analytical memos to write the findings.

This reflexive process was done entirely on NVivo (Jackson & Bazeley, 2019) and was governed by checks of intercoder reliability (MacPhail et al., 2016), where two independent coders follow the same coding scheme and meet for regular discussion sessions to resolve discrepancies and agree on the final codes. Intercoder reliability is valuable in qualitative data analysis because it ensures consistency, enhances credibility, promotes validity, facilitates methodological transparency, and enables collaboration. While the regular conversations involved measuring agreement between the two coders and keeping check of individual biases in order to sustain the reliability of the findings and remain truly reflexive, the meetings also fostered integration of

diverse perspectives, potentially enriching the analysis and leading to more comprehensive insights.

5.3.4 Synthesis

The analyzed data was then triangulated and synthesized to identify and achieve two purposes. The first purpose was to identify resilience and risk factors for positive educational experiences for UASCs in Greece. The second purpose was to examine how these resilience and risk factors interact to identify the resilience-building processes for UASCs in Greece. As a theoretical framework, the study employed Bronfenbrenner's socio-ecological theory of development (1977, 1986) as a guiding framework to understand the mechanisms in which these risk and resilience factors, respectively, inhibit or enable UASCs throughout their educational trajectories in Greece. In particular, the study was interested in learning how teachers, social workers, and other adult figures in the lives of UASCs in Greece engage with UASCs through scaffolding, or the process by which UASCs are trained to accomplish a given task of their educational goals without adult assistance (Wood et al., 1976). These tasks include age-salient developmental tasks, acculturative tasks, or their own self-determined goals (Masten, 2001, 2014; Motti-Stefanidi, 2018). Findings from this study will have implications for informing school-based and community-based interventions that aim to enhance the educational outcomes of UASCs in Greece.

5.3.5 Ethical Considerations

Due to their status of being 'UASC youth' and their status of being 'refugees', the youth participants are also vulnerable as determined by the UN conventions on children's rights and on refugees (United Nations, 2005, 1951, 1967, 1989). As such, the study has taken several important steps to account for important ethical considerations and to prioritize a commitment and duty to care throughout the fieldwork.

Informed Consent. Due to the COVID-19 pandemic, oral consent was determined to be the most ideal approach for obtaining consent for the safety of both the research participants and

the researchers themselves. For the youth participants, if they were aged 16–17 years old, informed youth assent was obtained from the youth, while informed guardian consent was obtained from their legal guardian prior to scheduling the sessions. If they were aged 18–23 years old, informed youth consent was obtained from the youth prior to scheduling the sessions. For the adult participants, informed stakeholder consent was obtained from them prior to scheduling the focus group sessions. Renewal of consent was also undertaken at every stage of the study, including at the beginning and at the conclusion of the study session. The researcher stressed to all participants that they can refuse to participate and, if they choose to participate, to withdraw at any stage of the research without giving a reason and with no consequences to the youth's educational opportunities, the services they receive from the NGO, or their status in Greece.

Ethical Approval. The study has been approved by the University of Oxford's Social Sciences and Humanities Interdivisional Research Ethics Committee (Research Ethics Reference: R77223/RE001) on 21 September 2021. An amendment to the project was also approved on 5 April 2022 (Research Ethics Reference: R77223/RE001). The research ethics approval and amendment approval can be found in Appendix D6.

5.4 Educational Resilience Profiles of Refugee Youth

This study used UASC and non-UASC responses to the CYRM-R questionnaire in order to construct profiles of educational resilience for UASCs and non-UASCs. First, when examining the statistically significant differences between UASCs and non-UASCs in their CYRM-R scores, the study found that UASCs had a significantly lower score on average than non-UASCs on the overall resilience score and on the relational resilience score. Second, when examining the statistically significant differences between UASCs and non-UASCs in their CYRM-R items, the study found that UASCs agreed significantly more than non-UASCs that they get along with people around them, whereas they agreed significantly less than non-UASCs that their caregiver or guardian really looks out for them, that their caregiver or guardian knows a lot about them, that they feel safe when they are with their caregiver or guardian, and that they like the way their caregiver or

guardian celebrates things about them, such as holidays or learning about their culture. Both findings illustrate how UASCs' personal sense of resilience is tied to the immediate socio-ecological support system around them, despite experiencing family separation.

5.4.1 Descriptive Statistics

Table 16 gives a summary of the demographic details of the youth participants in the study for both UASC and non-UASC youth. In terms of age, UASCs were on average older (M = 18.47, SD = 1.96) than non-UASCs (M = 17.5, SD = 2.72) at the age of interview. Moreover, UASCs were also on average older (M = 15.73, SD = 0.7) than non-UASCs (M = 12.4, SD = 3.2) at the age of arrival in Greece. In terms of gender, 11 of the UASC youth were boys (73.33%) and 4 of the UASC youth were girls (26.67%), while 5 of the non-UASC youth were boys (50%) and 5 of the non-UASC youth were girls (50%). In terms of country of origin, 14 youth were from Afghanistan (10 UASCs, 4 non-UASCs), 3 youth were from DR Congo (all UASCs), 3 youth were from Pakistan (all non-UASCs), 2 youth were from Iran (both non-UASC), and 1 youth each was from Cameroon (UASC), Guinea (UASC), and Lebanon (non-UASC).

Table 16. *Descriptive statistics of demographic variables among youth participants (Study 3)*

	UASC (N = 15)		Non-UASC (N = 10)		Total (N = 25)	
Age						
Age at interview (Mean/SD)	18.47	1.96	17.7	2.54	18.08	2.29
Age at arrival (Mean/SD)	15.73	0.7	12.4	3.2	14.4	2.63
Gender						
Girls (n, %)	4	26.67	5	50	9	36
Boys (n, %)	11	73.33	5	50	16	64
Country						
Afghanistan (n, %)	10	66.67	4	40	14	56
Cameroon (n, %)	1	6.67	0	0	1	4
DR Congo (n, %)	3	20	0	0	3	12
Guinea (n, %)	1	6.67	0	0	1	4
Iran (n, %)	0	0	2	20	2	8
Lebanon (n, %)	0	0	1	10	1	4
Pakistan (n, %)	0	0	3	30	3	12
Formal education status at interview						

Enrolled (n, %)	8	53.33	9	90	17	68
Not enrolled (n, %)	7	46.67	1	10	8	32
Highest educational attainment at interview						
Lower secondary (n, %)	6	40	6	60	12	48
Upper secondary (n, %)	6	40	4	40	10	40
Tertiary (n, %)	3	20	0	0	3	12
'Home' at interview						
Family (n, %)	0	0	10	100	10	40
Residential (n, %)	6	40	0	0	6	24
Semi-Independent (n, %)	6	40	0	0	6	24
Independent (n, %)	3	20	0	0	3	12
Employment status at interview						
Employed (n, %)	4	26.67	0	0	4	16
Unemployed (n, %)	11	73.33	10	100	21	84
Immigration status at interview						
Asylum status (n, %)	9	60	9	90	18	72
Refugee status (n, %)	6	40	1	10	7	28

In terms of formal education status at the time of the interview, 8 of the UASC youth were enrolled in formal education at the time of interview (53.33%), 7 were not (46.67%). Conversely, 9 of the non-UASC youth were enrolled in formal education at the time of the interview (90%), while only 1 was not (10%). In terms of highest educational attainment at the time of the interview, 12 youth had attained or were currently in lower secondary education (6 UASCs, 6 non-UASCs), 10 youth had attained or were currently in upper secondary education (6 UASCs, 4 non-UASCs), and 3 youth had attained or were currently in tertiary education (all UASC). In terms of accommodation at the time of the interview, of the UASCs, 6 youth were in residential accommodation, 6 youth were in semi-independent accommodation, and 3 youth were in independent accommodation. As for non-UASCs, all were living with their families at the time of the interview. In terms of employment status at the time of the interview, 4 of the UASC youth were employed (26.67%) and 11 were not (73.33%), while none of the non-UASC youth were employed (100%). Lastly, in terms of immigration status at the time of interview, for UASCs, 6 of the youth had received refugee status (40%), while 9 were still asylum seekers waiting on the

decision on their asylum applications (60%). As for non-UASCs, only 1 of the youth had received refugee status (10%), while 9 were still waiting on the decision on their asylum applications (90%).

5.4.2 Youth responses to the CYRM-R

Table 17 gives a summary of the youth participants' responses to the CYRM-R questionnaire for both UASC and non-UASC youth. UASC youth scored lower (M = 38.8, SD = 5.91) than non-UASC youth (M = 43.2, SD = 3.58) on the overall resilience score. As mentioned earlier, the overall resilience score is derived from 17 items and contains two subscale scores: the personal resilience score and the relational resilience score. On the personal resilience score, UASC youth scored slightly higher (M = 25.4, SD = 3.16) than non-UASC youth (M = 24.9, SD = 1.97). On the relational resilience score, UASC youth scored lower (M = 13.4, SD = 3.6) than non-UASC youth (M = 18.3, SD = 2.26).

Table 17. *Summary of youth participants' responses to the CYRM-R questionnaire (Study 3)*

	UASC (N = 15)		Non-UASC (N = 10)		Total (N = 25)	
Overall resilience score (Mean/SD)	38.8	5.91	43.2	3.58	40.56	5.48
Personal resilience subscale score (Mean/SD)	25.4	3.16	24.9	1.97	25.2	2.71
Q: I get along with people around me						
Yes (n, %)	10	66.67	0	0	10	40
Sometimes (n, %)	4	26.67	10	100	14	56
No (n, %)	1	6.67	0	0	1	4
Q: Getting an education is important to me						
No (n, %)	0	0	0	0	0	0
Yes (n, %)	15	100	9	90	24	96
Sometimes (n, %)	0	0	1	10	1	4
Q: I know how to behave/act in different situations (such as school, home, and work)						
Yes (n, %)	12	80	9	90	21	84
Sometimes (n, %)	2	13.33	1	10	3	12
No (n, %)	1	6.67	0	0	1	4
Q: People like to spend time with me						
Yes (n, %)	6	40	5	50	11	44
Sometimes (n, %)	7	46.67	4	40	11	44
No (n, %)	2	13.33	1	10	3	12
Q: I feel supported by my friends						
Yes (n, %)	10	66.67	5	50	15	60
Sometimes (n, %)	3	20	4	40	7	28
No (n, %)	2	13.33	1	10	3	12

Q: I feel that I belong/belonged at my school						
Yes (n, %)	9	60	6	60	15	60
Sometimes (n, %)	4	26.67	2	20	6	24
No (n, %)	2	13.33	2	20	4	16
Q: My friends care about me when times are hard (for example if I am sick or have done something wrong)						
Yes (n, %)	8	53.33	3	30	11	44
Sometimes (n, %)	6	40	5	50	11	44
No (n, %)	1	6.67	2	20	3	12
Q: I am treated fairly in my community						
Yes (n, %)	6	40	4	40	10	40
Sometimes (n, %)	7	46.67	4	40	11	44
No (n, %)	2	13.33	2	20	4	16
Q: I have chances to show others that I am growing up and that I can do things by myself						
Yes (n, %)	12	80	8	80	20	80
Sometimes (n, %)	0	0	2	20	2	8
No (n, %)	3	20	0	0	3	12
Q: I have chances to learn things that will be useful when I am older (like cooking, working, and helping others)						
Yes (n, %)	10	66.67	8	80	18	72
Sometimes (n, %)	2	13.33	2	20	4	16
No (n, %)	3	20	0	0	3	12
Relational resilience subscale score (Mean/SD)	13.4	3.6	18.3	2.26	15.36	3.94
Q: My caregiver/guardian(s) really look out for me						
Yes (n, %)	4	26.67	9	90	13	52
Sometimes (n, %)	6	40	1	10	7	28
No (n, %)	5	33.33	0	0	5	20
Q: My caregiver/guardian(s) know a lot about me (for example, who my friends are, what I like to do)						
Yes (n, %)	2	13.33	6	60	8	32
Sometimes (n, %)	5	33.33	4	40	9	36
No (n, %)	8	53.33	0	0	8	32
Q: If I am hungry, there is enough to eat						
Yes (n, %)	5	33.33	5	50	10	40
Sometimes (n, %)	7	46.67	5	50	12	48
No (n, %)	3	20	0	0	3	12
Q: I talk to my caregiver/guardian(s) about how I feel (for example when I am hurt or sad)						
Yes (n, %)	4	26.67	3	30	7	28
Sometimes (n, %)	5	33.33	3	30	8	32
No (n, %)	6	40	4	40	10	40
Q: My caregiver/guardian(s) care about me when times are hard (for example if I am sick or have done something wrong)						
Yes (n, %)	7	46.67	8	80	15	60
Sometimes (n, %)	3	20	2	20	5	20
No (n, %)	5	33.33	0	0	5	20
Q: I feel safe when I am with my caregiver/guardian(s)						
Yes (n, %)	5	33.33	9	90	14	56
Sometimes (n, %)	4	26.67	1	10	5	20

No (n, %)	6	40	0	0	6	24
Q: I like the way my caregiver/guardian(s) celebrates things (like holidays or learning about my culture)						
Yes (n, %)	4	26.67	8	80	12	48
Sometimes (n, %)	4	26.67	1	10	5	20
No (n, %)	7	46.67	1	10	8	32

Note. With regards to 'caregiver/guardian', UASCs referred to their social worker or residential care worker as their guardian.

The personal resilience score was derived from a direct summation of the 10 following items: 1) When asked if they agree with the statement '*I get along with people around me*', most UASC youth responded 'Yes' (10 out of 15), while most non-UASC youth responded 'Sometimes' (10 out of 15), 2) When asked if they agree with the statement '*Getting an education is important to me*', most UASC youth (15 out of 15) and most non-UASC youth (9 out of 15) responded 'Yes', 3) When asked if they agree with the statement '*I know how to behave/act in different situations*', most UASC youth (12 out of 15) and most non-UASC youth (9 out of 15) responded 'Yes', 4) When asked if they agree with the statement '*People like to spend time with me*', most UASC youth responded 'Sometimes' (7 out of 15), while most non-UASC youth responded 'Yes' (5 out of 15), 5) When asked if they agree with the statement '*I feel supported by my friends*', most UASC youth (10 out of 15) and most non-UASC youth (5 out of 15) responded 'Yes', 6) When asked if they agree with the statement '*I feel that I belong/belonged at my school*', most UASC youth (9 out of 15) and most non-UASC youth (6 out of 15) responded 'Yes', 7) When asked if they agree with the statement '*My friends care about me when times are hard*', most UASC youth responded 'Yes' (8 out of 15), while most non-UASC youth responded 'Sometimes' (5 out of 15), 8) When asked if they agree with the statement '*I am treated fairly in my community*', most UASC youth responded 'Sometimes' (7 out of 15), while an equal number of non-UASC youth responded 'Yes' (4 out of 15) and sometimes 'Sometimes' (4 out of 15), 9) When asked if they agree with the statement '*I have chances to show others that I am growing up and that I can do things by myself*', most UASC youth (12 out of 15) and most non-UASC youth (8 out of 15) responded 'Yes', and 10) When asked if they agree with the statement '*I have chances to learn things that will be*

useful when I am older', most UASC youth (10 out of 15) and most non-UASC youth (8 out of 15) responded 'Yes'.

The relational resilience score was derived from a direct summation of the seven following items: 1) When asked if they agree with the statement '*My caregiver/guardian(s) really look out for me*', most UASC youth responded 'Sometimes' (6 out of 15), while most non-UASC youth responded 'Yes' (9 out of 15), 2) When asked if they agree with the statement '*My caregiver/guardian(s) know a lot about me*', most UASC youth responded 'No' (8 out of 15), while most non-UASC youth responded 'Yes' (6 out of 15), 3) When asked if they agree with the statement '*If I am hungry, there is enough to eat*', most UASC youth responded 'Sometimes' (7 out of 15), while an equal number of non-UASC youth responded 'Yes' (5 out of 15) and ' Sometimes ' (5 out of 15), 4) When asked if they agree with the statement '*I talk to my caregiver/guardian(s) about how I feel*', most UASC youth (6 out of 15) and most non-UASC youth (4 out of 15) responded 'No', 5) When asked if they agree with the statement '*My caregiver/guardian(s) care about me when times are hard*', most UASC youth (7 out of 15) and most non-UASC youth (8 out of 15) responded 'Yes', 6) When asked if they agree with the statement '*I feel safe when I am with my caregiver/guardian(s)*', most UASC youth responded 'No' (6 out of 15), while most non-UASC youth responded 'Yes' (9 out of 15), and 7) When asked if they agree with the statement '*I like the way my caregiver/guardian(s) celebrates things*', most UASC youth responded 'No' (7 out of 15), while most non-UASC youth responded 'Yes' (8 out of 15).

5.4.3 Differences in CYRM-R Scores between UASCs and non-UASCs

On the overall resilience score, there was a statistically significant difference between UASCs and non-UASCs ($t(22.88) = 2.32, p < 0.05$), meaning that UASCs had a significantly lower score on average (M = 38.8, SD = 5.91) than non-UASCs (M = 43.2, SD = 3.58). On the relational resilience score, there was a statistically significant difference between UASCs and non-UASCs ($t(22.96) = 4.18, p < 0.001$), meaning that UASCs had a significantly lower score on

average (M = 13.4, SD = 3.6) than non-UASCs (M = 18.3, SD = 2.26). On the personal resilience score, no statistically significant difference was found between UASCs and non-UASCs. Table 18 presents the results of Welch's t-tests of the CYRM-R scores.

Table 18. *Results of Welch's T-tests of CYRM-R scores (Study 3)*

	UASC (N = 15)		Non-UASC (N = 10)			
	Mean	**SD**	**Mean**	**SD**	**t**	**df**
Overall resilience score	38.8	5.91	43.2	3.58	2.32*	22.88
Personal resilience subscale score	25.4	3.16	24.9	1.97	-0.49	22.95
Relational resilience score	13.4	3.6	18.3	2.26	4.18***	22.96

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

5.4.4 Differences in CYRM-R Items between UASCs and non-UASC

First, there was a statistically significant association between being UASC and the question '*I get along with people around me*' ($p < 0.001$). Given that most UASC youth responded 'Yes' (10 out of 15) to the question, while most non-UASC youth responded 'Sometimes' (10 out of 15) to the question, UASCs agree more than non-UASCs that they get along with people around them. Second, there was a statistically significant association between being UASC and the question, '*My caregiver/guardian(s) really looks out for me*' ($p < 0.01$). Given that most UASC youth responded 'Sometimes' (6 out of 15) to the question, while most non-UASC youth responded 'Yes' (9 out of 15), UASCs agree less than non-UASCs that their caregiver or guardian really looks out for them. Third, there was a statistically significant association between being UASC and the question, '*My caregiver/guardian(s) know a lot about me*' ($p < 0.05$). Given that most UASC youth responded 'No' (8 out of 15) to the question, while most non-UASC youth responded 'Yes' (6 out of 15), UASCs agree less than non-UASCs that their caregiver or guardian knows a lot about them. Fourth, there was a statistically significant association between being UASC and the question, '*I feel safe when I am with my caregiver/guardian(s)*' ($p < 0.01$). Given that most UASC youth responded 'No' (6 out of 15) to the question, while most non-UASC youth responded 'Yes' (9 out of 15), UASCs agree less than non-UASCs that they feel safe when they are with their caregiver or guardian. Lastly, there was a statistically significant association between being UASC

and the question, '*I like the way my caregiver/guardian(s) celebrates things*' ($p < 0.05$). Given that most UASC youth responded 'No' (7 out of 15) to the question, while most non-UASC youth responded 'Yes' (8 out of 15), UASCs agree less than non-UASCs that they like the way their caregiver or guardian celebrates things like holidays or learning about their culture. Table 19 presents the results of Fisher's exact tests of the CYRM-R items.

Table 19. *Results of Fisher's Exact Tests of CYRM-R items (Study 3)*

CYRM-R items	P-values
Q01: I get along with people around me	0.0005***
Q02: Getting an education is important to me	0.3883
Q03: I know how to behave/act in different situations (such as school, home, and work)	1
Q04: My caregiver/guardian(s) really looks out for me	0.008**
Q05: My caregiver/guardian(s) know a lot about me (for example, who my friends are, what I like to do)	0.0115*
Q06: If I am hungry, there is enough to eat	0.4858
Q07: People like to spend time with me	1
Q08: I talk to my caregiver/guardian(s) about how I feel (for example when I am hurt or sad)	1
Q09: I feel supported by my friends	0.7141
Q10: I feel that I belong/belonged at my school	1
Q11: My caregiver/guardian(s) care about me when times are hard (for example if I am sick or have done something wrong)	0.1449
Q12: My friends care about me when times are hard (for example if I am sick or have done something wrong)	0.6107
Q13: I am treated fairly in my community	1
Q14: I have chances to show others that I am growing up and that I can do things by myself	0.1204
Q15: I feel safe when I am with my caregiver/guardian(s)	0.0095**
Q16: I have chances to learn things that will be useful when I am older (like cooking, working, and helping others)	0.4488
Q17: I like the way my caregiver/guardian(s) celebrates things (like holidays or learning about my culture)	0.032*

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.
Note. With regards to 'caregiver/guardian', UASCs referred to their social worker or residential care worker as their guardian.

5.5 Educational Resilience Voices of Refugee Youth

This study used semi-structured interviews in order to capture the voices of UASCs and non-UASCs with regards to how they navigated and negotiated situations of risk. First, when exploring what risk factors and resilience factors are shared between UASCs and non-UASCs in Greece, the study identified supportive teachers at school, supportive classmates and school peers, digital learning support, supportive friends and community peers, and NGO support as resilience factors shared by both UASCs and non-UASCs. Second, when exploring what risk

factors and resilience factors are unique to UASCs and what factors are unique to non-UASCs in Greece, the study identified supportive social workers and financial support access as resilience factors unique to UASCs and supportive next of kin, supportive principals and other school staff, and supportive teaching staff at community NGOs as resilience factors unique to non-UASCs. Lastly, by exploring how these risk and resilience factors interact, this study was able to identify how UASCs navigate and negotiate situations of risk differently from non-UASCs in their new environment to achieve positive educational experiences. Additionally, this section captures the voices of UASCs and non-UASCs to understand their educational goals as well as the advice they give other refugee youth on how to adapt to the educational system in Greece. This study reaffirms the importance of considering the voice of UASCs in understanding what it means to be educationally resilient (Chase, 2010; Kohli, 2006). Table 20 gives a summary table of the risk and resilience factors identified in the study.

Table 20. *Resilience and risk factors among youth participants by group (Study 3)*

	Resilience Factors	Risk Factors
Unique to UASCs	Supportive social workers Financial support access	Unsupportive social workers Digital learning challenges Crisis-related challenges
Shared by both	Supportive teachers at school Supportive classmates and school peers Digital learning support Supportive friends and community peers NGO support	
Unique to non-UASC	Supportive next of kin Supportive principals and other school staff Supportive teaching staff at NGOs	Unsupportive classmates and school peers

5.5.1 Goals of refugee youth

The youth were asked: *What are your future educational goals and the next steps in your educational journey?* The youth reported various responses that were shared between UASCs and non-UASCs. Both groups shared that they wanted to continue with education, obtain a higher education degree, and use that degree to start a professional career. However, similarities and

differences between the UASCs and non-UASCs were found with regard to the motivations for why and how they would continue an educational trajectory. First, more UASCs (7 out of 15) than non-UASCs (2 out of 10) indicated that they do not see an educational or professional future in Greece and are either intending to leave Greece for another western country to pursue their goals or are in the process of preparing to leave Greece for another European country. For example, one 20-year-old girl from Cameroon who is also a mother and who arrived in Greece as a UASC and is in the process of being resettled to another European country showcased this, saying:

> This is the reason why I accepted to be transferred to [another country], because in Greece, I don't have this future of being what I want. Even with the workshop and everything. I don't know, it's personal. I'd love to be called a professor or a doctor or something … If I had that chance, because I know that in [another country], it would be much better, even the caregiving that I would have for my son can permit me to stop working and go to school properly and have my degree so that I can find something good. (IDI 06)

Second, both UASCs (5 out of 15) and non-UASCs (4 out of 10) indicated that they would like to prioritize language education to help them with their education, with some pointing to not only Greek but also either English or German. For example, one 21-year-old girl from Afghanistan who was not enrolled in school in time when she arrived in Greece as a minor explained how she needs to learn a language that they value first before seeking higher educational opportunities:

> I decided really to improve my English, improve my German language, in order to reach my goal in somehow. I make a plan to study first, for example, here to improve both language as much as I can … As I go one step forward, I improve again to find a way to improve as much as I should, to prepare myself for university. And to have the major and other things, step-by-step. (IDI 22)

Lastly, it is important to note that some UASCs (3 of 15), unlike non-UASCs (0 out of 10), reflect on their own prior challenges to explain that what motivates them to continue to pursue higher

education is to help others overcome those same challenges. For example, one 18-year-old boy from Afghanistan explained why he wanted to be a lawyer in order to help other youth, saying:

> I want to be the person, to be a good person for the society. I hope I can help the other person who has the same situation here like me, because I have a lot of experience in Greece, when you go to a government office, you need something and they don't care about you … I want to be a lawyer to help other people, because today, if we have a problem in Greece, we cannot have gone to the police to complain about these things. So, I want to be the person who can help other people who have problems but can't go to the police. (IDI 15)

Another 17-year-old boy from Afghanistan goes even further explaining how he would like to go back to Iran, where he was born as a refugee, in order to help the refugee community there:

> Yes. In the future, I want to go back to Iran and open an English school that is free for migrants and refugees. You know? Many refugees here from Afghanistan don't know any English, and they at least need English to survive. Being a volunteer teacher made me realize that. They need to know English if they want to have better jobs wherever they go. That's why, once I get my papers, I plan to open a free English school in Iran. (IDI 04)

All in all, higher education, followed by future professional prospects, is a key goal for the youth who participated in this study. More UASCs than non-UASCs see those goals manifesting more in western countries other than Greece. Both UASCs and non-UASCs equally prioritize language education as a goal. Nevertheless, some UASCs were driven by their prior challenges to want to help others overcome their challenges.

5.5.2 Advice by refugee youth for other youth

The youth were asked: *What advice would you give another youth about adapting to education in Greece?* The youth reported various responses that were shared between the UASCs and non-UASCs. The most common advice that both UASCs (7 out of 15) and non-UASCs (6 out of 10) gave was to learn the Greek language, as they viewed language as necessary for acculturation

in the Greek context. For example, one 22-year-old boy from Guinea who completed high school education as a former UASC and is one of the few to pursue higher education explains:

> Do some effort to learn, because if you learn the language of the country and you do some effort and you can communicate in the same language as the teacher in front of you, he will be more willing to come closer to you, and he will be willing to help you because he sees that you are trying to speak the same language as him, so he would feel connected to you. So for me it's really important to do some effort to learn the language, because unfortunately many people don't try because they say the language is hard and stuff. But it's one of the keys of integration into society. (IDI 11).

The second most common advice that both UASCs (7 out of 15) and some non-UASCs (4 out of 10) gave was to enroll in formal schooling and not give up, as they viewed school as an important source for learning about themselves and about society. For example, one 18-year-old boy from Afghanistan who was in his last year of high school explained why going to school is important, saying:

> OK, until they're in their accommodation facilities, let's say, in the shelters anywhere, they have, until they're unaccompanied minors, until they are not 18, they have some opportunities. So I would advise them to use every single opportunity they have. Because if they get 18, maybe they won't have. So that they are ready enough that if, after six months, they are 18, if after one years, they're 18, they are in a level to get independent, as there is not any support for them when they're 18. So I would have advised them to at least learn the Greek and English, or at least one of these two languages well. (IDI 01).

The third most common piece of advice that some UASCs (5 out of 15) and some non-UASCs (3 out of 10) gave was to become sociable and build connections to better integrate into society. For example, one 17-year-old boy from DR Congo explained why having good character and good manners matters for adaptation to society in general, saying:

> You have to be sociable and with good character and good manners with people with whom you live. Get adapted to the characters that you find, and the other minors that you find. You have to get updated to different personalities, to different people, to different manners. Have a lot of patience and soft manners with the society in general. And pray a lot. (IDI 07)

In summary, the most important advice was to learn the language, which was given by both UASCs and non-UASCs, followed by going to school, which was given by UASCs and some non-UASCs, followed by being sociable, which was given by some UASCs and some non-UASCs.

5.5.3 Risk factors

The study identified three risk factors that were specific to UASCs but not reported by non-UASCs: unsupportive social workers, digital learning challenges, and crisis-related challenges. The study also identified one risk factor that was specific to non-UASCs but not reported by UASCs: unsupportive classmates and school peers.

Unsupportive social workers. More UASCs (8 out of 15) in comparison to non-UASCs (2 out of 10) reported unsupportive social workers as hindering their navigation and negotiation of education. For example, UASCs felt that their social workers were inadequately trained or resourced to help them access educational resources. For example, one 19-year-old boy from Afghanistan who arrived in Greece as a minor explained how, even from his perspective, social workers have had to deal with a large number of cases preventing them from adequately supporting education, saying:

> Look, we have social workers, legally, we have them, but because there are so many people in the camp, they cannot help everybody. You have to go to them from the morning until 9. You have to be in the line and go inside and say your problems about your papers, not your school or something like, about your documents. They have help us just for these documents, not the school or other stuff. (IDI 05)

It is also not uncommon for UASCs to feel personally hurt by their social worker, who is often the main adult they must rely on for guidance, for their unwillingness to help them navigate educational resources or negotiate access to educational opportunities on their behalf. For example, one 20-year-old girl from Cameroon explained why she gave up asking for educational support from her social worker, saying:

> Yes, for example, with my social workers. If I ask for help, something like one thing or two things, and they don't do anything, I will never ask anything again. So, I will not keep insisting and complaining, because it's something already that I'm used to and something that hurts my feelings. So, I prefer not to ask them to sit and to listen. It's personal. (IDI 06)

All in all, social workers can act as a hindrance to the education of students of refugee and forced migrant backgrounds if they are overworked, inadequately trained to support education, or lack the will to support education.

Unsupportive classmates and school peers. Less UASCs (5 out of 15) in comparison to non-UASCs (5 out of 10) reported unsupportive classmates and school peers as hindering their navigation and negotiation of education. Some non-UASCs shared how they experienced bullying from their classmates and school peers that disrupted their education. For example, one 16-year-old boy from Afghanistan who was enrolled in formal schooling in Greece explained how some of his fellow students of refugee and forced migrant backgrounds often discouraged him from education due to their own challenges as students, saying:

> Half of them was Afghani, from my friends. They stopped to go to the school. I was like, "Why you don't go school?" They was like, "We are living from Greece. We don't need the Greek language." And some of them, because it was the first year, some of them was the kids of the school. They was making us so we doesn't like the class, if we was asking a question. He was like, "Why you're asking all the time, a question?" And we couldn't talk

> in Greek. So they was like going to the principal and saying they beat me, they didn't like this. And we couldn't explain it. It was really hard. (IDI 21)

Other non-UASCs shared how they experienced racism and discrimination from their classmates and school peers that disrupted their education. For example, one 22-year-old girl from Pakistan who completed formal schooling in Greece explained how some of her Greek students at school often didn't like her due to her being different from them, saying:

> No, there is nothing different really, but sometimes like some children, they don't like us, like kind of racist. [*And why do you think those children were like that?*] I don't know. Maybe like we are from Pakistan, because they knew that we are from another country and maybe because of our skin tone. (IDI 26)

All in all, classmates and school peers still disrupt the education of their fellow students of refugee and forced migrant backgrounds if they engage in bullying or display racist or discriminatory attitudes towards them.

Digital learning challenges. More UASCs (9 out of 15) in comparison to non-UASCs (3 out of 10) reported digital learning challenges as hindering their navigation and negotiation of education. This was especially pronounced in the context of a more universal crisis, such as the COVID-19 pandemic. For example, one common type of challenge that UASCs faced was related to access to digital learning. For example, one 18-year-old boy from Afghanistan explained how, in the accommodation where he was, he had neither an internet connection to continue digital learning nor the finances to access digital learning opportunities, saying:

> In the shelter I was in, we didn't have WiFi, and we didn't have enough money to join the online classes. And then the teacher once told me, you were not present, so you cannot continue in class. I explained everything to the teacher and why I couldn't join. They told me, next year, you can come, so I studied again from the beginning. (IDI 15)

Even with access, another common type of challenge that UASCs faced was the poor quality of existing digital learning opportunities. For example, one 22-year-old boy from Guinea who

arrived in Greece as a minor explained both the connection issues and noise issues he faced at his crowded shelter, saying:

> For us, as an unaccompanied minor, I didn't have really good connection sometimes at home, and it was noisy where I was living, because, I didn't have my own room, so I had to share that with more than three people. So it really affected me and that's sad, and also, it was my second year in [school], so I needed to be at school to be able to learn more about the system, about how to be more integrated. (IDI 11)

All in all, compared to non-UASCs, UASCs were found to be particularly vulnerable to digital learning challenges due to their living circumstances, with those challenges mainly being access-related issues and quality-related issues.

Crisis-related challenges. Before fieldwork, Greece had just ended their COVID-19 lockdown. As such, more UASCs (14 out of 15) in comparison to non-UASCs (3 out of 10) reported crisis-related challenges as hindering their navigation and negotiation of education. This hints at increased vulnerability to more universal factors and worldwide crises. For UASCs who were enrolled in formal schooling, they were at a greater risk of being quarantined or missing school due to living in crowded shelters and experiencing educational technology-related challenges. For example, one 19-year-old boy from Afghanistan explained why he often had to miss classes at school, saying:

> We were in class, but then we couldn't go to school for many days. We used to live 40 boys in a shelter. If one of us get corona, none of us will go to school. [*What about online education?*] Because we were refugees, we didn't have online education. The Greeks, they had. We didn't because we didn't have a laptop or tablet to do online education. That's why we got couldn't make it. (IDI 05)

For UASCs, whose only source of education is non-formal education opportunities through NGOs, their learning was disrupted by NGO closures. For example, one 20-year-old boy from DR Congo

who arrived in Greece as UASC explained how his language learning and other important support services were disrupted due to NGO closures as a result of the pandemic, saying:

> Due to that, many organizations had to close from where I was getting lessons and clothes and they had to change the program. Maybe I would have a better level of language now, because it lost us a lot of time, and the organizations that had to close, it made me stop my lessons, and it was for a very long time. Maybe I would have had now a better level. [*And how long did the organizations close for you?*] I don't remember, maybe more than two years before. For example, one organization was for the beginners, and they closed, definitively closed, until now. (IDI 09)

All in all, UASCs were found to be at increased vulnerability to more universal factors and worldwide crises. This was especially evidenced by the COVID-19 pandemic, when many UASCs experienced increased absences due to quarantine rules or lost complete access altogether to formal schooling or non-formal educational opportunities.

5.5.4 Resilience factors shared by UASCs and non-UASCs

The study identified five resilience factors that were shared by both UASCs and non-UASCs: supportive teachers at school; supportive classmates and school peers; digital learning support; supportive friends and community peers; and NGO support.

Supportive teachers at school. Most UASCs (9 out of 15) and non-UASCs (7 out of 10) reported supportive teachers at school as enabling their navigation and negotiation of education. UASCs attribute this support to various instructional practices. For example, one instructional practice that some teachers employed was preparing support material and lesson plans catered to UASCs. For example, one 16-year-old boy from Afghanistan who was receiving formal schooling in Greece explained how his teachers prepared coursework summaries and lesson plans that took into account his Greek language difficulties, which helped him navigate his studies, saying:

> My teachers sometimes prepare a summary of all the courses and all the things that we learned at the end of the class during the class. This is usually for all the students, but they

> would prepare it for me specifically in the English language because I don't know the Greek language. (IDI 08)

Another instructional practice that some teachers embodied was patience. For example, one 22-year-old boy from Afghanistan who arrived in Greece as a minor and enrolled in formal schooling explained how patient his teachers were with his learning challenges, saying:

> I would say, in the beginning, they helped me because they just accepted the fact that I didn't know everything – I mean, the language part. So they had to explain, maybe for many times the same things that was very easy and understandable for everyone else. So the fact that some of the teacher were patient enough to explain to me, again and again, or to answer to my stupid questions, like just for a word, 'what does it mean?' and stuff. So that was helpful for me. (IDI 14)

Non-UASCs also reported various instructional practices that their teachers employed that supported them in their educational trajectories. For example, one instructional practice that the teachers at schools employed was clarity in teaching. For example, one 16-year-old girl from Iran enrolled in formal schooling in Greece compared two teachers to underscore how one teacher helped her more in her education than the other teacher because the former was clearer in her explanations of the course material, especially when aspects of the course material were confusing, saying:

> All the teachers – no actually, they didn't support me, they didn't help me. But there is biology teacher. She understand that it's difficult for me to understand. She's trying to explain to me in an easy way and slowly, slowly … but for example, other teacher, for example, mathematics, I went to her and I said that I didn't understand. She didn't try her – I mean, she just repeat it. She said she just repeat it in the same way that she said, and then I 197ealized that, no, there is no different way with her. So I cannot get help from different way, so I went to my Greek classmates to explain to me and to get support. (IDI 24)

Another instructional practice that the teachers at schools employed was bilingual teaching. For example, one 22-year-old girl from Pakistan who arrived in Greece as a minor enrolled in formal schooling in Greece and is now able to speak fluently in Greek, explaining how bilingual teachers helped her the most in her education, saying:

> The teacher, they did help, because the first year there was all the children, they are all like me. So [the teacher] was there especially for us then. They teach us Greek, like from basic things … Like some of them, they used to speak English, so they used to translate for us, like they would tell us in English and after in Greek, so we would understand. Some of them were really good, so they used to help us if we don't know anything like about next week programme. (IDI 26)

In conclusion, supportive teachers at school are most often teachers who students of refugee and forced migrant backgrounds view as being patient and clear in their teaching, can prepare coursework summaries and lesson plans that aid them with their learning challenges, and who happen to be bilingually trained in a language that is relevant to students.

Supportive classmates and school peers. Most UASCs (9 out of 15) and non-UASCs (8 out of 10) reported supportive classmates and school peers as enabling their navigation and negotiation of education. For UASCs, classmates and other school peers represented another important resource in helping them navigate school. For example, classmates played an important role in helping UASCs overcome language barriers. For example, one 18-year-old boy from Afghanistan enrolled in a multicultural urban Greek public school illustrated how his classmates helped him overcome his language-related challenges, saying:

> Wow. Lots of friends from different countries like Egypt, Syria, Iraq, Afghanistan, Pakistan, Bangladesh. They helped me a lot like when I didn't know how to speak Greek well. They helped me with my homework, with my lessons, about what we have tomorrow and what to do, do we have an exam or not. They did a good job … they have helped me a lot in different ways, like when I didn't know Greek. They helped me to know what we have

> tomorrow. What we need to do. If we have an exam or not. Which pages do I need to study. They were talking to me and giving me a good view of school, like 'We are here. We are at school. Don't get bored. Don't get upset. When you are alone, we're all here'. Yeah, they're fun. They love what I do and like the skills I have, they really love. When I do a new thing, they say, 'Oh! Good job! We are so happy for you!'. They keep me inspired. (IDI 01)

Alongside language barriers, classmates and school peers played an important role as cultural advocates for UASCs, helping them navigate the unfamiliar aspects of the Greek school system. For example, one 22-year-old boy from Guinea who arrived in Greece as a minor and had completed private school there showcased this clearly, saying:

> If I had some issue because they have always been in [private schools] and they knew the [private school] system, and it was my first time to be at a [private school], so it was a totally different educational system. So I would ask them help with the methodology and they would easily give me help. So these were for me really important things that helped me. (IDI 11)

Non-UASC learners also relied on their classmates and school peers to overcome language-related challenges in their formal schooling. When asked who helped her the most in her education in Greece, one 16-year-old girl from Iran mentioned her Greek classmate, saying:

> Regarding the study and education, there was my classmate at the school. For example, one of them was really try her best to help me. [*And how did she help you?*] For example, she try her best to explain to me in a different way. For example, if there was a word, or for example, in mathematics, she try to explain to me in a Greek way. When I don't understand, she try to say it in English. When she explain to me in English and I didn't get the meaning of text, she try her best to explain to me in Greek. So she tried to find a way in any other classes, courses. For example, in mathematics, in physics and biology, other text, she was trying her best in order to give me a different definition in a different way. (IDI 24)

Classmates and school peers also played an important role for non-UASC learners in navigating the Greek school system. For example, one 17-year-old from Iran explained how his Greek classmates helped him understand a school administrative form, saying:

> They tried to support me, they tried to explain to me. For example, I had the paper in order to fill for the school. It was a request for the next year, in order which school and which section I want to study. So they try to explain in a more detailed, easy way that I can understand. And they try to fill the paper with me. Yes, I mean the way they are very nice, they are respected, so they try to help. But for the study, for some needs, I need explanation. They are going to explain to him what I do. (IDI 23)

In conclusion, supportive classmates and school peers are most often those who can help them navigate formal schooling, such as through overcoming language-related barriers and homework support, or those who can help them negotiate access to educational support, such as through acting as cultural advocates for students of refugee and forced migrant backgrounds who do not understand the Greek school system.

Digital learning support. Most UASCs (11 out of 15) and non-UASCs (7 out of 10) reported digital learning support as enabling their navigation and negotiation of education. UASCs who felt they were not enrolled in schools in Greece and relied more on non-formal or informal learning for their educational trajectories often relied primarily on educational technology. Some UASCs resorted to digital learning opportunities for more informal day-to-day learning, such as communicating in Greek or English. For example, one 20-year-old from DR Congo showcased this approach when asked what she uses to learn languages, saying:

> I downloaded an application where I can learn how to say 'Good Morning', or how to say little words, important words. Because here [in this NGO], I did only the verbs and it was very complicated for me because I didn't have the basics. [*And which application to be download?*]. So, it's a free application that translates to English, because I speak Portuguese alongside French, so it translates into Portuguese and English. (IDI 10)

Other UASCs felt that digital learning opportunities were offering them a more quality learning experience than any non-formal educational programming that they were receiving outside of school. For example, one 17-year-old boy from Afghanistan who was not able to get enrolled in school and receive formal schooling in Greece was asked who he thinks helped him the most in education, saying:

> OK, first, I wanted to mention myself … Also, YouTube. [*How did YouTube help you?*] Greek, I studied it online on YouTube through my cell phone. [*How did your teachers help you in Greece?*] To be honest, I used to live in a shelter. I had a teacher, but they didn't teach me the way that I wanted. That's why I mentioned my cell phone. (IDI 04)

Additionally, non-UASCs explained how they incorporated digital learning into their educational trajectories. For example, one 16-year-old girl from Lebanon explained how she navigated digital learning resources in her educational trajectory to become a fashion designer, saying:

> I use my iPad and download some apps that they help me to learn fashion design and about like how they sew and some stuffs. And the friend of my mother helped me, because she have a laptop, so help me more with these things and she know about them. In the summer, I will start going to private classes here in the school. So I will study fashion design there – art for the fashion. Other stuffs, yes. So I think I will go for two month, and then let's see. (IDI 28)

Similarly, one 16-year-old boy from Afghanistan who arrived in Greece accompanied by his family explained how he navigated digital learning resources to help with his homework and formal schooling, saying:

> If sometimes I doesn't understand what we should do, I ask my students. They have a group in Instagram, so they talk about the test of tomorrow or what homeworks we have. So they say so, 'did someone understand this question? If he can explain it to me'. I ask them all in the group or in the class. After the class, I ask in the break, 'what should we be doing in this one?' and they try to explain to me what we have to do. (IDI 21)

In conclusion, digital learning offered students of refugee and forced migrant backgrounds in Greece various educational supports, helping them navigate formal schooling, non-formal educational opportunities, and informal day-to-day learning in Greece through activities such as homework support and language learning.

Supportive friends and community peers. Most UASCs (12 out of 15) and non-UASCs (7 out of 10) reported supportive friends and community peers as enabling their navigation and negotiation of education. Individual UASCs often relied on the support of other UASC friends and community peers in navigating educational resources and challenges in Greece. For example, one 18-year-old boy from Afghanistan showcased this by mentioning how he is a member of a UASC friends' group that often offers each other advice and gives each other affirmation about their educational trajectories and future ambitions, saying:

> When we have a problem, we speak with each other, usually Saturdays and Sundays, because that's we have the time to meet. We always speak with each other and meet each other, and always I ask my friend, 'if I do this, what do you think? Will it be wrong, or no? Will it be good for my future, or no?'. And then, they say yes or no. Sometimes I have a suggestion for them, sometimes they have a suggestion for me, always we do that. I have one friend; we are so close to each other. (IDI 15)

Some UASC friends and community peer groups were so strong that they continued to function as a support network even when they had become transnational. For example, one 18-year-old boy from Afghanistan continued to retain his group of friends despite the fact that they had all moved out of Greece and relocated to other parts of Europe, saying:

> Yeah. I don't have friends as friend [in Greece]. I do have only two, one of them live in UK and one of them in Switzerland. They're quite fun. When I have problem, I will definitely talk to them. I love them, they're like my brothers, even though we are not real blood brothers. Yeah, they are my best friends, we have each other's sides. (IDI 01)

When it came to non-UASC learners, they often had to rely on other refugee friends and community peers to navigate non-formal educational opportunities. For example, one 16-year-old boy from Afghanistan explained how his fellow participants in an NGO educational program helped him overcome his age-related and language-related challenges to obtain a positive educational trajectory, saying:

> Another one was the [NGO]'s class where it was like 20 person. But they were all like non-Greek people. They were from all countries, but also Greece. There I had like many friends who were helping me. I was the smallest person like in class … That was like kind of hard, not to know English properly and being like a smallest person in the class. But people there was really helping me. (IDI 30)

Friends and community peers were also important for encouraging non-UASC learners to attend and participate in after-school non-formal educational opportunities. Another 16-year-old girl from Iran explained how her friends encouraged her to participate in numerous non-formal educational opportunities in the community, saying:

> After school, I have lots of friends … This group of girls encourage me to go to after school programes – let's go to the music class. Let's go to the English course. Let's go into this and that. And some of them are above 18. Some of them are younger, so the same age as me, so they encourage me. (IDI 24)

In conclusion, supportive friends and community peers are most often those who can help them navigate non-formal educational opportunities, such as through overcoming language-related barriers and encouraging participation in existing opportunities, or those who continue to be an important support system and give a sense of community regardless of where they end up.

NGO support. Most UASCs (14 out of 15) and non-UASCs (9 out of 10) reported NGO support as enabling their navigation and negotiation of education. NGOs often play an important role in helping UASCs navigate existing educational opportunities, including formal ones. For example, one 18-year-old boy from Afghanistan explained how one of the organizations he and

his younger brother were a part of helped them pursue formal educational opportunities and helped cover some of their expenses, saying:

> [There] is an organization that is supporting minors, and which is supporting my brother because it he is still a minor. While we were both minors, they said that there is a program which you can get the degree if you try hard, and we attended, and I've got the degree. That's it. [The organization] had the classes and had the financial support of paying for the exam. (IDI 03)

NGOs can also work to advocate for UASC, negotiating access for them to the resources they need to pursue education. For example, one 16-year-old boy from Afghanistan shares how NGOs continued to offer him support and express willingness to advocate on his behalf, saying:

> The first moment I arrived to Greece, I went to an NGO for youth, and they introduced me to shelter. Sometimes, the NGO would still call me asking, 'Are you OK? Did you find a school? Is your situation good?'. At another time, I went to another organization, and they helped me with food and clothing and stuff like that. (IDI 08)

For non-UASCs, the non-formal educational opportunities offered by NGOs can fill the gaps in learning that were caused by not being able to attend formal schooling. This allows students of refugee and forced migrant backgrounds to reach a level that would still enable them to enroll in formal schooling. For example, one 22-year-old girl from Pakistan who arrived in Greece as a minor explained how taking non-formal education opportunities at NGOs enabled her to pursue language learning until she reached a level allowing her to enroll and then complete her formal schooling in Greece, saying:

> So when I came to Greece, like the first year, I couldn't go to schools because like they start in September. It was too late for me, so I waited for the next year. Because also I had to learn Greek to go to school, so I ran to [an NGO] to learn Greek and also English and other things. And after, I started at middle school, and there I studied two years there and after

> in high school three years, and now I've finished my high school. So now I will go to [university in Greece]. (IDI 26)

Once enrolled in formal schooling, NGOs can offer a variety of supports that help students of refugee and forced migrant backgrounds navigate formal schooling, such as continued homework support and language support. For example, one 16-year-old girl from Lebanon explained that various NGOs helped her and other students of refugee and forced migrant backgrounds by giving them both homework support and language learning after school, saying:

> We had classes after the school, so for our homeworks or something. We sit together and we studied at our homeworks and they explain for us what's the meaning, what's this and this [*How did they support you?*] In Greek, also English. Sometimes they also help us with our homework, that we used to do [at home]. Sometimes we do them with a class. (IDI 28)

In conclusion, NGOs can play an important role in supporting the education of students of refugee and forced migrant backgrounds by helping them enroll in formal schooling and offering them non-formal educational opportunities, such as formalized educational programs that can aid refugees if they have not been able to enroll in formal schooling and after-school educational services that can aid refugees enrolled in formal schooling in homework support and language learning.

5.5.5 Resilience factors unique to UASCs and to non-UASCs

The study identified two resilience factors that are specific to UASCs but not reported by non-UASCs: supportive social workers and financial support access. The study also identified three resilience factors that are specific to non-UASCs but not reported by UASCs: supportive next of kin; supportive principals and other school staff; and supportive teaching staff at community NGOs.

Supportive social workers. More UASCs (12 out of 15) in comparison to non-UASCs (3 out of 10) reported supportive social workers as enabling their navigation and negotiation of education. First, social workers supported UASCs' education by facilitating their access to formal

schooling and making sure they were enrolled and feeling well-integrated in schools in Greece. For example, one 16-year-old boy from Afghanistan explained how his social workers collaborated together to help him navigate the formal education system in Greece and get enrolled, saying:

> About the social worker, that person helped me so much. She never gave me a promise to help with education, but she tried so much to help me and find a school for me, especially since she knew how much I wanted that. She tried to do that for me. [*What about other social workers?*] Getting me registered in a school was the product of a mutual cooperation between two social workers. At first, I sent my request to my social worker in my shelter and told her that I need a school to get education, and she called another social worker in the shelter. And after four or five days, they were able to find me a school. Both of them. (IDI 08)

Another way that social workers supported the education of UASCs was by facilitating their access to non-formal educational opportunities, such as extra-curricular education programming offered with the residential care center or offered at other community-based NGOs. For example, one 20-year-old girl from Cameroon who didn't have the opportunity to enroll in formal schooling in Greece shared how her social worker helped her navigate non-formal educational opportunities that suited her future ambitions, saying:

> When I was a minor, I had a guardian and actually she was the Guardian in the shelter and we kept in contact. From the interviews that I've had with her, she knew that I want to be a journalist, so when she found the opportunity of this workshop that I'm doing right now, she called me - we were still in contact all the time - she called me and she proposed to me to do it, because I don't have this chance of going to a normal school. So she proposed me to start from there, and then we will see later on. (IDI 06)

In summary, social workers and other accommodation staff can act as important advocates for refugee education at the shelters by encouraging them to pursue education and navigating and negotiating their access to formal and non-formal educational opportunities.

Financial support access. Only UASCs (8 out of 15) in comparison to non-UASCs (0 out of 10) reported financial support access as enabling their navigation and negotiation of education. For example, one 18-year-old boy from Afghanistan explained how both financial support and in-kind support he received from the NGO enabled him to pursue higher education in Greece, saying:

> There is an NGO which is a Greek organization. They're working to help refugees. They did a quite good job for me, which I really appreciate. They got me on scholarship with [a university]. They also gave me a laptop, a very good laptop, which I'm using right now, to continue my lesson. Even though it was my first time to go into their organization, it was quite surprising, giving me a laptop and a scholarship. Because they pay the fees of the university. It was quite good to get. (IDI 01)

Some UASCs have often had to negotiate access to financial support to help them in their educational trajectories. For example, one 18-year-old boy from Afghanistan showcased how he had to negotiate access to financial support from his teacher at an NGO in order to not be compelled to disrupt his formal schooling, saying:

> I told my teacher. 'I have this problem. For one month or two months, I cannot come to school, because I should find a job to work to find money for food otherwise. It's my choice to be that person. I don't have any other choice'. You know? There are only two ways for someone like me to work for me, one option is selling drugs, and another is stealing from someone to find my food to eat. I explained this to her and then she bought for me food. She also said, when you have a problem or want help with stuff with your house. Tell me, I will buy for me. And she bought me stuff for my house three times. (IDI 15)

In summary, both NGOs that give direct support by offering financial or in-kind support for accessing education and NGOs that give indirect support by linking them to existing financial or in-kind support for accessing education are important facilitators of education.

Supportive next of kin. Less UASCs (2 out of 15) in comparison to non-UASCs (7 out of 10) reported supportive next of kin as enabling their navigation and negotiation of education. Supportive next of kin represented a key advocate at home for continuing education, specifically their parents. For example, one 17-year-old boy from Iran explained how his mother was his biggest motivation for education, saying:

> I could say that the first motivation was my mother. She always encouraged me that you have to study, you have to be precise. Even doesn't matter if even we leave, if you graduated from any level, so you can continue after that in other countries. So try to study very hard, try to do your best. If we return back to Iran, if we return back to – we go forward. I accepted that we are staying in Greece for a while. I have to study, so I accepted and I tried to study. Only study. (IDI 23)

Besides parents, siblings can also act as important advocates for education. For example, one 16-year-old girl from Iran explained how, alongside her mother, her sister, who was in Germany, was a key encouragement for her to continue education, saying:

> My mother and my sister encourage me. My sister is in Germany. She's not with me here for a long time. But she always encourage her. And my mother also encourage me saying, study very well, you will be someone – something in the future. A useful person in the future. (IDI 24)

In summary, supportive next of kin, such as parents and siblings, can act as important advocates of education for students of refugee and forced migrant backgrounds by continuing to encourage them and support their educational pursuits.

Supportive principals and other school staff. Less UASCs (3 out of 15) in comparison to non-UASCs (6 out of 10) reported supportive principals and other school staff as enabling their navigation and negotiation of education. For example, principals were sometimes actively involved in helping their students become immersed in the Greek language. For example, one 16-year-old boy from Afghanistan who was enrolled in formal schooling in Greece explained

how his principal's positive engagement with him helped him improve his language abilities, saying:

> In the beginning, the only stories I knew it, I was like how I came from Iran and to Greece. This was the only long stories I knew about my life. And they was asking me and it was really hard to explain it, because I didn't know the language. I was drawing with the pen, like if I wanted to say the borders and I couldn't, you know. I draw it for them in the paper or the mountains and this. That really helped me. Like they knew it, my story, after two or three times I explained and they knew it, how I came. But every week, they was asking me one time and I was happy to explain them, because I was learning the letters from them. In the first I was with the paper. After, I stopped to drawing the paper, and I tell the whole sentence very good. (IDI 21)

To be supportive, however, principals and other school staff need to develop a compassionate and empathetic view of refugees. One 21-year-old boy from Afghanistan who arrived in Greece as a minor and enrolled in formal schooling spoke about how his principal's views of refugees gradually improved, leading her to dedicate effort to negotiating the refugee students' access to further non-formal educational opportunities, saying:

> My principal, at the beginning, she was really bad with refugees, like she was shouting and all the staff like behaving very good. But after some times, she changed completely, she changed and he was helping us. She was doing everything that she could do to help us. Asking teachers to help us, she was asking other Greek students to help us. She was very good. I didn't know, at the beginning, she had a very bad image from us, because like maybe the last year's students wasn't very good. But then she saw that it's different and we want to learn something. We really care about education. She changed the behaviour and starts being good … So I participated into [an extracurricular program] and my principal were there as well. So, the last day of [the extracurricular program] was the last day that we were meeting each other – me and my principal. And she cried on that day, and she

> said that 'you changed my image of refugees. Thank you for that'. That really touched my heart and my head. And after that time, I really felt amazing. (IDI 25)

In summary, principals and other school staff can act as important advocates for education by showcasing empathy and compassion to their refugee students, helping them navigate the formal schooling system, such as by continuing to support their language development, and by negotiating on their behalf their access to non-formal educational opportunities.

Supportive teachers at NGOs. More UASCs (6 out of 15) in comparison to non-UASCs (5 out of 10) reported supportive teachers at NGOs as enabling their navigation and negotiation of education. Non-UASCs reported various instructional practices that the teachers at NGOs, whether employed or volunteers, used that supported them in their educational trajectories. For example, one instructional practice that the teachers at NGOs employed was catering teaching planning to refugee students' needs and circumstances. For example, one 21-year-old girl from Afghanistan who was not enrolled in school in time when she arrived in Greece as a minor explained how, despite them constantly changing, teachers at her preferred NGO were still able to plan their teaching around her personal needs, saying:

> Since the time here, we didn't have stable teacher, so it's changed the teacher every three months, every two months, every five months. There are some volunteer teachers, they change, but it's OK. I mean, the point of the all the teachers is that they listen to you, they understand you. For example, I said that I'm interesting to learn about this part or another. I gave offer, I give something, I give something in order to continue to discuss. And the teacher said, "OK, we will focus on your needs." This is very important. That is important to encourage me in order to follow and to continue. (IDI 22)

Teachers at NGOs also often employed instructional strategies that were often innovative and uncommon for formal schooling in Greece, such as project-based instruction. For example, one 16-year-old boy from Afghanistan explained how his English language teacher helped him learn

the language through project-based instruction, through which students of refugee and forced migrant backgrounds are given the opportunity to learn through engaging with projects, saying:

> Another would be my English teacher [at an NGO]. She helped me a lot, like she were doing everything that I needed to repeat and everything. She was really helping … [*how did she help you?*] How did she help me? So like first with the English, like my English was zero when I entered Greece. She helped me a lot to learn the language and stuff, but after that, I started doing like projects and getting a little bit out of the education circle that they made for other children and doing my own projects and so on. At that point, she helped me like more. She was helping with translation, information, everything. (IDI 30)

In summary, teachers at NGOs are most often teachers who students of refugee and forced migrant backgrounds view as being capable of catering instructional planning to their learning needs and circumstances and those teachers who employ instructional strategies that were often innovative and uncommon for formal schooling in Greece.

5.6 Discussion and Conclusion

The study reported important findings about the socio-ecological factors that contribute to the navigation and negotiation of education by UASCs in Greece. First, Welch's t-test of CYRM-R scores revealed that UASCs had a significantly lower score on average than non-UASCs on the overall resilience score and on the relational resilience score. Second, Fisher's exact test of CYRM-R items revealed that UASCs agreed significantly more than non-UASCs that they get along with people around them. The tests also revealed that UASCs agreed significantly less than non-UASCs that their caregiver or guardian really looks out for them, that their caregiver or guardian knows a lot about them, that they feel safe when they are with their caregiver or guardian, and that they like the way their caregiver or guardian celebrates things about them, like holidays or learning about their culture. Both findings illustrate how UASCs' personal sense of resilience is tied to the immediate socio-ecological support system around them, despite experiencing family separation. Third, the study identified five resilience factors shared by UASCs and non-UASCs: supportive

teachers at school; supportive classmates and school peers; digital learning support; supportive friends and community peers; and NGO support. Fourth, the study identified two resilience factors unique to UASCs: supportive social workers and financial support access. The study also identified three resilience factors unique to non-UASCs: supportive next of kin; supportive principals and other school staff; and supportive teaching staff at community NGOs. Both findings offer empirical evidence about the significant role that microsystemic factors (representing the complex relationships and physical settings experienced by the child) and mesosystemic factors (representing the interrelations between the microsystems) play in the educational resilience of UASCs. The findings also contribute to knowledge through not only the identification of resilience factors that are unique to UASCs and that they share with non-UASCs but also by highlighting through qualitative information how these factors are able to support the navigation and negotiation processes of education by UASCs. In summary, by exploring how these risk and resilience factors interact, this study was able to identify how UASCs navigate and negotiate situations of risk differently from non-UASCs in their new environment to achieve positive educational experiences.

The study displayed several methodological strengths that enabled it to contribute to knowledge about the educational resilience of UASCs in Greece. First, a key contribution of the study is that it integrates both quantitative and qualitative data to gain a more nuanced understanding of the challenges and strengths that UASCs share with non-UASCs in their educational journeys and of the challenges and strengths that are unique to UASCs. Second, by adopting a socio-ecological approach (Bronfenbrenner, 1977, 1986) and a socio-interactional approach (Vygotsky, 1967, 1978), this study underscored the importance of considering multiple levels of influence in understanding educational resilience among UASCs, such as individual-level, 'home'-level, school-level, and community-level factors. This is in line with prior calls for adopting more multilevel perspectives in studying resilience (Cicchetti, 2010). Such a multilevel approach allowed for a holistic exploration of the various socio-ecological factors that supported

the navigation and negotiation processes that enabled positive educational experiences for UASC students. Third, the use of Fisher's exact tests and Welch's two-sample t-tests on responses to the CYRM-R questionnaire revealed a relationship between personal sense of education resilience and the presence of a socio-ecological support system. This underscores the importance of studying both contextual and material factors for understanding the educational resilience of UASCs. Fourth, combining open, axial, and selective coding techniques with reflexive thematic analysis revealed valuable qualitative insights into the goal-setting capabilities of UASCs. It also revealed valuable insights into the resilience factors that may contribute to positive educational experiences for both UASCs and non-UASCs. Such knowledge contributes to a deeper understanding of the complex dynamics and systemic factors shaping educational resilience among refugee children. Lastly, by exploring how these risk and resilience factors interact, this study was able to identify how UASCs navigate and negotiate situations of risk differently from non-UASCs in their new environment to achieve positive educational experiences. In summary, integrating a socio-ecological and socio-interactional framework with a mixed-methods design strengthened the study's ability to uncover critical insights into the educational resilience of UASCs. This includes gaining an understanding of how the socio-ecological context of UASCs determines how they are able to navigate and negotiate situations of risk to gain positive educational experiences.

The study reports some methodological limitations that should be carefully considered. First, the generalizability of the findings is limited by the small sample size, preventing the establishment of causality. Additionally, the use of snowball sampling may lead to the possibility of sample bias and limited diversity (Biernacki & Waldorf, 1981). Since the sampling method relies on referrals, it may not have captured the educational experiences of UASCs and non-UASCs who are not connected to the initial network, thereby reducing the diversity of the sample and compromising the generalizability of the study findings. Future educational and social care studies should consider recruiting a more representative number of participants using more

random sampling techniques to examine the educational resilience of UASCs and non-UASCs in Greece. Second, it is important to note the limitations of using self-reported data collected via the CYRM-R questionnaire. Self-reported questionnaire data is often susceptible to measurement error arising from potential issues of social desirability bias, meaning when the child responds to questionnaire questions in a manner that is socially acceptable by others (Krumpal, 2013), and recall bias, meaning when the child is unable to remember past events or experiences accurately (Bell et al., 2019). Lastly, it is important to note that data collected through qualitative techniques may be open to multiple interpretations. Different researchers analyzing the same data may arrive at different conclusions, leading to potential variations in the study's findings. Nevertheless, this study embraces the role of reflexivity and the researcher's role in shaping interpretations, thereby acknowledging the potential for multiple understandings and meanings within qualitative research (Attia & Edge, 2017). Moreover, in order to sustain the reliability of the findings and remain truly reflexive, the study used intercoder reliability as a way to both embrace researcher reflexivity while ensuring consistency and methodological transparency and enabling positive collaboration between the two coders (MacPhail et al., 2016).

The study carries significant research implications both for the study of the educational experiences of UASCs and for the broader field of resilience research. First, the differences in CYRM-R scores and CYRM-R items between UASCs and non-UASCs highlight the specific challenges faced by UASCs in achieving educational resilience. For example, the differences in perceptions of caregiver support between UASCs and non-UASCs revealed through examining their CYRM-R item responses underscore the importance of understanding the caregiver-child relationship as a crucial aspect of educational resilience for UASCs. This aligns with prior research that found that the new home environment continues to play an important role in influencing the educational trajectories of UASCs despite family separation (Aleghfeli, 2023; Aleghfeli & Hunt, 2022). Further large-sample qualitative or mixed-methods research is needed to explore how 'home'-related factors contribute to positive educational experiences of UASCs, specifically

investigating the dynamics of caregiver, guardian, social worker, and accommodation support in the lives of UASCs and how it impacts their educational experiences and outcomes. Moreover, the identification of shared and unique resilience factors between UASCs and non-UASCs provides valuable insights into the common factors that promote educational resilience among both groups, as well as the specific resources and support systems they each need to address their distinct needs. This highlights the significance of integrating a nuanced approach to resilience research, recognizing the diversity of factors influencing educational resilience in children of refugee and forced migrant backgrounds. By identifying specific resilience factors unique to UASCs, the study expands knowledge on how UASCs develop and exhibit resilience, shedding light on the navigation and negotiation processes that foster educational resilience (Ungar, 2008). Overall, this study advances the understanding of educational resilience among UASCs and highlights the importance of considering their unique experiences, needs, and circumstances. It also enriches the broader field of resilience research by providing valuable insights into the complexities of resilience among children of refugee and forced migrant backgrounds, guiding future research aimed at empowering vulnerable children and youth to recognize their own resilience potential.

The study has important implications for educational and social care policy and practice, not only in Greece but also in other countries with significant populations of UASCs. The study's focus on UASCs in Greece provides context-specific and transferable insights, contributing to understanding the unique challenges faced by UASC students in the Greek educational system as well as providing a framework to comprehend educational resilience in UASCs in other contexts. By recognizing and addressing the distinct experiences, needs, and circumstances of UASCs and non-UASCs, policies and practices can create a supportive and nurturing environment that promotes their educational resilience. As mentioned earlier, the study's identification of differences in perceptions of caregiver support between UASCs and non-UASCs underscores the importance of strengthening caregiver-child relationships in promoting educational resilience

among UASCs. Moreover, the identification of shared and unique resilience factors between UASCs and non-UASCs highlights the need for comprehensive and integrated approaches to support the educational resilience of each group. Social workers in Greece require needed educational support training to enable them to act as important advocates for education for UASCs by encouraging them to pursue education and ensuring their access to formal schooling and non-formal educational opportunities. Such trainings can be grounded in a cultural preparedness approach of aspiration and engagement (Arulmani, 2019). Teachers in the formal and non-formal educational sectors in Greece must also be trained on how to deploy instructional practices such as preparing coursework summaries and lesson plans that can aid UASCs and other students of refugee and forced migrant backgrounds with their learning challenges, as well as encouraging positive collaboration among classmates so that UASCs and other students of refugee and forced migrant backgrounds are not left behind. The need for such teacher training has been explored extensively in other studies about refugee educators (McIntyre & Abrams, 2021; Prentice, 2022; Prentice & Ott, 2021). Additionally, social care policies should be improved to ensure that newly arrived UASCs have access to needed support services such as supportive social workers and financial assistance. Lastly, policymakers and practitioners should exchange knowledge and collaborate to design contextually appropriate interventions that build on shared resilience factors while addressing the unique challenges faced by UASCs and non-UASCs.

Chapter 6. Discussion – Conceptualizing educational resilience for unaccompanied and separated children: A mixed-methods synthesis of three studies

Summary. OBJECTIVES: In this discussion chapter, I aim to synthesize the three studies to gain insights about how socio-interactional processes influence the educational resilience of unaccompanied and separated children (UASCs). METHODS AND ANALYSIS: I use different triangulation techniques to integrate the results from the systematic review (Chapter 3), the Jordan study (Chapter 4), and the Greece study (Chapter 5). This includes data triangulation across different sources; methodological triangulation across quantitative, qualitative, and mixed-methods; theoretical triangulation using different frameworks; and investigator triangulation between multiple researchers. FINDINGS: By triangulating the studies, I identify salient socio-ecological factors and socio-interactional processes at the individual, home, school, and community levels that influence UASCs' educational resilience. Additionally, I reveal that educational resilience development among UASCs can be conceptualized as a combination of intermental activities (between the UASC and their environment) and intramental activities (within the UASC), where having supportive relationships at home, school, and community facilitates UASCs to transition over time from their zone of proximal resilience development to their level of actual resilience development. NOVELTY AND IMPROVEMENT: Through diverse triangulation techniques and a critical realist lens, I integrate insights gained across the quantitative, qualitative, and mixed-methods studies in my dissertation. This enables me to synthesize knowledge on the factors and processes shaping UASCs' educational resilience, methodological limitations to consider, and implications for research, policy, and practice in this important area. Overall, the discussion chapter aims to provide an integrated synthesis of my dissertation's findings and contributions using a mixed-methods triangulation approach.

6.1 Introduction

The aim of this discussion chapter is to synthesize the three studies in order to answer the dissertation research questions:

1) What socio-ecological factors in UASCs' environments contribute to the educational resilience of UASCs?

2) How do socio-interactional processes that arise from interactions between UASCs and their environment contribute to the educational resilience of UASCs?

Alongside answering these dissertation questions, the discussion chapter also attempts to identify methodological considerations as well as implications for research, policy, and practice that emerged from three studies. The synthesis process undertaken in this discussion chapter was grounded in critical realism, which acknowledges the existence of an objective natural and social reality that is independent of human knowledge and emphasizes the development of empirically supported theories and hypotheses that reveal the underlying mechanisms and structures shaping observable phenomena (Bhaskar, 1975, 1989). It asserts that different epistemological approaches, such as pragmatism, post-positivism, and constructivism, can coexist and provide valuable insights into diverse aspects of reality. The logical inference approach is retroductive, involving inferring the existence of unobservable mechanisms and structures based on observable effects, allowing for a deeper understanding of underlying processes (Bhaskar, 1975; Blaikie, 2007). Additionally, the methodology was a convergent parallel mixed-methods approach, qualitatively synthesizing insights from the quantitative, qualitative, and mixed-methods studies through triangulation (Creswell & Plano Clark, 2017; Denzin, 2017). The synthesis involved triangulating findings from the three studies to identify converging and diverging insights about UASCs' educational resilience processes, methodological strengths and limitations, and implications for research, policy, and practice.

6.2 Literature Review

6.2.1 Conceptualizing Educational Resilience

Resilience research had a profound impact on transforming child and youth development studies from a risk-based outlook to a strength-based outlook. Rutter (1987) perfectly encapsulates this research transformation by saying: “Not only has there been a shift of focus from vulnerability to resilience, but also from risk variables to the process of negotiating risk situations. It is in that context of risk negotiation that attention was turned to protective mechanisms” (p. 316). At its core, resilience can be defined as the ability to adapt and achieve good outcomes in the face of adversity (Masten, 2014; Rutter, 2012).

From very early on, the resilience concept had a transformative impact on research on children from high-stress backgrounds, changing it from a deficit-based outlook to a strengths-based outlook. The first wave of resilience research aimed to describe and identify factors associated with resilience in children, often focusing on health and epidemiology (Garmezy et al., 1984; Masten et al., 1990; Rutter, 1979, 1987; Werner & Smith, 1977, 1992), with risk factors classified as proximal or distal (Luthar et al., 2006; Wright et al., 2013) and resilience factors categorized as protective or promotive (Luthar et al., 2006; Sameroff, 2000). The second wave of resilience research aimed to understand how risk and resilience factors influence long-term outcomes, transitioning from descriptive cross-sectional studies to longitudinal examinations that investigate the mediating and moderating roles of these factors (Feinstein et al., 2008; Motti-Stefanidi, 2018). Mediation involves explaining the relationship between independent and dependent variables, while moderation assesses how risk or resilience factors affect the strength or direction of this relationship (Baron & Kenny, 1986).

The third wave of resilience research involves testing resilience concepts through educational interventions, engaging educators and researchers, and utilizing experimental designs like randomized control trials to explore the mediating and moderating roles of resilience factors (Cicchetti et al., 2000; Luthar & Cicchetti, 2000; Wang & Gordon, 1994). It was in this

wave that the often-cited definition of educational resilience was coined: “Educational resilience is the heightened likelihood of success in school and other life accomplishments despite environmental adversities brought about by early traits, conditions, and experiences” (Wang et al., 1994). Inspired by previous socio-ecological and socio-interactional research (Bronfenbrenner, 1977, 1986; Vygotsky, 1967, 1978), the fourth wave of resilience research represents a more critical approach where resilience processes are understood through multiple levels of analysis and where a wider understanding of contextual factors is sought (Aleghfeli, 2021; Hart et al., 2016; Ungar, 2004, 2008).

Inspired by the fourth wave of resilience research, this dissertation conceptualized educational resilience as a multidimensional, multisystemic phenomenon that emerges through complex interrelations between risk factors and resilience factors in educational settings within a child’s socio-ecological and socio-interactional context. For refugee students facing pre- and post-migration adversities, cultivating educational resilience requires understanding risk and resilience factors and processes. These factors and processes influence resilience in UASCs and other refugee students who face cumulative pre-migration and post-migration adversities (Aleghfeli, 2023; Aleghfeli & Hunt, 2022). Taking into consideration various conceptualizations of resilience, this dissertation defines educational resilience as the presence of positive educational outcomes or experiences despite exposure to significant risk or severe adversity (Masten, 2014; Rutter, 2012). Educational resilience is also the result of a dynamic engagement between the child and their immediate environment (Luthar et al., 2000; Luthar & Cicchetti, 2000) and is specific to the socio-ecological and socio-interactional context of the child (Ungar, 2008).

6.2.2 Socio-Ecological Factors

Bronfenbrenner's socio-ecological theory of development (1977, 1986) was used as a primary theoretical framework to identify what socio-ecological factors in UASCs’ environments contribute to the educational resilience of UASCs. The socio-ecological theory examines human

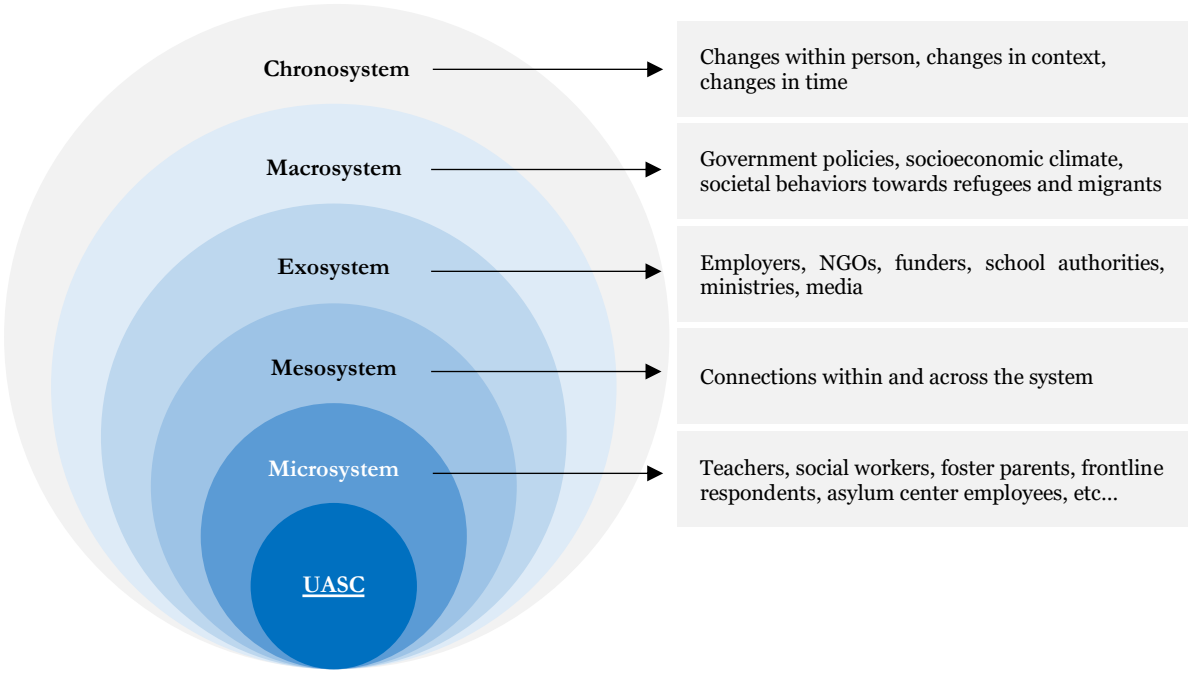
development within the context of multiple interconnected systems. It emphasizes the influence of various social and environmental factors, such as family, community, culture, and society, on a child's learning and development. Bronfenbrenner conceptualized the child's environment as different nested levels of systems: the microsystem (the child's immediate relationships and environments), the mesosystem (interrelations between elements of the microsystem), the exosystem (external social structures influencing the microsystems), the macrosystem (sociocultural norms and ideologies), and the chronosystem (changes over time in both the child and their environments).

Bronfenbrenner later developed the Process-Person-Context-Time model to emphasize the interrelatedness between person and context, rather than just contextual factors (Bronfenbrenner & Morris, 1998, 2007). The model had four components: proximal processes (the reciprocal interactions between the child and their immediate ecosystems that drive development), person (the child's individual characteristics that shape proximal processes; these include demand characteristics, e.g., age and gender, biological characteristics, e.g., cognitive skills and intelligence, and force characteristics, e.g., differences of temperament and motivation), context (the child's socio-ecological system as defined earlier), and time (change in proximal processes over time).

Despite its focus on interactions and processes and its seeming applicability to the UASC context, the Process-Person-Context-Time model focuses primarily on biological and cognitive development processes and ignores social and emotional development. As a consequence of the development of this model, Bronfenbrenner termed this new iteration of the ecological framework as a bio-ecological framework (Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 1998; Tudge et al., 2009). This dissertation's conceptualization of educational resilience emphasizes the importance of social interactions in the development of resilience. In conclusion, only the earlier iteration of Bronfenbrenner's socio-ecological framework (1977, 1986) is used. Figure 11

illustrates the socio-ecological framework of UASCs as it applies to the educational resilience of UASCs.

Figure 11. *Final socio-ecological model of educational resilience for unaccompanied and separated children*



6.2.3 Socio-Interactional Processes

Vygotsky's socio-interactional theory of development (1967, 1978) was used as a secondary theoretical framework to identify what socio-interactional processes that arise from interactions between UASCs and their environment contribute to the educational resilience of UASCs. The socio-interactional theory proposes that learning and development in children are strongly influenced by meaningful interactions with their social and environmental context, thereby shaping their skills and capabilities and broadening their understanding of their context. It conceptualizes these interactions as occurring through a 'Zone of Proximal Development', which is the space between what a child can achieve independently and what they can achieve with guidance. 'Most Knowledgeable Others', or individuals with greater expertise than the child, play a crucial role within this zone, offering support and helping children advance. As children gain in

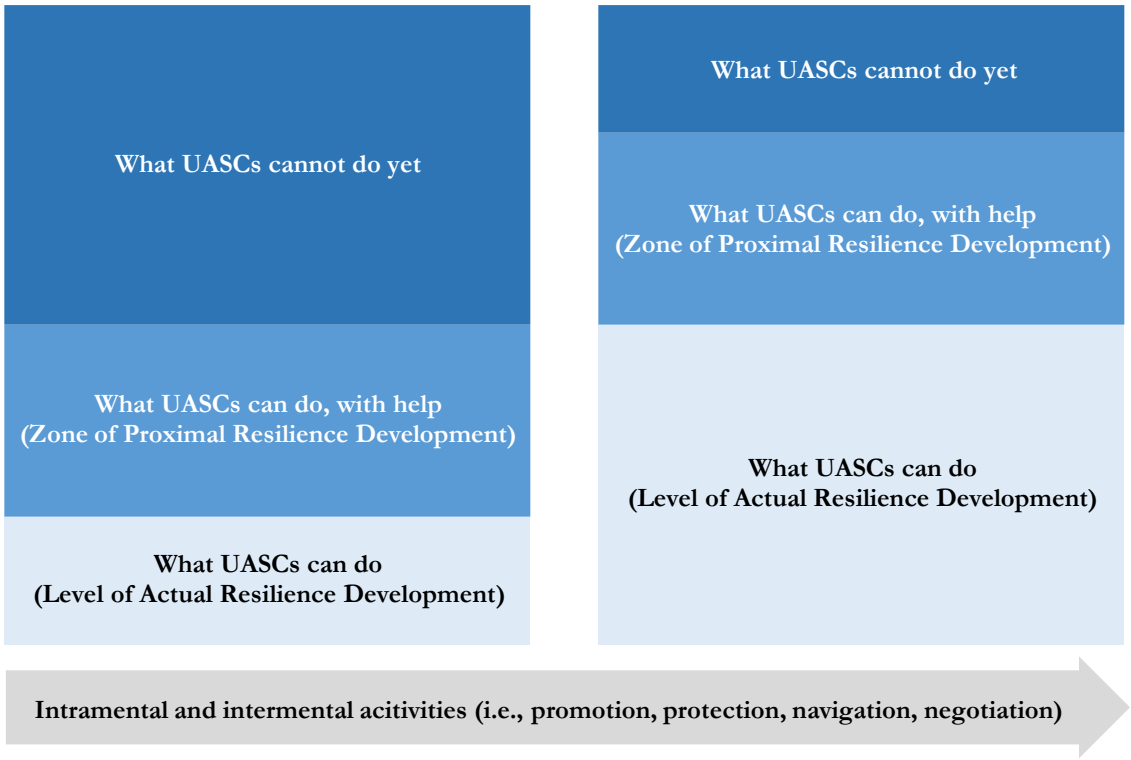
learning and development, the zone shrinks, reflecting their evolving capabilities. Development is also seen as a forward recursive process, moving from intermental activities (between the child and the environment) to intramental activities (within the child) (Vygotsky, 1978), that is facilitated by contextual factors such as psychological and physical tools that mediate between the child and environment (e.g. language, computers) (Vygotsky, 1967).

Further additions to and applications of the socio-interactional framework broadened its utility, making it relevant to examine educational resilience processes in UASCs. Wood and colleagues (1976) introduced the term, scaffolding, to explain a process "that enables a child or novice to solve a task or achieve a goal that would be beyond his unassisted efforts" (p. 90). According to them, effective scaffolding requires the more knowledgeable other to provide the following supports: reinforcements (through encouragement), specific instructions, modeling and demonstration, regulating affect and frustration, and regulating attention and interest. Masten and Obradović (2008) further contextualized the socio-interactional framework to fit the risk and resilience processes. In the first zone, children who experienced trauma from sudden disasters and crises also experienced delayed mental functioning, resulting in them falling into what is termed as the zone of maladaptive development. In the second zone, children can either maintain higher mental functioning or recover from initial delayed mental functioning, thereby resulting in them being placed into what is termed as the zone of average development.

Given its wider applicability and its relevance to resilience research, this dissertation applied the socio-interactional framework to illustrate the UASC's educational resilience development as a forward recursive process, moving from the UASC's zone of proximal resilience development to the UASC's level of actual resilience development, facilitated by socio-ecological factors. The first form is resilience developed through adaptive factors present within the UASC, termed as the UASC's level of actual resilience development. The zone of proximal resilience development is educational resilience developed through external factors provided by their immediate environment, whereas the level of actual resilience development is educational

resilience developed through internal factors present within the UASC. Figure 12 illustrates the socio-interactional framework as it applies to the educational resilience of UASCs.

Figure 12. *Final socio-interactional model of educational resilience for unaccompanied and separated children*



6.2.4 A Critical Realist Approach

In this discussion, I used an interdisciplinary philosophy of science known as critical realism. Coined and developed by Ram Roy Bhaskar (1975, 1989), critical realism reaffirms the claim of 'ontological realism' (phenomena exist independently of our knowledge of them) while combining it with 'epistemological relativism' (human knowledge is socially produced, historically transient, and fallible) and 'judgmental rationalism' (there are rational grounds for preferring some theories and explanations over others). From this critical realist viewpoint, the central aim of social scientific research is not prediction or interpretation, but rather explanation (Bhaskar, 1975). In other words, the primary objective of the social sciences is to develop empirically

supported theories and hypotheses about how, why, and under what conditions particular phenomena occur.

Critical realism allows for the integration of different epistemological approaches, such as pragmatism, post-positivism, and constructivism, in order to avoid what it views as their individual limitations, such as the empirical reductivism of post-positivism or the conceptual relativism of constructivism (Bhaskar, 1989). Axiologically, critical realists believe in the inherent value of uncovering the underlying causal mechanisms and structures of phenomena, emphasizing the importance of gaining a deeper understanding of reality beyond surface appearances. Ontologically, they focus on recognizing the stratified nature of reality, positing multiple levels of existence, including the empirical, actual, and real, and emphasizing the existence of an objective reality that exists independently of human thought. Epistemologically, critical realists value the development of scientific theories and explanations that can bridge the gap between the empirical and the real, acknowledging the role of both empirical observation and theory in constructing knowledge. Methodologically, critical realists rely on a variety of research methods, including mixed methods, allowing for the inference of unobservable causal mechanisms based on observable effects and aiming to provide a comprehensive understanding of complex phenomena.

Given the multidimensional nature of educational resilience among UASCs, using different paradigms provides unique insights that a single approach could not achieve alone. Study I (the systematic review) utilized a pragmatic paradigm to conceptualize educational resilience as a practical framework for guiding interventions and social policy. Study II (the Jordan study) employed a post-positivist lens to quantitatively investigate factors associated with UASCs' achievement outcomes in Jordan. Study III (the Greece study) adopted a constructivist perspective to gain rich, subjective understandings of how UASCs in Greece navigate risks and negotiate educational resources. Together, these diverse paradigms have provided complementary views of UASCs' educational resilience from different philosophical standpoints.

The pragmatic viewpoint allowed for conceptualizing educational resilience for practical application; the post-positivist lens allowed for objectively modeling factors correlating with achievement; and the constructivist perspective allowed for the privileging of UASCs' voices and lived experiences. Using multiple paradigms provides comprehensive, multi-faceted knowledge about this complex phenomenon. Combining divergent lenses creates a deeper, more textured understanding compared to a single view (Greene, 2007). This critical realist approach therefore enabled a fuller examination of UASCs' educational resilience across different settings.

6.3 Methods

The three studies were designed and implemented in order to follow a convergent parallel mixed-methods design (Creswell & Plano Clark, 2017), which involves the concurrent but separate collection and analysis of quantitative and qualitative data on the educational resilience of UASCs. The core premise was to obtain complementary quantitative and qualitative data to provide a comprehensive understanding of how educational resilience occurs for UASCs. Aspects of the mixed-methods timing were sequential in that Study I (the systematic review) preceded both Study II (the Jordan study) and Study III (the Greece study). For the most part, the latter two were conducted independently during the same timeframe and with equal priority. In this discussion chapter, I integrate the results from all three strands using triangulation processes in order to identify what socio-ecological factors in UASCs' environments contribute to the educational resilience of UASCs and how socio-interactional processes, which arise from interactions between UASCs and their environments, contribute to the educational resilience of UASCs.

6.3.1 Study I: A Systematic Mixed-methods Review

Study I (henceforth referred to as the systematic review) was a systematic mixed-methods review of the risk and resilience factors of education for UASCs (Aleghfeli & Hunt, 2022). Between 2015 and 2022, EU and EFTA countries alone received over 300,000 asylum applications from UASCs who have had their education disrupted due to conflict and war (EUROSTAT, 2024). The

systematic review aimed to identify risk and resilience factors that influence the educational trajectories of UASCs in high-income countries. It explored quantitative and qualitative evidence on risk and resilience factors associated with UASCs' educational outcomes and experiences.

In terms of methods and analysis pursued, a systematic mixed-methods review of peer-reviewed journal articles and grey literature, namely doctoral theses and dissertations, published between 2000 and 2020 was conducted across 12 bibliographic databases, leading to eighteen studies meeting the inclusion criteria after screening. The study selection process involved deduplication of search results, title and abstract screening, and full-text screening, done in accordance with dual-reviewer blind screening (Gartlehner et al., 2020; Stoll et al., 2019). Data extraction and synthesis involved quantitative meta-integration (Frantzen & Fetters, 2016; Onwuegbuzie & Combs, 2010) and meta-ethnographic synthesis (Noblit & Hare, 1988; Nye et al., 2016) respectively, done in accordance with double-blind coding procedures to reduce bias (MacPhail et al., 2016). Critically appraisal for risk of bias, trustworthiness, and methodological quality using the Critical Appraisal Skills Programme checklists (2022) and confidence in discrete review findings using the GRADE-CERQual approach (Lewin et al., 2015, 2018) were conducted.

As findings, twenty-six factors were identified as risk and resilience factors related to five socio-ecological levels: child, microsystem, mesosystem, exosystem, and macrosystem (Bronfenbrenner, 1977, 1986). Young mothers, minors who experienced immigration detention, and minors whose immigration statuses are unknown or pending were found particularly vulnerable to risk factors jeopardizing their education. Microsystemic and mesosystemic factors played the most significant role in educational resilience for these vulnerable UASC children.

In terms of novelty, improvement, and contribution to knowledge, the systematic review provides a comprehensive socio-ecological understanding of educational resilience processes for UASCs. Microsystemic and mesosystemic factors were found to play the most important role in the educational resilience of UASCs. The findings can inform research, policy, and practice to

better support UASCs' education through resilience-focused interventions. Further research should address key evidence gaps and test targeted interventions to support resilience.

6.3.2 Study II: A Quantitative Secondary Data Analysis Study in Jordan

Study II (henceforth, referred to as the Jordan study) was a quantitative secondary data analysis study that examines the educational achievement outcomes of both UASCs and non-UASCs in Jordan using PISA 2009 (Aleghfeli, 2023). Limited research exists on the underlying processes through which socio-ecological factors contribute to the educational resilience of UASCs in Jordan. This can be attributed to a lack of quantitative reporting on the educational outcomes of UASCs (Khan et al., 2019). As such, the Jordan study examined the relationship between UASC status and educational achievement among Palestinian refugees in Jordan using the PISA 2009 dataset (OECD, 2010, 2012). It identified socio-ecological factors at the student-level, teacher-level, and school-level that contributed to the promotion and protection of education for this vulnerable group.

In terms of methods and analysis pursued, the sample for the Jordan study comprised 410 Palestinian refugee students in Jordan, of which 91 were identified as UASCs (OECD, 2010, 2012). Correlational analysis examined the relationship between UASC status and educational achievement (Cohen et al., 2002; Pearson, 1900). Hierarchical regression analysis then identified socio-ecological factors impacting educational achievement after controlling for student, teacher, and school variables (Campbell et al., 1963; Cronbach, 1949). Main effects and interaction effects in the regression models revealed key promotive and protective processes (Yule, 1900). It used these methodological and analytical steps to identify what Rutter (1979, 1987) defines as the processes underlying individual differences in disadvantage, such as processes that enhance a child's outcomes regardless of the presence of adversity or stressors (what Rutter refers to as promotive processes) and processes that mitigate the negative impact of adverse experiences or stressors on a child's outcomes (what Rutter refers to as protective processes).

Findings showed that UASC status negatively correlated with achievement across all subjects. However, female gender, higher educational, social, and cultural status, positive class disciplinary climate, positive teacher-student relations, and higher school ability grouping had significant promotive effects on achievement for UASCs. Higher teacher use of structuring and scaffolding strategies provided a protective-enhancing effect on reading achievement for UASCs. Higher school use of ability grouping provided a protective-stabilizing effect on both reading achievement and scientific achievement for UASCs. In contrast, high school academic selectivity has a vulnerable-reactive effect on scientific achievement for UASCs.

In terms of novelty, improvement, and contribution to knowledge, the Jordan study highlights the importance of adopting a socio-ecological framework and robust quantitative approaches to gain an in-depth understanding of UASCs' educational resilience. The identification of microsystemic and mesosystemic factors (those at teacher-level and school-level) as critical promotive and protective assets provides vital insights to inform research, policy, and practice aimed at supporting UASCs' ability to thrive academically despite risks associated with being UASC.

6.3.3 Study III: A Qualitatively Driven Mixed-methods Study in Jordan

Study III (henceforth, referred to as the Greece study) was a qualitatively driven mixed-methods study that explores the educational experiences of both UASCs and non-UASCs in Greece using semi-structured interviews and questionnaire responses (Aleghfeli & Nag, 2024). Greece is host to large numbers of UASCs who have been forcibly displaced and had their education disrupted (EUROSTAT, 2024). Despite UASC status being associated with high adversity and risk (Derluyn et al., 2009; Geltman et al., 2005; Hjern et al., 1998; Hodes et al., 2008), there is growing research attesting to the educational resilience of UASCs. Recent studies have identified socio-ecological factors that enable UASCs to achieve positive educational outcomes (Aleghfeli, 2023; Aleghfeli & Hunt, 2022). However, limited research exists on the underlying processes through which these factors contribute to positive educational experiences. The objective of the Greece

study was to explore how socio-ecological factors support UASCs to navigate or negotiate situations of risk in their new environment in Greece to gain positive educational experiences in comparison to non-UASCs.

In terms of methods and analysis pursued, the Greece study used a qualitatively driven mixed-methods approach (Hesse-Biber et al., 2015) using the CYRM-R questionnaire (Jefferies et al., 2019; Resilience Research Centre, 2018) and semi-structured interviews (H. J. Rubin & Rubin, 2012) collected in Greece from a sample entirely of children of refugee and forced migrant backgrounds (n=25) composed of UASCs and non-UASCs. Qualitatively, reflexive thematic analysis (Braun & Clarke, 2006) and open, axial, and selective coding (Glaser & Strauss, 1967) were used to identify resilience factors shared between UASCs and non-UASCs and factors unique to each. Quantitatively, Fisher's exact test (1935) and Welch's two-sample t-test (1938) was used to examine group differences in participants' responses to the CYRM-R. It used these methodological and analytical steps to better study what Ungar (2008) refers to as the personal agency of the child in seeking educational or social care support (what Ungar refers to as navigation processes) and in seeking the provision of educational and social care resources in ways that are meaningful to the child (what Ungar refers to as negotiation processes).

As findings, quantitative analyses revealed UASCs' personal sense of resilience to be tied to the immediate socio-ecological support system around them, while qualitative analyses revealed supportive social workers and financial support access as resilience factors unique to UASCs, and supportive next of kin, supportive principals and other school staff, and supportive teaching staff at community NGOs as factors unique to non-UASCs.

In terms of novelty, improvement, and contribution to knowledge, by integrating quantitative and qualitative techniques, the Greece study provides empirical evidence on how the socio-ecological context of UASCs shapes their ability to navigate and negotiate risk situations to gain positive educational experiences. It identifies the socio-interactional relationship between risk and resilience factors and how they contribute to educational resilience processes.

6.3.4 Triangulation

After completing the three studies, I used triangulation methods in order to integrate their respective findings. In this dissertation, I used data triangulation, methodological triangulation, theoretical triangulation, and investigator triangulation (Denzin, 2017). Data triangulation involved the use of multiple data sources in order to understand the educational resilience of UASCs: peer-reviewed publications and grey literature (the systematic review), the PISA 2009 dataset (the Jordan study), and semi-structured interviews and the CYRM-R questionnaire (the Greece study). Methodological triangulation involved the use of multiple methods to study the same phenomenon: systematic mixed-methods review, quantitative secondary data analysis, and qualitatively driven mixed-methods. Theoretical triangulation involved the use of multiple theoretical perspectives to interpret and explain a single set of data: the socio-ecological theory of development, as outlined by Bronfenbrenner (1977, 1986), and the socio-interactional theory of development, as outlined by Vygotsky (1967, 1978). Lastly, investigator triangulation involved the use of multiple evaluators to interpret data on the same topic. Investigator triangulation was done in two studies. Interpreting the data in the systematic review involved myself (a doctoral student with research expertise in refugee and forced migrant education) and another researcher (a doctoral student and former schoolteacher with research expertise in refugee and forced migrant education recruited as a research assistant). Similarly, interpreting the data in the Greece study involved myself (a doctoral student with research expertise in refugee and forced migrant education) and another researcher (a master's student and former schoolteacher recruited as a research assistant). The investigator triangulation was especially necessary for determining intercoder reliability (MacPhail et al., 2016).

6.3.5 Note on Age Ranges

It is important to note that the dissertation covered a wide age range. The systematic review found that studies covered ages as young as five years old and as old as 37 years old (Aleghfeli & Hunt, 2022). Some studies attribute their choices to age determination issues with

UASCs, while others noted that former UASCs who completed their educational journeys were able to provide richer insight into the educational trajectories of UASCs. On the one hand, age determination is a challenge when it comes to studying UASCs and other children of refugee and forced migrant backgrounds, as some may not know their dates of birth, how old they are, or claim to be under 18 years old so that they can take advantage of the rights and privileges of being a child, such as shelter and schooling (Separated Children in Europe Programme, 2012). This would have made it difficult to limit the age range to below 18 years old, as the reported age may not have represented reality. On the other hand, it became evident through the systematic review that younger UASCs may have been unable to contribute their full perspective due to literacy or comprehension issues, whereas older UASCs and former UASCs were able to contribute valuable insight into education (Aleghfeli & Hunt, 2022). Given this information, the age range for the Jordan and Greece studies was set at 15–23, as it included both current UASCs old enough to not have literacy or comprehension issues and former UASCs young enough to still have recent memories of their educational trajectories.

6.4 Contribution to Knowledge

In this section, I triangulated the three studies in order to identify new and salient insights about the educational resilience of UASCs. Here, I specifically explain how I attempted to answer the research questions of the dissertation that aimed to identify the socio-ecological factors existing in UASCs' environment that contributed to their educational resilience and understand the socio-interactional processes through which the interaction between UASCs and their environment supported their educational resilience.

6.4.1 The Systematic Review

The systematic review reported important findings about the risk and resilience factors that support the education of UASCs in high-income countries. At the child level, the eligible studies examined evidence on six risk and resilience factors for the education of UASC students, covering four domains: age, gender, educational status, and health status. The review found

higher age at admission to care, higher age at admission to school, early motherhood, limited or no prior education, and poor physical and mental health as child-level risk factors. The review also found prior quality education to be the sole child-level resilience factor. At the micro-level and meso-level, the eligible studies reported evidence on twelve risk and resilience factors for the education of UASC students, covering eight domains: parents, foster caregivers, residential accommodation, friends and community peers, school placement, teachers and school staff, class placement, and classmates or school peers. The review found poor residential care, unsupportive teachers, poor class placement, and disruptive classmates as micro- and meso-level risk factors. The review also found supportive parents, quality foster care, supportive foster caregivers, quality residential care, supportive friends and community peers, strong school placement, supportive teachers, and supportive classmates and school peers as the micro-level and meso-level resilience factors. At the exo-level, the eligible studies reported evidence on four risk and resilience factors for the education of UASC students, covering two domains: financial status and employment status. The review found financial insecurity and employment insecurity as exo-level risk factors. The review also found financial support access and employment support access as exo-level resilience factors. At the macro-level, the eligible studies reported evidence on four risk and resilience factors for the education of UASC students, covering three domains: immigration policy, racism and discrimination, and community resources. The review found harmful asylum policies and racism and discrimination as macro-level risk factors. The review also found refugee and migrant support and community engagement as macro-level resilience factors. In short, these findings contribute to knowledge about the educational resilience of UASCs because they provide evidence on the important role that microsystemic (representing the complex relationships and physical settings experienced by the child) and mesosystemic (representing the interrelations between the microsystems) factors play in the educational resilience of UASCs (Bronfenbrenner, 1977, 1986).

6.4.2 The Jordan Study

The Jordan study reported important findings about the socio-ecological factors that contribute to the promotion and protection of education for UASCs in Jordan. First, by examining the main effects in the relationship between UASC status and educational achievement, the study was able to identify socio-ecological factors that were associated with promotive effects on the educational achievement of UASC students. These promotive factors are female gender and higher economic, social, and cultural status; positive class disciplinary climate; positive teacher-student relations; and being in a school with ability grouping. Second, by examining the interaction effects in the relationship between UASC status and educational achievement, the study was able to identify socio-ecological factors that were associated with protective effects on the educational achievement of UASC students. Specifically, higher teacher use of structuring and scaffolding strategies was found to have a protective-enhancing effect on reading achievement. School academic selectivity was found to have a vulnerable-reactive effect on scientific achievement. Lastly, school use of ability grouping was found to have a protective-stabilizing effect on both reading achievement and scientific achievement. Whereas student-level factors were found to have only promotive effects on educational achievement for UASCs, teacher-level factors and school-level factors were found to have both promotive and protective effects on educational achievement for UASCs. These findings contribute to knowledge because they provide empirical evidence about the significant role that microsystemic factors (representing the complex relationships and physical settings experienced by the child) and mesosystemic factors (representing the interrelations between the microsystems) play in the educational resilience of UASCs. The findings also contribute to knowledge through not only the identification of the interactional relationships between risk and resilience factors but also through understanding how these interactions shape promotive and protective processes of education for UASCs.

6.4.3 The Greece Study

The Greece study reported important findings about the socio-ecological factors that contribute to the navigation and negotiation of education by UASCs in Greece. First, Welch's t-test of CYRM-R scores revealed that UASCs had a significantly lower score on average than non-UASCs on the overall resilience score and on the relational resilience score. Second, Fisher's exact test of CYRM-R items revealed that UASCs agreed significantly more than non-UASCs that they get along with people around them. The tests also revealed that UASCs agreed significantly less than non-UASCs that their caregiver or guardian really looks out for them, that their caregiver or guardian knows a lot about them, that they feel safe when they are with their caregiver or guardian, and that they like the way their caregiver or guardian celebrates things about them, like holidays or learning about their culture. Both findings illustrate how UASCs' personal sense of resilience is tied to the immediate socio-ecological support system around them, despite experiencing family separation. Third, the study identified five resilience factors shared by UASCs and non-UASCs: supportive teachers at school; supportive classmates and school peers; digital learning support; supportive friends and community peers; and NGO support. Fourth, the study identified two resilience factors unique to UASCs: supportive social workers and financial support access. The study also identified three resilience factors unique to non-UASCs: supportive next of kin; supportive principals and other school staff; and supportive teaching staff at community NGOs. Both findings offer empirical evidence about the significant role that microsystemic factors (representing the complex relationships and physical settings experienced by the child) and mesosystemic factors (representing the interrelations between the microsystems) play in the educational resilience of UASCs. The findings also contribute to knowledge through not only the identification of resilience factors that are unique to UASCs and that they share with non-UASCs but also by highlighting through qualitative information how these factors are able to support the navigation and negotiation processes of education by UASCs. In summary, by exploring how these risk and resilience factors interact, this study was able to identify how UASCs navigate and

negotiate situations of risk differently from non-UASCs in their new environment to achieve positive educational experiences.

6.4.4 Socio-Ecological Factors of Educational Resilience

Upon triangulating the three studies, several salient insights were made about the social-ecological factors in UASCs' environment that contribute to UASCs' educational resilience. At the school level, teachers were revealed as important school-level factors contributing to educational resilience by the systematic review and the Greece study. The Jordan study further gives insight into the particular ways in which teachers support UASCs, such as through sustaining supportive and positive relationships with students, utilizing effective instructional practices such as structuring and scaffolding strategies, and contributing to a positive class disciplinary climate. Classmates and school peers were also revealed as important school-level factors contributing to educational resilience by the systematic review and the Greece study, whereas the Jordan study noted the importance of a positive class disciplinary climate, suggesting positive peer dynamics. At the community level, supportive friends and community peers were revealed as important community-level factors contributing to educational resilience by the systematic review and the Greece study. Friends and community peers acting as positive role models and providing social support in the community seem to facilitate educational adaptation. Financial support access was also revealed as an important community-level factor contributing to educational resilience by the systematic review and the Greece study. Financial assistance helps UASCs by providing them with the resources they need to engage in schooling, access supplies, and cover transportation costs. Table 21 presents a summary table of all the socio-ecological factors identified from the three studies that contribute to the educational resilience of UASC.

Table 21. *Final list of socio-ecological factors of educational resilience*

Level	Study I	Study II	Study III
Individual	Prior quality education	Female gender	
'Home'	Supportive parents Quality foster care Supportive foster carers Quality residential care	Higher economic, social, and cultural status	Supportive social workers
School	Supportive teachers and school staff Supportive classmates and school peers Strong school placement	Positive class disciplinary climate Positive teacher-student relations Teacher use of structuring and scaffolding strategies School with ability grouping	Supportive teachers at school Supportive classmates and school peers Digital learning related supports
Community	Supportive friends and community peers Financial support access Employment support access Refugee and migrant support access Community engagement opportunities		Supportive friends and community peers Financial support access NGO-related supports

Note. This study recognizes 'Home' as being a stable and supportive environment where the physical, emotional, and psychological needs of refugee youth, including UASCs, are met, and where they can experience safety, belonging, and care, whether it's with family, foster care, residential care, or a semi-independent or independent accommodation arrangement.

6.4.5 Socio-Interactional Processes of Educational Resilience

Several salient insights were also made about the social-interactional processes through which the interaction between UASCs and the socio-ecological factors in UASCs' environments contributes to their educational resilience. On the one hand, female gender, higher economic, social, and cultural status, positive class disciplinary climate, and positive teacher-student relations were found to be associated with positive educational outcomes for UASCs in Jordan through promotive processes, alongside other children of refugee and forced migrant backgrounds, without necessarily protecting against the stressors of being UASC. Similarly, teachers at school, classmates and school peers, digital learning support, friends and community peers, and NGOs were found to be associated with positive educational experiences for UASCs in Greece, alongside other children of refugee and forced migrant backgrounds, through supporting them in their navigation and negotiation processes with the educational system. On the other hand, teacher use of structuring and scaffolding strategies and school ability grouping were found to be associated with positive educational outcomes for UASCs in Jordan through protective

processes that mitigate against the stressors of being UASC. Similarly, supportive social workers and financial support access were found to be associated with positive educational experiences for UASCs in Greece, different from other children of refugee and forced migrant backgrounds, through supporting them in their navigation and negotiation processes with the educational system. Table 22 presents a summary table of all the socio-interactional processes identified from the three studies that contribute to the educational resilience of UASC.

Table 22. *Final list of socio-interactional processes of educational resilience*

Process	Factors	QUAN + QUAL Evidence
Promotive processes *(shared with non-UASCs)*	Female Gender	• Female gender (β=36.6, t(106)=-3.27, p<.01) significantly associated with higher scores in reading achievement among participants in Jordan study.
	Higher economic, social, and cultural status	• Higher economic, social, and cultural status (β=13.88, t(131)=2.19, p<.05) significantly associated with higher scores in reading achievement among participants in Jordan study. • Higher economic, social, and cultural status (β=14.07, t(124)=3.2, p<.01) significantly associated with higher scores in mathematical achievement among participants in Jordan study. • Higher economic, social, and cultural status (β=19.18, t(101)=2.61, p<.05) significantly associated with higher scores in scientific achievement among participants in Jordan study.
	Positive class disciplinary climate	• Positive class disciplinary climate (β=8.98, t(94)=2.05, p<.05) significantly associated with higher scores in mathematical achievement among participants in Jordan study.
	Positive teacher-student relations	• Higher teacher-student relations (β=14.76, t(88)=2.83, p<.01) significantly associated with higher scores in reading achievement among participants in Jordan study. • Positive teacher-student relations (β=14.64, t(86)=3.89, p<.001) significantly associated with higher scores in mathematical achievement among participants in Jordan study. • Positive teacher-student relations (β=13.35, t(75)=3.34, p<.01) significantly associated with higher scores in scientific achievement among participants in Jordan study.
Protective processes *(unique to UASCs)*	Teacher use of structuring and scaffolding strategies	• Higher teacher use of structuring and scaffolding strategies interacting with UASC status (β=12.15, t(88)=2.24, p<.05) significantly associated with higher scores in reading achievement for UASC students among participants in Jordan study. Interaction effects plot further revealed it as have a protective-enhancing effect.
	School with ability grouping	• Higher school use of ability grouping interacting with UASC status (β=76.61, t(103)=3.36, p<.01) significantly associated with higher scores in reading achievement for UASC students among participants in Jordan study. Interaction effects plot further revealed it as a protective-stabilizing effect. • Higher school use of ability grouping interacting with UASC status (β=127.4, t(130)=3.25, p<.01) significantly associated with higher scores in scientific achievement for UASC students among participants in Jordan study. Interaction effects plot further revealed it as a protective-stabilizing effect.
Navigation and negotiation processes *(shared with non-UASCs)*	Supportive teachers at school	• "I would say, in the beginning, they helped me because they just accepted the fact that I didn't know everything – I mean, the language part. So they had to explain, maybe for many times the same things that was very easy and understandable for everyone else. So the fact that some of the teacher were patient enough to explain to me, again and again, or to answer to my stupid questions, like just for a word, 'what does it mean?' and stuff. So that was helpful for me." (IDI 14: UASC boy from Afghanistan in Greece) • "My teacher … He really wants me to learn the Greek language, so putting a lot of effort and also financially, sometimes when I need something, I can ask him if he can afford to do it … No, there is no one else except my teacher." (IDI 07: UASC boy from DR Congo in Greece)
	Supportive classmates and school peers	• "Wow. Lots of friends from different countries like Egypt, Syria, Iraq, Afghanistan, Pakistan, Bangladesh. They helped me a lot like when I didn't know how to speak Greek well. They helped me with my homework, with my lessons, about what we have tomorrow and what to do, do we have an exam or not. They did a good job … they have helped me a lot in different ways, like when I didn't know Greek. They helped me to know what we have tomorrow. What we need to do. If we have an exam or not. Which pages do I need to study. They were talking to me and giving me a good view of school, like 'We are here. We are at school. Don't get bored. Don't get upset. When you are alone, we're all here'. Yeah, they're fun. They love

		what I do and like the skills I have, they really love. When I do a new thing, they say, 'Oh! Good job! We are so happy for you!'. They keep me inspired." (IDI 01: UASC boy from Afghanistan in Greece) • "If I had some issue because they have always been in [private schools] and they knew the [private school] system, and it was my first time to be at a [private school], so it was a totally different educational system. So I would ask them help with the methodology and they would easily give me help. So these were for me really important things that helped me." (IDI 11: UASC boy from Guinea in Greece)
	Digital learning support	• "I downloaded an application where I can learn how to say 'Good Morning', or how to say little words, important words. Because here [in this NGO], I did only the verbs and it was very complicated for me because I didn't have the basics. [*And which application to be download?*]. So, it's a free application that translates to English, because I speak Portuguese alongside French, so it translates into Portuguese and English." (IDI 10: UASC girl from DR Congo in Greece) • "OK, first, I wanted to mention myself ... Also, YouTube. [*How did YouTube help you?*] Greek, I studied it online on YouTube through my cell phone. [*How did your teachers help you in Greece?*] To be honest, I used to live in a shelter. I had a teacher, but they didn't teach me the way that I wanted. That's why I mentioned my cell phone." (IDI 04: UASC boy from Afghanistan in Greece)
	Supportive friends and community peers	• "When we have a problem, we speak with each other, usually Saturdays and Sundays, because that's we have the time to meet. We always speak with each other and meet each other, and always I ask my friend, 'if I do this, what do you think? Will it be wrong, or no? Will it be good for my future, or no?'. And then, they say yes or no. Sometimes I have a suggestion for them, sometimes they have a suggestion for me, always we do that. I have one friend; we are so close to each other." • "So, it was just about motivation. Like we motivate ourselves to like each other because we were all from the African francophone community, so we were motivating each other." (IDI 09: UASC boy from DR Congo in Greece)
	NGO support	• "Because of these NGOs, I managed to participate in many, many activities that were organized because, whenever we had to they an activity that it was organized by another NGO, they would invite us kids. So I was participating either in terms of education or artistic workshops or in every kind of activity, I was being involved, getting involved in these kind of activities that were organized by the NGOs. So this helped me, and I put them in my CV." (IDI 11: UASC boy from Guinea in Greece) • "The first moment I arrived to Greece, I went to an NGO for youth, and they introduced me to shelter. Sometimes, the NGO would still call me asking, 'Are you OK? Did you find a school? Is your situation good?'. At another time, I went to another organization, and they helped me with food and clothing and stuff like that." (IDI 08: UASC boy from Afghanistan in Greece)
Navigation and negotiation processes *(unique to UASCs)*	Supportive social workers	• "About the social worker, that person helped me so much. She never gave me a promise to help with education, but she tried so much to help me and find a school for me, especially since she knew how much I wanted that. She tried to do that for me. [*What about other social workers?*] Getting me registered in a school was the product of a mutual cooperation between two social workers. At first, I sent my request to my social worker in my shelter and told her that I need a school to get education, and she called another social worker in the shelter. And after four or five days, they were able to find me a school. Both of them." (IDI 08: UASC boy from Afghanistan in Greece) • "When I was a minor, I had a guardian and actually she was the Guardian in the shelter and we kept in contact. From the interviews that I've had with her, she knew that I want to be a journalist, so when she found the opportunity of this workshop that I'm doing right now, she called me - we were still in contact all the time - she called me and she proposed to me to do it, because I don't have this chance of going to a normal school. So she proposed me to start from there, and then we will see later on." (IDI 06: UASC girl from Cameroon in Greece)
	Financial support access	• "There is an NGO which is a Greek organization. They're working to help refugees. They did a quite good job for me, which I really appreciate. They got me on scholarship with [a university]. They also gave me a laptop, a very good laptop, which I'm using right now, to continue my lesson. Even though it was my first time to go into their organization, it was quite surprising, giving me a laptop and a scholarship. Because they pay the fees of the university. It was quite good to get." (IDI 01: UASC boy from Afghanistan in Greece) • "When I came here. I was down. I didn't have the motivation. Yet, [my cousin] was always providing for me, for example, my expenses when I needed some money and cash and stuff like that. The most important thing is that he is like a symbol of success for me. And after that, whenever I'm down, he is the only one that I go to and get motivated and stuff like that." (IDI 02: UASC boy from Afghanistan in Greece)

6.4.6 Synthesis

Although the three studies identified socio-ecological factors and socio-interactional processes that are associated with educational resilience in UASCs, triangulating the three studies added further important findings that deepened understanding of the socio-interactional processes. This implies that educational resilience among UASCs is influenced by a combination of intermental and intramental activities. As mentioned earlier, Vygotsky (1967, 1978) conceptualizes development as a forward recursive process that is moving from intermental activities (between the child and the environment) to intramental activities (within the child) facilitated by contextual factors. Such activities can contribute to the promotion and protection of education for UASCs and support the navigation and negotiation of education by UASCs. In the case of UASCs, intermental activities occur in their zone of proximal resilience development, whereas intramental activities occur at their level of actual resilience development. In terms of intermental activities, the findings imply that they may exist at several levels. At 'home', they can involve positive relationships with social workers, guardians, and caregivers who advocate for the child's education and offer guidance that can inspire resilience. At school, they can involve supportive interactions with teachers, peers, and school staff, which encompass encouragement, instruction, and scaffolding strategies. In the community, they can involve having access to social support networks, including friends and community members, who also play a crucial role by providing motivation, advice, and a sense of belonging. Upon transitioning out of their zone of proximal resilience development, UASCs display their level of actual resilience development through intramental activities. These include developing the capability to self-motivate and set goals, strengthening their language learning and academic aptitude, and progressively internalizing social and cultural knowledge about the new environment. In short, it is implied that such intermental activities at the zone of proximal resilience development are needed for UASCs to engage in intramental activities that display their level of actual resilience development.

6.5 Methodological Strengths

In this section, I triangulated the three studies in order to identify the methodological strengths that enabled each study to contribute to knowledge about the educational resilience of UASCs. Knowledge of such methodological strengths is useful for conducting future research on the educational resilience of UASCs.

6.5.1 The Systematic Review

The systematic review displayed several methodological strengths that enabled it to contribute to knowledge about the educational resilience of UASCs in high-income countries. The review's strengths lie in its rigorous methodology, applicability across contexts, and actionable framework for supporting resilience. The review provides a comprehensive synthesis of the current state of knowledge regarding the educational resilience of unaccompanied asylum-seeking children. By adopting a socio-ecological lens, it highlights the multidimensional and complex nature of building educational resilience in UASCs and other children with refugee and forced migrant backgrounds. Gaining a socio-ecological understanding of what enables educational resilience provides practitioners with a helpful conceptual framework to effectively deliver educational and social care services to UASC students. Knowledge about UASCs' individual, home, school, and community contexts is necessary for understanding the ideal environment for enabling youth to academically thrive. The design of a sensitive search strategy allowed for the synthesis and interpretation of evidence from heterogeneous methodologies, contexts, and findings. The insights gained can inform policy and practice to better support the education and well-being of this vulnerable population. As evident from the search strategy and eligible studies, evidence on the effectiveness of educational interventions for UASC students is mixed, echoing the heterogeneous findings observed in prior reviews (Fazel et al., 2012; Höhne et al., 2020; O'Higgins et al., 2018). Moreover, factors such as race, ethnicity, or pre-migration language acquisition skills were not studied. Further research is needed to address key gaps, including the role of individual factors like race, ethnicity, and language, as well as testing targeted

interventions. Strengthening the evidence base on risk and resilience factors in education is necessary to build better educational interventions. The specifically educational findings from this review build on the results of previous reviews on risk and resilience factors for UASC students (Fazel et al., 2012; Höhne et al., 2020; O'Higgins et al., 2018) and are intended to contribute to future studies. While scope remains for deeper investigation, it meaningfully advances knowledge in an understudied area with major humanitarian significance. By elucidating educational resilience processes, it provides practitioners and policymakers with vital insights to uplift UASCs seeking safety and opportunity through migration.

6.5.2 The Jordan Study

The Jordan study displayed several methodological strengths that enabled it to contribute to knowledge about the educational resilience of UASCs in Jordan. First, a key strength of the study was that it exclusively investigated an entirely refugee sample, allowing for comparing UASC students with other non-UASC refugees. This is unlike prior quantitative studies that often compared UASC students with other non-refugee students (Çelikaksoy & Wadensjö, 2019; O'Higgins, 2018). Second, by adopting a socio-ecological and socio-interactional framework, this study underscored the importance of considering multiple levels of influence in understanding educational resilience among UASCs, such as student, teacher, and school factors. This is in line with prior calls for adopting more multilevel perspectives in studying resilience (Cicchetti, 2010). Such a multilevel approach allowed for a holistic exploration of the various socio-ecological factors that displayed promotive and protective processes associated with positive educational achievement in UASC students. Third, the combined use of variable-focused analyses and process-driven approaches with correlational and hierarchical regression analyses allowed for a more robust examination of variables and the nature of their contribution to positive educational achievement outcomes (Rudd et al., 2021; Tudor & Spray, 2017). Such an analytical strategy enabled the study to gain valuable insights into not only the socio-ecological factors impacting educational resilience for UASCs but also the underlying socio-interactional processes that define

these impacts. Finally, the study's focus on UASCs in Jordan provided context-specific and transferable insights that contribute to understanding the unique challenges faced by Palestinian UASC students in the Jordanian educational system, as well as providing a framework for comprehending the educational resilience of UASCs in other similar contexts. In summary, the study's integration of a socio-ecological and socio-interactional framework with variable-focused analyses and process-driven approaches strengthened its ability to uncover critical insights into the educational resilience of UASCs, including the identification of factors that enact promotive and protective processes that impact educational resilience.

6.5.3 The Greece Study

The Greece study displayed several methodological strengths that enabled it to contribute to knowledge about the educational resilience of UASCs in Greece. First, a key contribution of the study is that it integrates both quantitative and qualitative data to gain a more nuanced understanding of the challenges and strengths that UASCs share with non-UASCs in their educational journeys and of the challenges and strengths that are unique to UASCs. Second, by adopting a socio-ecological approach (Bronfenbrenner, 1977, 1986) and a socio-interactional approach (Vygotsky, 1967, 1978), this study underscored the importance of considering multiple levels of influence in understanding educational resilience among UASCs, such as individual-level, 'home'-level, school-level, and community-level factors. This is in line with prior calls for adopting more multilevel perspectives in studying resilience (Cicchetti, 2010). Such a multilevel approach allowed for a holistic exploration of the various socio-ecological factors that supported the navigation and negotiation processes that enabled positive educational experiences for UASC students. Third, the use of Fisher's exact tests and Welch's two-sample t-tests on responses to the CYRM-R questionnaire revealed a relationship between personal sense of education resilience and the presence of a socio-ecological support system. This underscores the importance of studying both contextual and material factors for understanding the educational resilience of UASCs. Fourth, combining open, axial, and selective coding techniques with reflexive thematic

analysis revealed valuable qualitative insights into the goal-setting capabilities of UASCs. It also revealed valuable insights into the resilience factors that may contribute to positive educational experiences for both UASCs and non-UASCs. Such knowledge contributes to a deeper understanding of the complex dynamics and systemic factors shaping educational resilience among refugee children. Lastly, by exploring how these risk and resilience factors interact, this study was able to identify how UASCs navigate and negotiate situations of risk differently from non-UASCs in their new environment to achieve positive educational experiences. In summary, integrating a socio-ecological and socio-interactional framework with a mixed-methods design strengthened the study's ability to uncover critical insights into the educational resilience of UASCs. This includes gaining an understanding of how the socio-ecological context of UASCs determines how they are able to navigate and negotiate situations of risk to gain positive educational experiences.

6.5.4 Synthesis

Overall, the dissertation showcased several methodological strengths in its use of multiple triangulation methods (Denzin, 2017). First, the dissertation's use of data triangulation allowed for more robust and well-rounded findings, validating results across different data sources while also mitigating the biases of single sources and overcoming the limitations of individual data collection techniques. Second, the dissertation's use of methodological triangulation allowed for findings to be validated across multiple quantitative, qualitative, and mixed-method approaches while also mitigating the weaknesses of any single method. Third, the dissertation's use of theoretical triangulation allowed for a richer and more nuanced analysis while also revealing new dimensions of the phenomenon of educational resilience in UASCs that may not have been captured by a single theory. Lastly, investigator triangulation helped reduce potential bias from a single researcher's perspective, allowing for intercoder reliability (MacPhail et al., 2016) as well as a more critically reflexive interpretation informed by multiple perspectives (Attia & Edge, 2017).

Using a convergent parallel mixed-methods design and a critical realist epistemological lens in the dissertation also offered several methodological strengths. The convergent parallel mixed-methods design allowed for the integration of quantitative and qualitative data (Creswell & Plano Clark, 2017), providing a comprehensive and nuanced understanding of the educational resilience of UASCs. By conducting studies using diverse methods, such as a systematic mixed-methods review, a quantitative secondary data analysis study, and a qualitatively driven mixed-methods study, I was able to gather a wide range of data that captured different aspects of the educational resilience in UASCs. This design also allowed for triangulation synthesis, where insights from the three studies converged to provide a more robust and reliable interpretation of the dissertation research questions. The strengths of each method also complemented each other, compensating for their individual limitations and enhancing the overall validity and reliability of the study. Additionally, employing a critical realist epistemological lens (Bhaskar, 1975, 1989) added depth and richness to the dissertation, enabling me to recognize the complex interplay between UASCs' individual agency and the social structures around them. This allowed for an in-depth investigation of the underlying socio-ecological factors and socio-interactional processes that shaped educational resilience, facilitating a more comprehensive understanding of their educational resilience. Furthermore, having a critical realist perspective aligned well with the mixed-methods design, as it emphasized the importance of both quantitative and qualitative data in uncovering the underlying resilience factors and processes. By combining objective measures and statistical analysis with qualitative insights and narratives, the dissertation was able to capture both the statistical trends and the lived experiences of UASCs, thereby facilitating triangulation, which ultimately enhanced the validity, reliability, and richness of the dissertation findings.

6.6 Methodological Limitations

In this section, I triangulated the three studies in order to identify the methodological limitations that hindered each study's ability in gaining further knowledge about the educational

resilience of UASCs. Knowledge of such methodological limitations is necessary and should be considered when conducting future research on the educational resilience of UASCs.

6.6.1 The Systematic Review

The systematic review reports some methodological limitations that should be carefully considered. First, the generalizability of the findings is limited by the small number of countries represented in the eligible studies, with the majority coming from the USA. It is also relevant to note that the USA is not a party to the Refugee Convention, unlike the other countries represented. The specific context, policies, and support systems in high-income countries may differ significantly from those in low- and middle-income countries. Therefore, the transferability of findings to different settings should be approached with caution. Future systematic reviews could explore risk and resilience factors for education for UASC students resettled in middle- and low-income studies to supplement and broaden the findings of this review. Conducting systematic reviews focused specifically on middle- and low-income host countries could reveal how different contexts influence educational resilience. Second, despite the search terms being designed and piloted to maximize search sensitivity and literature saturation, it remains likely that the review did not identify all relevant studies. For example, the search strategy may have filtered out studies that did not meet the eligibility criteria but could have still reported relevant quantitative or qualitative findings related to the education of UASC students. While the search strategy was comprehensive, supplementary searches may uncover additional relevant studies. Consulting non-peer-reviewed sources could help address publication bias concerns. Third, systematic reviews involving quantitative studies may be susceptible to publication bias (Ayorinde et al., 2020). Studies with positive or significant findings are more likely to be published, while those with null or non-significant results may be overlooked. This bias can distort the overall understanding of risk and resilience factors, potentially leading to an overestimation of positive outcomes or protective factors. Addressing these limitations will require dedicated funding and research infrastructure explicitly focused on UASCs and other children with refugee and forced

migrant backgrounds. Lastly, and most importantly, although the review was able to identify risk and resilience factors of education for UASCs in high-income countries, it was not able to examine how these risk and resilience factors interact. Studying interactions between factors and across socio-ecological levels would enable a better understanding of the processes through which educational resilience occurs for UASCs. All in all, realizing the full potential of research on the educational resilience of UASCs will depend on the political will to invest in the future of children with refugee and forced migrant background.

6.6.2 The Jordan Study

The Jordan study reports some methodological limitations that should be carefully considered. First, the use of a cross-sectional design for secondary data analysis prevented the establishment of causality. This is often the challenge with secondary data analyses because they involve the use of existing quantitative data to find answers to a research question that is different from the original work (Smith, 2008). For example, the PISA dataset was not designed with UASC students in mind due to it originating from Western models of education (Hopfenbeck et al., 2018). But given the scarcity of quantitative data on the educational outcomes of UASCs (Khan et al., 2019) and only a review of international large-scale assessments for this study was necessary, it was determined that the PISA 2009 dataset contained the most complete and up-to-date quantitative data on the education of UASCs. It's also important to recognize that many refugee students in Jordan, including UASCs, face socio-economic conditions such as financial barriers, domestic duties, and a lack of school engagement, leading many students to not remain in school long enough to be PISA-eligible students (UNICEF & Jordan Ministry of Education, 2020). Accordingly, future research should consider longitudinal studies that capture quantifiable educational data on UASCs to allow for a more robust quantitative examination of which resilience factors (such as those identified in this study) are salient in predicting change in educational outcomes. Another limitation of the study is that it relied on student-reported and principal-reported responses for the variables. The use of self-reported responses may introduce

social desirability bias, which refers to when the child responds to survey questions in a manner that is socially acceptable by others (Krumpal, 2013), or recall bias, which refers to when the child is unable to remember past events or experiences accurately (Bell et al., 2019). Regardless, the study delivered its best efforts to produce accurate parameter estimates by committing to a strict estimation approach as outlined by the OECD (2012). While the study provides valuable insights, its limitations, including the cross-sectional design and reliance on the PISA dataset, should be considered when interpreting the findings.

6.6.3 The Greece Study

The Greece study reports some methodological limitations that should be carefully considered. First, the generalizability of the findings is limited by the small sample size, preventing the establishment of causality. Additionally, the use of snowball sampling may lead to the possibility of sample bias and limited diversity (Biernacki & Waldorf, 1981). Since the sampling method relies on referrals, it may not have captured the educational experiences of UASCs and non-UASCs who are not connected to the initial network, thereby reducing the diversity of the sample and compromising the generalizability of the study findings. Future educational and social care studies should consider recruiting a more representative number of participants using more random sampling techniques to examine the educational resilience of UASCs and non-UASCs in Greece. Second, it is important to note the limitations of using self-reported data collected via the CYRM-R questionnaire. Self-reported questionnaire data is often susceptible to measurement error arising from potential issues of social desirability bias, meaning when the child responds to questionnaire questions in a manner that is socially acceptable by others (Krumpal, 2013), and recall bias, meaning when the child is unable to remember past events or experiences accurately (Bell et al., 2019). Lastly, it is important to note that data collected through qualitative techniques may be open to multiple interpretations. Different researchers analyzing the same data may arrive at different conclusions, leading to potential variations in the study's findings. Nevertheless, this study embraces the role of reflexivity and the

researcher's role in shaping interpretations, thereby acknowledging the potential for multiple understandings and meanings within qualitative research (Attia & Edge, 2017). Moreover, in order to sustain the reliability of the findings and remain truly reflexive, the study used intercoder reliability as a way to both embrace researcher reflexivity while ensuring consistency and methodological transparency and enabling positive collaboration between the two coders (MacPhail et al., 2016).

6.6.4 Synthesis

My dissertation revealed important methodological considerations to take note of when planning to investigate the educational resilience of UASCs. A primary limitation across all three studies is the lack of generalizability of the findings due to small sample sizes. The systematic review only included a handful of high-income countries, with most studies from the USA. The Jordan study relied solely on secondary analysis of the PISA dataset, which was not designed for examining UASCs specifically, while the Greece study had a small sample of 25 participants. Such small sample sizes make it difficult to draw broad conclusions about the educational resilience of UASCs. As such, more rigorous research is needed with larger and more diverse samples across a wider range of contexts. Additionally, the cross-sectional design of the Jordan study and the Greece study prevents establishing any causality. While the Jordan study and the Greece study allowed for statistical analysis of relationships between certain socio-ecological factors on the one hand and educational outcomes and experiences on the other, causation could not be determined, and findings could, at best, be seen as correlations. Cross-sectional designs provide only a snapshot, versus tracking changes over time. As such, longitudinal studies following UASC students across years would better examine how various socio-ecological factors and socio-interactional processes influence their educational resilience. In this dissertation, I attempted to offset the limitations of any single study by triangulating their findings. Nevertheless, the lack of generalizability and cross-sectional designs fundamentally constrain the conclusions that can be

drawn. Prioritizing more representative sampling and longitudinal research is critical to substantiating the factors that enable or hinder the educational resilience of UASCs globally.

The use of a convergent parallel mixed-methods design had its methodological limitations as well. Conducting a convergent parallel mixed-methods study was complex and challenging due to the nature of implementing multiple methods concurrently. The logistics of coordinating data collection for three studies, managing different data sources, and ensuring consistency across methods required significant time, effort, and resources. These challenges were particularly exacerbated by the COVID-19 pandemic, which began in the first year of this doctoral research project and only stabilized by the third year. Nevertheless, I was able to overcome many of these challenges by adopting necessary project management techniques and continuing to document the process throughout the doctoral research project timeline. I also occupied the lockdown time with needed review of the conceptual, theoretical, and epistemological literature, methodological training and skill development in quantitative, qualitative, and mixed-methods analyses, and building trust with stakeholders in Jordan and Greece. Despite the methodological complexities and challenges, including those intensified by the COVID-19 pandemic, I was able to successfully manage and complete a convergent parallel mixed-methods project in four years through effective time and project management, continued literature review, regular methodological training, and dedicated stakeholder engagement.

6.7 Implications on Research

In this section, I triangulated the three studies in order to reveal research implications for the study of the educational resilience of UASCs and for the broader field of resilience research.

6.7.1 The Systematic Review

The systematic review carries significant research implications both for the study of the educational trajectories of UASCs and for the broader field of resilience research. First, little is known about the long-term educational development of UASC students after resettlement in high-income countries. As such, there is a need for longitudinal studies on the link between UASC

students' educational outcomes and various non-educational outcomes (such as physical health, mental health, immigration, and employment) to assess in aggregate their level of risk and resilience (Feinstein et al., 2021). Second, it is unclear from the eligible studies whether their findings are particular to the condition of being UASC students or just a condition of being refugees. Methodological approaches such as quantitative experimental and quasi-experimental designs, qualitative comparative analysis, and case-selective designs that examine the educational trajectories of UASC and non-UASC students could address this issue. Third, the review emphasizes the important role of the microsystem and mesosystem for UASC students. Future research can explore microsystem and mesosystem contexts more deeply and how they affect the educational experiences and outcomes of UASC students. Lastly, there are opportunities for future meta-analyses to investigate the relationship between one resilience or risk factor and one or more educational outcomes and for future meta-syntheses exploring how particular socio-ecological domains can affect the educational experiences of UASC students. To address the gaps in knowledge about the educational resilience of UASCs, a comprehensive approach is needed. This involves combining research, policy, and practice to understand the various factors and processes that influence the educational resilience of UASCs. With concerted effort, the gaps can be filled to create an inclusive evidence base that informs responsive and ethical policies, ensuring that the educational rights of children with refugee and forced migrant backgrounds worldwide are upheld. More research is needed to gain a complete understanding of the challenges faced by UASCs when trying to access education. Providing holistic support services can help mitigate risks and encourage resilience.

6.7.2 The Jordan Study

The Jordan study carries significant research implications both for the study of the educational outcomes of UASCs and for the broader field of resilience research. With regards to the study of UASCs' education, resilience factors and processes provide valuable insights into the potential determinants that contribute to positive educational outcomes in the face of risk and

adversity associated with being UASC. Future research can build upon the study's findings to further explore additional variables (e.g., at the home-level or at the community-level) that may influence UASCs' educational outcomes and investigate the promotive and protective processes through which these factors operate. With regards to the field of resilience research, the identification of promotive and protective factors in the educational context of UASCs adds to the growing body of knowledge on resilience processes (Aleghfeli, 2021; Feinstein et al., 2021; Luthar et al., 2006; Sameroff, 2006). By examining how various socio-ecological factors interact and influence UASCs' educational achievement, researchers can shed light on the socio-interactional processes that foster resilience in children of refugee and forced migrant backgrounds. Researchers can also highlight the importance of contextual factors, adaptive strategies, and social support systems for UASCs' educational journeys through qualitative and ethnographic studies in line with calls for further research centering voices and perspectives of UASCs (Taha & Anabtawi, 2024). Lastly, but equally important, the study reaffirmed the benefits arising from making available and open-access data that furthers understanding of the needs and circumstances of UASCs and other children with refugee and forced migrant backgrounds. Researchers, as well as practitioners and policymakers, can respond to prior calls to action by UNICEF, UNHCR, IOM, Eurostat, and OECD (2018) that call for addressing alarming holes in the availability, reliability, timeliness, and accessibility of data and evidence on children with refugee and forced migrant backgrounds by investing in data systems and quantitative research that center the rights and protection of children on the move. Generating accurate and comprehensive data and making it available for open access will enhance understanding of the needs and circumstances of children with refugee and forced migrant backgrounds and contribute to safeguarding their access to rights and protection.

6.7.3 The Greece Study

The Greece study carries significant research implications both for the study of the educational experiences of UASCs and for the broader field of resilience research. First, the

differences in CYRM-R scores and CYRM-R items between UASCs and non-UASCs highlight the specific challenges faced by UASCs in achieving educational resilience. For example, the differences in perceptions of caregiver support between UASCs and non-UASCs revealed through examining their CYRM-R item responses underscore the importance of understanding the caregiver-child relationship as a crucial aspect of educational resilience for UASCs. This aligns with prior research that found that the new home environment continues to play an important role in influencing the educational trajectories of UASCs despite family separation (Aleghfeli, 2023; Aleghfeli & Hunt, 2022). Further large-sample qualitative or mixed-methods research is needed to explore how 'home'-related factors contribute to positive educational experiences of UASCs, specifically investigating the dynamics of caregiver, guardian, social worker, and accommodation support in the lives of UASCs and how it impacts their educational experiences and outcomes. Moreover, the identification of shared and unique resilience factors between UASCs and non-UASCs provides valuable insights into the common factors that promote educational resilience among both groups, as well as the specific resources and support systems they each need to address their distinct needs. This highlights the significance of integrating a nuanced approach to resilience research, recognizing the diversity of factors influencing educational resilience in children of refugee and forced migrant backgrounds. By identifying specific resilience factors unique to UASCs, the study expands knowledge on how UASCs develop and exhibit resilience, shedding light on the navigation and negotiation processes that foster educational resilience (Ungar, 2008). Overall, this study advances the understanding of educational resilience among UASCs and highlights the importance of considering their unique experiences, needs, and circumstances. It also enriches the broader field of resilience research by providing valuable insights into the complexities of resilience among children of refugee and forced migrant backgrounds, guiding future research aimed at empowering vulnerable children and youth to recognize their own resilience potential.

6.7.4 Synthesis

The three studies highlight several important implications for future research on the educational experiences and outcomes of UASCs. First, all three studies emphasize the need for more longitudinal research to understand the long-term educational trajectories and outcomes of UASCs and how these relate to other non-educational factors like health, employment, and immigration status. Second, the studies call for research using robust methodologies like experimental designs or comparative case studies to elucidate whether findings relate specifically to the condition of being a UASC versus a refugee more broadly. Third, the studies underscore the need to explore microsystem and mesosystem factors more deeply to understand how they shape UASCs' educational journeys, including their home environment, relationships with caregivers and guardians, and community-level influences. Fourth, the Jordan study highlights the need for research on additional protective and promotive factors at various socioecological levels and their mechanisms in building UASCs' educational resilience. Lastly, the Greece study emphasizes investigating differences in educational resilience between UASCs and non-UASCs to identify shared and unique factors, shedding light on UASCs' distinct experiences and resilience strategies. Finally, all three studies affirm the need for more large-scale mixed-methods research centered on UASCs' perspectives and for open-access datasets to address gaps in knowledge and uphold their rights.

Additionally, the finding that educational resilience among UASCs is influenced by a combination of intermental and intramental activities has significant implications for research in this field. First, this finding highlights the importance of considering socio-ecological factors and socio-interactional processes when studying educational resilience in UASCs. Understanding the interrelationships between these factors and processes is crucial for developing a comprehensive understanding of educational resilience in UASCs. Future research should adopt a holistic approach that examines both the socio-ecological factors and the socio-interactional processes of UASCs to gain a deeper understanding of how these factors interact and influence educational

outcomes. Second, this finding suggests the need for longitudinal and ethnographic research designs. Educational resilience is a dynamic process that evolves over time and is influenced by a range of factors that may change and interact with each other. Therefore, studying educational resilience among UASCs requires longitudinal and ethnographic research designs that explain the phenomenon of educational resilience and the complex interactions between intermental and intramental activities. Second, this finding emphasizes the need for interdisciplinary research collaborations. Understanding educational resilience among UASCs necessitates expertise from various disciplines, including education, social work, and refugee studies. Collaborative research efforts can integrate different perspectives and methodologies, leading to a more comprehensive understanding of the complex factors that influence educational resilience.

In conclusion, key implications are the need for longitudinal research, comparative studies, exploring micro-meso system influences, protective and promotive factors and mechanisms, differences between UASCs and non-UASCs, mixed-methods research focused on UASCs' voices, and open access datasets. A holistic, nuanced, youth-centered approach can build knowledge about UASCs' educational resilience. By considering these implications, researchers can advance their understanding of educational resilience in UASCs and contribute to the development of effective interventions and policies that support their educational journeys.

6.8 Implications on Policy and Practice

In this section, I triangulated the three studies in order to reveal implications for educational and social care policy and practice for UASCs.

6.8.1 The Systematic Review

The systematic review has important implications for educational and social care policy and practice for UASCs. The review reveals with very high confidence that harmful asylum policies are linked to negative educational experiences and outcomes. As such, the review makes various recommendations for immigration policies impacting UASC students. First, the review highlights that it is important to ensure educational access for UASC students whose asylum applications

are pending. The evidence revealed that having access to education in the host country forcibly disrupted while their immigration status was still pending could strongly impact their self-esteem and motivation for education. Such institutional responses to UASC students can impact their reengagement with their continued learning (Hunt, 2021). Second, the review reaffirms that avoidance of immigration detention is necessary for ensuring that educational experiences do not become negative, echoing findings from other reviews revealing how detention can negatively impact mental health outcomes (Mitra & Hodes, 2019). Third, the review emphasizes that it is important to prioritize family reunification policies for refugees and migrants. The review reported extensive evidence on the importance of both the physical and psychological presence of parents in the lives of UASC students, echoing findings and policy implications reported by other reviews (Fazel et al., 2012). The review findings also have various implications for practitioners supporting the education of UASC students. First, the findings report evidence on the unique vulnerability of sub-groups of UASC students; namely, young mothers, minors who experienced immigration detention, and minors whose immigration statuses are unknown or pending. Such evidence calls for the development and elaboration of specialized interventions and programs for these subgroups that address their unique needs and circumstances and support them in their educational trajectories. Second, the findings identified several quantitative studies that found positive associations between effective delivery of various children and youth services (such as foster care, social work, teaching and instruction, and refugee and migrant services) and UASC students' educational outcomes. Finally, the review identified cross-contextual qualitative evidence on what is perceived to be quality foster care, quality residential care, and quality teaching from the perspective of UASC students, their foster caregivers, their social workers, and their teachers. Such evidence reaffirms the importance of considering the voice of UASC students in understanding what it means to be educationally resilient (Chase, 2010; Kohli, 2006).

6.8.2 The Jordan Study

The Jordan study has important implications for educational and social care policy and practice, not only in Jordan but also in other countries with significant populations of UASCs. Understanding the promotive and protective processes that underlie socio-ecological factors' support of UASCs' educational resilience offers policymakers and practitioners needed information to develop targeted interventions and support systems and elaborate existing ones. However, when trying to exact practice and policy implications, the mere identification of promotive and protective processes is not enough. It is also important to distinguish whether a socio-ecological factor functions as a fixed marker or a variable factor. A fixed marker is a factor that precedes the educational outcome and remains fixed regardless of intervention, while a variable factor is a factor that precedes the educational outcome but may be changed or manipulated to affect the outcome (Kraemer et al., 1997). In applying this distinction to the study, student-level factors such as gender and economic, social, and cultural status can be characteristics that precede the educational outcome and may require substantial structural input to change. Conversely, teacher-level factors, such as class disciplinary climate, teacher-student relations, and teacher use of structuring and scaffolding strategies, and school-level factors, such as school use of ability grouping and school academic selectivity, are variable factors that can be improved on to potentially affect the educational outcome of UASCs. In the context of Jordan, practitioners can use knowledge about variable factors to inform the design of new educational and school-based interventions and programming targeting UASCs. For example, teachers can employ instructional strategies that improve class disciplinary climate, teacher-student relations, and teacher use of structuring and scaffolding strategies, while school leaders such as principals can improve school use of ability grouping and school academic selectivity. In contexts beyond Jordan, countries that have equally large populations of refugees and forced migrants can draw upon these findings to elaborate on their existing educational and school-based interventions and programming that target UASCs. By gaining this understanding of resilience factors and

incorporating it into educational and social care policies, policymakers can create inclusive environments that foster UASCs' educational resilience and ensure a resilient and responsive education system in Jordan (UNESCO & Jordan Ministry of Education, 2023).

6.8.3 The Greece Study

The Greece study has important implications for educational and social care policy and practice, not only in Greece but also in other countries with significant populations of UASCs. The study's focus on UASCs in Greece provides context-specific and transferable insights, contributing to understanding the unique challenges faced by UASC students in the Greek educational system as well as providing a framework to comprehend educational resilience in UASCs in other contexts. By recognizing and addressing the distinct experiences, needs, and circumstances of UASCs and non-UASCs, policies and practices can create a supportive and nurturing environment that promotes their educational resilience. As mentioned earlier, the study's identification of differences in perceptions of caregiver support between UASCs and non-UASCs underscores the importance of strengthening caregiver-child relationships in promoting educational resilience among UASCs. Moreover, the identification of shared and unique resilience factors between UASCs and non-UASCs highlights the need for comprehensive and integrated approaches to support the educational resilience of each group. Social workers in Greece require needed educational support training to enable them to act as important advocates for education for UASCs by encouraging them to pursue education and ensuring their access to formal schooling and non-formal educational opportunities. Such trainings can be grounded in a cultural preparedness approach of aspiration and engagement (Arulmani, 2019). Teachers in the formal and non-formal educational sectors in Greece must also be trained on how to deploy instructional practices such as preparing coursework summaries and lesson plans that can aid UASCs and other students of refugee and forced migrant backgrounds with their learning challenges, as well as encouraging positive collaboration among classmates so that UASCs and other students of refugee and forced migrant backgrounds are not left behind. The need for such teacher training has been

explored extensively in other studies about refugee educators (McIntyre & Abrams, 2021; Prentice, 2022; Prentice & Ott, 2021). Additionally, social care policies should be improved to ensure that newly arrived UASCs have access to needed support services such as supportive social workers and financial assistance. Lastly, policymakers and practitioners should exchange knowledge and collaborate to design contextually appropriate interventions that build on shared resilience factors while addressing the unique challenges faced by UASCs and non-UASCs.

6.8.4 Synthesis

The three studies highlight several consistent and complementary implications for policy and practice to support the educational resilience and outcomes of UASCs. First, all three studies emphasize the need for immigration and asylum policies that facilitate UASCs' continued access to education, avoid detention, and enable family reunification. Second, the studies consistently indicate that quality social care and educational support services are critical for UASCs' education, including specialized services tailored to vulnerable subgroups of UASCs. Third, the studies highlight the importance of high-quality teaching, caring teacher-student relationships, and positive school environments for UASCs' educational resilience. While calling for inclusive, holistic educational policies for all refugee and migrant students, the Greece study specifically underscores the need to address the distinct experiences and needs of UASCs compared to other groups. The Jordan study provides complementary insights by delineating specific school-level practices (e.g., ability grouping) and teacher-level practices (e.g., scaffolding strategies) that can be leveraged to support UASCs. The qualitative evidence from the first study further contextualizes the importance of UASCs' perspectives in developing responsive, resilience-oriented educational systems. Together, the three studies provide multifaceted implications, justifying the call for improved asylum and immigration policies that facilitate access to education, specialized and holistic social care and educational services, supportive school environments and teacher practices, and ongoing integration of UASCs' perspectives. Such

evidence reaffirms the importance of considering the voice of UASCs in understanding what it means to be educationally resilient (Chase, 2010; Kohli, 2006).

The finding that educational resilience among UASCs is influenced by a combination of intermental and intramental activities has important implications for policy and practice as well. This finding underscores the importance of creating supportive environments and strengthening social connections for UASCs. Intermental activities, such as supportive interactions at the 'home' (e.g., with guardians, social workers), at school (e.g., with classmates, teachers), and at the community (e.g., with friends, society at large), play a significant role in fostering educational resilience. Policies should prioritize initiatives that promote inclusive and supportive school environments where UASCs feel safe, valued, and included. This can involve providing training and resources for teachers and school staff to enhance their understanding of the specific needs and challenges faced by UASCs. Additionally, policies should promote opportunities for UASCs to engage in meaningful social interactions and build supportive relationships within and beyond the school context through mentorship programs, peer support networks, and community engagement initiatives. The finding also highlights the importance of promoting key intramental skills and qualities, such as developing their capacity to self-motivate and set goals, strengthening their language learning and academic aptitude, and supporting them in progressively internalizing social and cultural knowledge about the new environment. Access to contextual factors that encourage intermental activities, such as 'home', school, and community supports, can play a crucial role in enabling UASCs to gain intramental skills and qualities. Furthermore, policymakers and practitioners could adopt integrated approaches that consider the interplay between intermental and intramental activities, as well as the broader socio-ecological and socio-interactional context. This can involve interagency collaboration, involving education, social care services, and immigration authorities, to ensure coordinated support for UASCs throughout their educational journey. By incorporating these implications into policies and practices, stakeholders

can better support the educational needs of UASCs, promote their educational resilience, and facilitate their successful educational integration.

6.9 Conclusion

This discussion chapter synthesized insights gained across the three studies in my dissertation using diverse triangulation techniques and a critical realist lens for the immediate objective of gaining insights about how socio-interactional processes influence the educational resilience of UASCs. Additionally, the larger objective of this chapter was to answer my dissertation research questions about the socio-ecological factors and socio-interactional processes contributing to the educational resilience of UASCs. By triangulating the studies, salient factors were identified at the individual, 'home', school, and community levels that influence UASCs' educational resilience. The studies also highlighted how these socio-ecological factors interacted through promotive, protective, navigation, and negotiation processes to shape positive educational outcomes and experiences. Specifically, the dissertation reveals that educational resilience among UASCs can be conceptualized as a combination of intermental activities (between the UASC and their environment) and intramental activities (within the UASC), where having supportive relationships at home, school, and community facilitates UASCs to transition over time from their zone of proximal resilience development to their level of actual resilience development, gaining the capacity for motivation, goal-setting, language development, and acculturation. Key implications for future research include the need for more longitudinal and ethnographic studies that investigate microsystemic and mesosystemic influences on the educational resilience of UASCs. Policymakers and practitioners must also prioritize facilitating access to education through kinder and more just immigration policies, providing specialized and holistic social services, and creating positive school environments and teacher support. Finally, the findings from this dissertation reaffirm the importance of considering the voice of UASCs in understanding what it means to be educationally resilient (Chase, 2010; Kohli, 2006).

BIBLIOGRAPHY

Abdul-Hamid, H., Patrinos, H. A., Reyes, J., Kelcey, J., & Varela, A. D. (2016). *Learning in the Face of Adversity: The UNRWA Education Program for Palestine Refugees*. The World Bank. https://doi.org/10.1596/978-1-4648-0706-0

Abunimah, A., & Blower, S. (2010). The circumstances and needs of separated children seeking Asylum in Ireland. *Child Care in Practice*, *16*(2), 129–146. https://doi.org/10.1080/13575270903482799

Ager, A., & Strang, A. (2008). Understanding Integration: A Conceptual Framework. *Journal of Refugee Studies*, *21*(2), 166–191. https://doi.org/10.1093/jrs/fen016

Aleghfeli, Y. K. (2021). Conceptualizing Educational Resilience during the COVID-19 Pandemic. *Indian Journal of Career and Livelihood Planning*, *10*(1), 35–45.

Aleghfeli, Y. K. (2023). Examining socio-ecological factors contributing to the promotion and protection of education for unaccompanied and separated children in Jordan. *Children and Youth Services Review*, *155*, 107182. https://doi.org/10.1016/j.childyouth.2023.107182

Aleghfeli, Y. K. (2024). Inclusive Teaching and Learning Practices That Promote and Protect Reading and Science Literacy for Palestinian Children. *Education Sciences, 14*(11), 1145. https://doi.org/10.3390/educsci14111145

Aleghfeli, Y. K., & Hunt, L. (2021). *Protocol for a systematic mixed-methods review of risk and resilience factors for the education of unaccompanied refugee minors in high-income countries*. International Database of Education Systematic Reviews. https://idesr.org/article/IDESR000002

Aleghfeli, Y. K., & Hunt, L. (2022). Education of unaccompanied refugee minors in high-income countries: Risk and resilience factors. *Educational Research Review*, *35*, 100433. https://doi.org/10.1016/j.edurev.2022.100433

Aleghfeli, Y. K., Hunt, L., McIntyre, J., & Stone, C. (2023). *Gendered experiences of refugee education in Europe: A scoping review protocol*. https://doi.org/10.17639/NOTT.7306

Aleghfeli, Y. K., McIntyre, J., Hunt, L., & Stone, C. (2023). *The Hub for Education for Refugees in Europe Knowledge Base: Technical Report and Framework*. https://doi.org/10.17639/NOTT.7307

Aleghfeli, Y. K., McIntyre, J., Hunt, L., & Stone, C. (2024). Safety, Belonging and Success in Education for Refugees in Europe: A Systematic Review. *European Journal of Education*, e12852. https://doi.org/10.1111/ejed.12852

Aleghfeli, Y. K., & Nag, S. (2024). Exploring socio-ecological factors that support the navigation and negotiation of education by unaccompanied and separated children in Greece. *Compare: A Journal of Comparative and International Education*, 1–19. https://doi.org/10.1080/03057925.2024.2393112

Allison, P. (2002). *Missing Data*. SAGE Publications, Inc. https://doi.org/10.4135/9781412985079

AlMakhamreh, S. S., & Hutchinson, A. J. (2018). Unaccompanied and Separated Syrian Refugee Children: Case Study of a New Feature for Social Work Practice in Jordan. *Refugee Survey Quarterly*, *37*(3), 353–377. https://doi.org/10.1093/rsq/hdy009

Amnesty International (2024). *'You Feel Like You Are Subhuman': Israel's Genocide Against Palestinians in Gaza*. https://www.amnesty.org/en/documents/mde15/8668/2024/en/

Application of the Convention on the Prevention and Punishment of the Crime of Genocide in the Gaza Strip (South Africa v. Israel), Order of 26 January 2024 ICJ General List No. 192 (International Court of Justice 2024). https://www.icj-cij.org/case/192

Arulmani, G. (2019). The cultural preparedness model of aspiration and engagement: Understanding the dynamics of integration. *British Journal of Guidance & Counselling*, *47*(1), 20–34. https://doi.org/10.1080/03069885.2018.1513284

Arvanitis, E. (2020). Refugee Youth Educational Trajectories. *The International Journal of Diversity in Education*, *20*(2), 11–23. https://doi.org/10.18848/2327-0020/CGP/v20i02/11-23

Attia, M., & Edge, J. (2017). Be(com)ing a reflexive researcher: A developmental approach to research methodology. *Open Review of Educational Research*, *4*(1), 33–45. https://doi.org/10.1080/23265507.2017.1300068

Auger-Voyer, V., Montero-Sieburth, M., & Perez, L. C. (2014). Chasing the European dream: Unaccompanied African youths' educational experience in a Canary Islands' reception centre and beyond. *Education Policy Analysis Archives*, *22*(76). https://doi.org/10.14507/epaa.v22n76.2014

Ayorinde, A. A., Williams, I., Mannion, R., Song, F., Skrybant, M., Lilford, R. J., & Chen, Y.-F. (2020). Assessment of publication bias and outcome reporting bias in systematic reviews of health services and delivery research: A meta-epidemiological study. *PLOS ONE*, *15*(1), e0227580. https://doi.org/10.1371/journal.pone.0227580

Aytar, O., & Brunnberg, E. (2016). Empowering unaccompanied children in everyday life in a new country: A resilience support centre in Sweden evaluated from the perspective of programme theory. *Revista de Asistenţă Socială*, *XV*(2), 35–56.

Bailey, P., Lee, M., Nguyen, T., & Zhang, T. (2020). Using EdSurvey to Analyse PIAAC Data. In D. B. Maehler & B. Rammstedt (Eds.), *Large-Scale Cognitive Assessment: Analyzing PIAAC Data* (pp. 209–237). Springer. https://doi.org/10.1007/978-3-030-47515-4_9

Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research. Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Bashir, B., & Goldberg, A. (2018). *The Holocaust and the Nakba: A New Grammar of Trauma and History*. Columbia University Press.

Bean, T. M., Derluyn, I., Eurelings-Bontekoe, E., Broekaert, E., & Spinhoven, P. (2007). Comparing psychological distress, traumatic stress reactions, and experiences of unaccompanied refugee minors with experiences of adolescents accompanied by parents. *Journal of Nervous and Mental Disease*, *195*(4), 288–297.

Bell, A., Ward, P., Tamal, M. E. H., & Killilea, M. (2019). Assessing recall bias and measurement error in high-frequency social data collection for human-environment research. *Population and Environment*, *40*(3), 325–345. https://doi.org/10.1007/s11111-019-0314-1

Bhabha, J. (1999). Not adults in miniature: Unaccompanied child asylum seekers and the new U.S. guidelines. *International Journal of Refugee Law*, *11*(1), 84–125. https://doi.org/10.1093/ijrl/11.1.84

Bhabha, J. (2014). Child migration and human rights in a global age. In *Child Migration and Human Rights in a Global Age*. Princeton University Press. https://doi.org/10.20889/12590

Bhaskar, R. (1975). *A Realist Theory of Science*. Leeds Books.

Bhaskar, R. (1989). *Reclaiming Reality: A Critical Introduction to Contemporary Philosophy*. Verso.

Biernacki, P., & Waldorf, D. (1981). Snowball Sampling: Problems and Techniques of Chain Referral Sampling. *Sociological Methods & Research*, *10*(2), 141–163. https://doi.org/10.1177/004912418101000205

Bitzi, B., & Landolt, S. (2017). Unaccompanied minor asylum seekers-processes of subject formation and feelings of belonging in the context of educational experiences in Switzerland. *Geographica Helvetica*, *72*, 217–226. https://doi.org/10.5194/gh-72-217-2017

Björkenstam, E., Helgesson, M., Norredam, M., Sijbrandij, M., de Montgomery, C. J., & Mittendorfer-Rutz, E. (2020). Common mental disorders among young refugees in Sweden: The role of education and duration of residency. *Journal of Affective Disorders*, *270*, 563–571. https://doi.org/10.1016/j.jad.2020.02.015

Blaikie, N. (2007). *Approaches to social enquiry: Advancing knowledge* (2nd edition). Polity.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*(7), 513–531. https://doi.org/10.1037/0003-066x.32.7.513

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, *22*(6), 723–742. https://doi.org/10.1037/0012-1649.22.6.723

Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-Nurture Reconceptualized in Developmental Perspective: A Bioecological Model. *Psychological Review*, *101*(4), 568–586. https://doi.org/10.1037/0033-295X.101.4.568

Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Theoretical models of human development* (5th ed., pp. 993–1028). John Wiley & Sons Inc.

Bronfenbrenner, U., & Morris, P. A. (2007). The Bioecological Model of Human Development. In R. M. Lerner & W. Damon (Eds.), *Handbook of Child Psychology* (pp. 793–828). John Wiley & Sons, Inc. https://doi.org/10.1002/9780470147658.chpsy0114

Bronstein, I., Montgomery, P., & Dobrowolski, S. (2012). PTSD in Asylum-Seeking Male Adolescents From Afghanistan. *Journal of Traumatic Stress*, *25*, 551–557. https://doi.org/10.1002/jts.21740

Bronstein, I., Montgomery, P., & Ott, E. (2013). Emotional and behavioural problems amongst Afghan unaccompanied asylum-seeking children: Results from a large-scale cross-sectional study. *European Child & Adolescent Psychiatry*, *22*(5), 285–294. https://doi.org/10.1007/s00787-012-0344-z

Campbell, D. T., Stanley, J. C., & Gage, N. L. (1963). *Experimental and quasi-experimental designs for research*. Houghton, Mifflin and Company.

Caro, D. H., & Biecek, P. (2017). intsvy: An R Package for Analyzing International Large-Scale Assessment Data. *Journal of Statistical Software*, *81*(7), 1–44. https://doi.org/10.18637/jss.v081.i07

Catani, C., Jacob, N., Schauer, E., Kohila, M., & Neuner, F. (2008). Family violence, war, and natural disasters: A study of the effect of extreme stress on children's mental health in Sri Lanka. *BMC Psychiatry*, *8*, 33. https://doi.org/10.1186/1471-244X-8-33

Çelikaksoy, A., & Wadensjö, E. (2019). Refugee Youth Who Arrived in Sweden as Unaccompanied Minors and Separated Children: Education and Labour Market Well-being. *Nordic Journal of Migration Research*, *9*(2), 179–200. https://doi.org/10.2478/njmr-2019-0020

Chandler, H., Boothby, N., McNatt, Z., Berrigan, M., Zebib, L., Freels, P. E., Alshannaq, H., Majdalani, N., Mahmoud, A., & Majd, E. (2020). Causes of family separation and barriers to reunification: Syrian refugees in Jordan. *Journal of Refugee Studies*, *33*(2), 371–389. https://doi.org/10.1093/jrs/feaa033

Chase, E. (2010). Agency and Silence: Young People Seeking Asylum Alone in the UK. *British Journal of Social Work*, *40*(7), 2050–2068. https://doi.org/10.1093/bjsw/bcp103

Cicchetti, D. (2010). Resilience under conditions of extreme stress: A multilevel perspective. *World Psychiatry*, *9*(1), 145–154. https://doi.org/10.1002/j.2051-5545.2010.tb00297.x

Cicchetti, D., Rappaport, J., Sandler, I., & Weissberg, R. P. (Eds.). (2000). *The promotion of wellness in children and adolescents*. Child Welfare League of America.

Cochran, W. G. (1977). *Sampling Techniques* (3rd Editio). John Wiley & Sons.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2002). *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences* (3rd ed.). Routledge. https://doi.org/10.4324/9780203774441

Crea, T. M., Hasson, R. G., Evans, K., Cardoso, J. B., & Underwood, D. (2018). Moving forward: Educational outcomes for Unaccompanied Refugee Minors (URM) exiting foster care in the United States. *Journal of Refugee Studies*, *31*(2). https://doi.org/10.1093/jrs/fex020

Creswell, J. W., & Creswell, J. D. (2022). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (6th ed.). SAGE Publications.

Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and Conducting Mixed Methods Research* (3rd ed.). SAGE Publications.

Critical Appraisal Skills Programme. (2022). *CASP Checklists*. https://casp-uk.net/casp-tools-checklists/

Cronbach, L. J. (1949). *Essentials of Psychological Testing*. Harper.

Denzin, N. K. (2017). *The Research Act: A Theoretical Introduction to Sociological Methods* (1st ed.). Routledge. https://doi.org/10.4324/9781315134543

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). *The SAGE handbook of qualitative research* (Fifth edition). SAGE.

Derluyn, I., & Broekaert, E. (2008). Unaccompanied refugee children and adolescents: The glaring contrast between a legal and a psychological perspective. *International Journal of Law and Psychiatry*, *31*(4), 319–330. https://doi.org/10.1016/j.ijlp.2008.06.006

Derluyn, I., Mels, C., & Broekaert, E. (2009). Mental Health Problems in Separated Refugee Adolescents. *Journal of Adolescent Health*, *44*(3), 291–297. https://doi.org/10.1016/j.jadohealth.2008.07.016

Doggett, C. (2012). *A Narrative Study of the Resilience and Coping of Unaccompanied Asylum-Seeking Children and Young People (UASC) Arriving in a Rural Local Authority (LA)* [PhD Thesis, Doctoral dissertation, University of Birmingham]. https://etheses.bham.ac.uk/id/eprint/3923/

Durkheim, É. (1982). *The Rules of Sociological Method* (S. Lukes, Ed.; W. D. Halls, Trans.). Macmillan Education UK. https://doi.org/10.1007/978-1-349-16939-9

Ellis, B. J., Bianchi, J. M., Griskevicius, V., & Frankenhuis, W. E. (2017). Beyond Risk and Protective Factors: An Adaptation-Based Approach to Resilience. *Perspectives on Psychological Science*, *12*(4), 561–587. https://doi.org/10.1177/1745691617693054

Enders, C. K. (2003). Using the Expectation Maximization Algorithm to Estimate Coefficient Alpha for Scales With Item-Level Missing Data. *Psychological Methods*, *8*(3), 322–337. https://doi.org/10.1037/1082-989X.8.3.322

European Statistical Office. (2024). *Asylum applicants considered to be unaccompanied minors by citizenship, age and sex—Annual data*. https://ec.europa.eu/eurostat/databrowser/bookmark/2d243686-c630-4d78-9a2e-159327d5bb83

Evans, K., Pardue-Kim, M., Crea, T. M., Coleman, L., Diebold, K., & Underwood, D. (2018). Outcomes for Youth Served by the Unaccompanied Refugee Minor Foster Care Program: A Pilot Study. *Child Welfare*, *96*(6), 87–106.

Farmbrough, J. (2014). *Factors that contribute to the emotional wellbeing, educational success and social connectedness of those arriving in one local authority as unaccompanied*

asylum seeking children [PhD Thesis, Doctoral dissertation, University of Birmingham]. https://etheses.bham.ac.uk/id/eprint/5057/

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*(2), 175–191. https://doi.org/10.3758/BF03193146

Fazel, M., Reed, R. V., Panter-Brick, C., & Stein, A. (2012). Mental health of displaced and refugee children resettled in high-income countries: Risk and protective factors. *The Lancet*, *379*(9812), 250–265. https://doi.org/10.1016/S0140-6736(11)60051-2

Feinstein, L., Aleghfeli, Y. K., Buckley, C., Gilhooly, R., & Kohli, R. K. S. (2021). Conceptualising and measuring levels of risk by immigration status for children in the UK. *Contemporary Social Science*, *16*(5), 538–555. https://doi.org/10.1080/21582041.2021.2007279

Feinstein, L., Duckworth, K., & Sabates, R. (2008). *Education and the Family: Passing Success Across the Generations*. Routledge.

Finfgeld-Connett, D. (2010). Generalizability and transferability of meta-synthesis research findings. *Journal of Advanced Nursing*, *66*(2), 246–254. https://doi.org/10.1111/j.1365-2648.2009.05250.x

Fisher, R. A. (1925). *Statistical methods for research workers*. Oliver and Boyd.

Fisher, R. A. (1935). The Logic of Inductive Inference. *Journal of the Royal Statistical Society*, *98*(1), 39. https://doi.org/10.2307/2342435

Frantzen, K. K., & Fetters, M. D. (2016). Meta-integration for synthesizing data in a systematic mixed studies review: Insights from research on autism spectrum disorder. *Quality and Quantity*, *50*(5), 2251–2277. https://doi.org/10.1007/s11135-015-0261-6

Freeman, G. H., & Halton, J. H. (1951). Note on an Exact Treatment of Contingency, Goodness of Fit and Other Problems of Significance. *Biometrika*, *38*(1/2), 141. https://doi.org/10.2307/2332323

Garmezy, N., Masten, A. S., & Tellegen, A. (1984). The Study of Stress and Competence in Children: A Building Block for Developmental Psychopathology. *Child Development*, *55*(1), 97–111. https://doi.org/10.2307/1129837

Gartlehner, G., Affengruber, L., Titscher, V., Noel-Storr, A., Dooley, G., Ballarini, N., & König, F. (2020). Single-reviewer abstract screening missed 13 percent of relevant studies: A crowd-based, randomized controlled trial. *Journal of Clinical Epidemiology*, *121*, 20–28. https://doi.org/10.1016/j.jclinepi.2020.01.005

Geltman, P. L., Grant-Knight, W., Mehta, S. D., Lloyd-Travaglini, C., Lustig, S., Landgraf, J. M., & Wise, P. H. (2005). The "Lost Boys of Sudan": Functional and Behavioral Health of Unaccompanied Refugee Minors Resettled in the United States. *Archives of Pediatrics & Adolescent Medicine*, *159*(6), 585. https://doi.org/10.1001/archpedi.159.6.585

Ghaeminia, S., Ghorashi, H., & Crul, M. (2017). Grootse dromen, uitgekomen? Ansen en obstakels in de schoolloopbaan van alleenstaande minderjarige asielzoekers [Big dreams, did they come true? Opportunities and obstacles in the school trajectories of unaccompanied refugee minors]. *Mens En Maatschappij*, *92*(4), 421–445. https://doi.org/10.5117/MEM2017.4.GHAE

Gkaintartzi, A., Gkountani, G., Kamaretsou, A., Kokkini, C., Sakellaridi, K., & Sireti, A. (2020). Understanding the "Voices" of Children of Immigrant and Refugee Backgrounds. *The International Journal of Diversity in Education*, *20*(2), 37–55. https://doi.org/10.18848/2327-0020/CGP/v20i02/37-55

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine.

Goodwin-Gill, G. S., & McAdam, J. (2007). The Refugee in International Law. In *The Refugee in International Law* (3rd ed.). Oxford University Press.

Greene, J. C. (2007). *Mixed methods in social inquiry* (1st ed). Jossey-Bass.

Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Sage Publications.

Hart, A., Gagnon, E., Eryigit-Madzwamuse, S., Cameron, J., Aranda, K., Rathbone, A., & Heaver, B. (2016). Uniting Resilience Research and Practice With an Inequalities Approach. *SAGE Open*, *6*(4). https://doi.org/10.1177/2158244016682477

Hesse-Biber, S. N., Rodriguez, D., & Frost, N. A. (2015). *A Qualitatively Driven Approach to Multimethod and Mixed Methods Research* (S. N. Hesse-Biber & R. B. Johnson, Eds.). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199933624.013.3

Hjern, A., Angel, B., & Jeppson, O. (1998). Political violence, family stress and mental health of refugee children in exile. *Scandinavian Journal of Social Medicine*, *26*(1), 18–25. https://doi.org/10.1177/14034948980260010701

Hodes, M., Jagdev, D., Chandra, N., & Cunniff, A. (2008). Risk and resilience for psychological distress amongst unaccompanied asylum seeking adolescents. *Journal of Child Psychology and Psychiatry*, *49*(7), 723–732. https://doi.org/10.1111/j.1469-7610.2008.01912.x

Höhne, E., van der Meer, A. S., Kamp-Becker, I., & Christiansen, H. (2020). A systematic review of risk and protective factors of mental health in unaccompanied minor refugees. *European Child and Adolescent Psychiatry*. https://doi.org/10.1007/s00787-020-01678-2

Hopfenbeck, T. N., Lenkeit, J., El Masri, Y., Cantrell, K., Ryan, J., & Baird, J. A. (2018). Lessons Learned from PISA: A Systematic Review of Peer-Reviewed Articles on the Programme for International Student Assessment. *Scandinavian Journal of Educational Research*, *62*(3), 333–353. https://doi.org/10.1080/00313831.2016.1258726

Hox, J. J., Moerbeek, M., & Van De Schoot, R. (2017). *Multilevel Analysis: Techniques and Applications* (3rd ed.). Routledge. https://doi.org/10.4324/9781315650982

Human Rights Watch (2024). *Extermination and Acts of Genocide: Israel Deliberately Depriving Palestinians in Gaza of Water*. https://www.hrw.org/report/2024/12/19/extermination-and-acts-genocide/israel-deliberately-depriving-palestinians-gaza

Humphris, R., & Sigona, N. (2019). The Bureaucratic Capture of Child Migrants: Effects of In/visibility on Children On the Move. *Antipode*, *51*(5), 1495–1514. https://doi.org/10.1111/anti.12548

Hunt, L. (2021). Bordered Trajectories: The Impact of Institutional Bordering Practices on Young Refugees' (Re-)Engagement with Post-15 Education in Greece. *Social Sciences*, *10*(11), 421. https://doi.org/10.3390/socsci10110421

Hunt, L., Aleghfeli, Y. K., McIntyre, J., & Stone, C. (2023). Refugees' gendered experiences of education in Europe since 2015: A scoping review. *Review of Education*, *11*(3), e3441. https://doi.org/10.1002/rev3.3441

International Organization for Migration. (2019). *International Migration Law N° 34: Glossary on Migration*. International Migration Organization. https://doi.org/10.1017/CBO9781107415324.004

International Rescue Committee (2024). *Unaccompanied and separated children in Gaza: an executive summary*. https://www.rescue.org/report/unaccompanied-and-separated-children-gaza-executive-summary

Irfan, A. E. (2019). Educating Palestinian Refugees: The Origins of UNRWA's Unique Schooling System. *Journal of Refugee Studies*, *fez051*. https://doi.org/10.1093/jrs/fez051

Jackson, K., & Bazeley, P. (2019). *Qualitative data analysis with NVivo* (3rd edition). SAGE Publications.

Jefferies, P., McGarrigle, L., & Ungar, M. (2019). The CYRM-R: A Rasch-Validated Revision of the Child and Youth Resilience Measure. *Journal of Evidence-Informed Social Work*, 1–24. https://doi.org/10.1080/23761407.2018.1548403

Khalidi, R. (2020). *The Hundred Years' War on Palestine: A History of Settler Colonial Conquest and Resistance*. Profile Books.

Khan, J., Bidart, T., & Todorovska, I. Z. (2019). *Access to Education for Refugee and Migrant Children in Europe*. United Nations High Commissioner for Refugees. https://www.unhcr.org/neu/wp-content/uploads/sites/15/2019/09/Access-to-education-europe-19.pdf

Khatib, R., McKee, M., & Yusuf, S. (2024). Counting the dead in Gaza: Difficult but essential. *The Lancet*, *404*(10449), 237–238. https://doi.org/10.1016/S0140-6736(24)01169-3

Kohli, R. K. S. (2006). The Sound Of Silence: Listening to What Unaccompanied Asylum-seeking Children Say and Do Not Say. *British Journal of Social Work*, *36*(5), 707–721. https://doi.org/10.1093/bjsw/bch305

Kouritzin, S., & Nakagawa, S. (2018). Toward a non-extractive research ethics for transcultural, translingual research: Perspectives from the coloniser and the colonised. *Journal of Multilingual and Multicultural Development*, *39*(8), 675–687. https://doi.org/10.1080/01434632.2018.1427755

Kraemer, H. C., Kazdin, A. E., Offord, D. R., Kessler, R. C., Jensen, P. S., & Kupfer, D. J. (1997). Coming to Terms With the Terms of Risk. *Archives of General Psychiatry*, *54*(4), 337. https://doi.org/10.1001/archpsyc.1997.01830160065009

Krafft, C., Sieverding, M., Berri, N., Keo, C., & Sharpless, M. (2022). Education Interrupted: Enrollment, Attainment, and Dropout of Syrian Refugees in Jordan. *The Journal of Development Studies*, *58*(9), 1874–1892. https://doi.org/10.1080/00220388.2022.2075734

Krueger, R. A., & Casey, M. A. (2015). *Focus groups: A practical guide for applied research* (5th edition). SAGE.

Krumpal, I. (2013). Determinants of social desirability bias in sensitive surveys: A literature review. *Quality and Quantity*, *47*(1), 2025–2047. https://doi.org/10.1007/s11135-011-9640-9

Lee, J. S. (2012). *Unaccompanied refugee minors and their strategies to navigate a new world: A grounded theory* [PhD Thesis, Doctoral dissertation, Virginia Commonwealth University]. https://doi.org/10.25772/NCE6-XP46

Lee, M., Zhang, T., Bailey, P., Buehler, E., Fink, T., Huo, H., Lee, S.-J., Liao, Y., & Sikali, E. (2022). *Analyzing NCES Data Using EdSurvey: A User's Guide*. American Institutes for Research, National Center for Education Statistics. https://naep-research.airprojects.org/Portals/0/EdSurvey_A_Users_Guide/_book/index.html

Lewin, S., Bohren, M., Rashidian, A., Munthe-Kaas, H., Glenton, C., Colvin, C. J., Garside, R., Noyes, J., Booth, A., Tunçalp, Ö., Wainwright, M., Flottorp, S., Tucker, J. D., & Carlsen, B. (2018). Applying GRADE-CERQual to qualitative evidence synthesis findings-paper 2:

How to make an overall CERQual assessment of confidence and create a Summary of Qualitative Findings table. *Implementation Science*, *13*(10). https://doi.org/10.1186/s13012-017-0689-2

Lewin, S., Glenton, C., Munthe-Kaas, H., Carlsen, B., Colvin, C. J., Gülmezoglu, M., Noyes, J., Booth, A., Garside, R., & Rashidian, A. (2015). Using Qualitative Evidence in Decision Making for Health and Social Interventions: An Approach to Assess Confidence in Findings from Qualitative Evidence Syntheses (GRADE-CERQual). *PLoS Medicine*, *12*(10), e1001895. https://doi.org/10.1371/journal.pmed.1001895

Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, *83*(404), 1198–1202. https://doi.org/10.1080/01621459.1988.10478722

Lorenzetti, D. L., & Ghali, W. A. (2013). Reference management software for systematic reviews and meta-analyses: An exploration of usage and usability. *BMC Medical Research Methodology*, *13*(141). https://doi.org/10.1186/1471-2288-13-141

Luster, T., Qin, D., Bates, L., Rana, M., & Lee, J. A. (2010). Successful adaptation among sudanese unaccompanied minors: Perspectives of youth and foster parents. *Childhood*, *17*(2), 197–211. https://doi.org/10.1177/0907568210365664

Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology*, *12*(4), 857–885. https://doi.org/10.1017/S0954579400004156

Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The Construct of Resilience: A Critical Evaluation and Guidelines for Future Work. *Child Development*, *71*(3), 543–562. https://doi.org/10.1111/1467-8624.00164

Luthar, S. S., Sawyer, J. A., & Brown, P. J. (2006). Conceptual issues in studies of resilience: Past, present, and future research. *Annals of the New York Academy of Sciences*, *1094*, 105–115. https://doi.org/10.1196/annals.1376.009

Macciomei, E. E. (2017). *Traumatic immigration experiences and school outcomes among Central American unaccompanied minors*. ProQuest Dissertations Publishing.

https://www.proquest.com/dissertations-theses/traumatic-immigration-experiences-school-outcomes/docview/2051798471/se-2?accountid=13042

MacPhail, C., Khoza, N., Abler, L., & Ranganathan, M. (2016). Process guidelines for establishing Intercoder Reliability in qualitative studies. *Qualitative Research*, *16*(2), 198–212. https://doi.org/10.1177/1468794115577012

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, *56*(3), 227–238. https://doi.org/10.1037/0003-066X.56.3.227

Masten, A. S. (2007). Resilience in developing systems: Progress and promise as the fourth wave rises. *Development and Psychopathology*, *19*(1), 921–930. https://doi.org/10.1017/S0954579407000442

Masten, A. S. (2014). Global Perspectives on Resilience in Children and Youth. *Child Development*, *85*(1), 6–20. https://doi.org/10.1111/cdev.12205

Masten, A. S., & Barnes, A. (2018). Resilience in Children: Developmental Perspectives. *Children*, *5*(7), 98. https://doi.org/10.3390/children5070098

Masten, A. S., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*, *2*(4), 425–444. https://doi.org/10.1017/S0954579400005812

Masten, A. S., & Obradović, J. (2008). Disaster preparation and recovery: Lessons from research on resilience in human development. *Ecology and Society*, *13*(1), 9. https://doi.org/10.5751/ES-02282-130109

McIntyre, J., & Abrams, F. (2021). *Refugee education: Theorising practice in schools*. Routledge.

Mertens, D. M. (2020). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods* (Fifth Edition). SAGE.

Mislevy, R. J. (1991). Randomization-based inference about latent variables from complex samples. *Psychometrika*, *56*(1), 177–196. https://doi.org/10.1007/BF02294457

Mislevy, R. J., Beaton, A. E., Kaplan, B., & Sheehan, K. M. (1992). Estimating Population Characteristics From Sparse Matrix Samples of Item Responses. *Journal of Educational Measurement*, *29*(2), 133–161. https://doi.org/10.1111/j.1745-3984.1992.tb00371.x

Mitra, R., & Hodes, M. (2019). Prevention of psychological distress and promotion of resilience amongst unaccompanied refugee minors in resettlement countries. *Child: Care, Health and Development*, *45*(2), 198–215. https://doi.org/10.1111/cch.12640

Motti-Stefanidi, F. (2018). Resilience among immigrant youth: The role of culture, development and acculturation. *Developmental Review*, *50*(A), 99–109. https://doi.org/10.1016/j.dr.2018.04.002

Noblit, G. W., & Hare, R. D. (1988). *Meta-Ethnography: Synthesizing Qualitative Studies*. SAGE. https://doi.org/10.2307/42975557

Nye, E., Melendez-Torres, G. J., & Bonell, C. (2016). Origins, methods and advances in qualitative meta-synthesis. *Review of Education*, *4*(1), 57–79. https://doi.org/10.1002/rev3.3065

Oberg, C., & Sharma, H. (2023). Post-Traumatic Stress Disorder in Unaccompanied Refugee Minors: Prevalence, Contributing and Protective Factors, and Effective Interventions: A Scoping Review. *Children*, *10*(6), 941. https://doi.org/10.3390/children10060941

O'Higgins, A. (2018). Analysis of care and education pathways of refugee and asylum-seeking children in care in England: Implications for social work. *International Journal of Social Welfare*, *28*(1), 53–62. https://doi.org/10.1111/ijsw.12324

O'Higgins, A., Ott, E., & Shea, M. W. (2018). What is the Impact of Placement Type on Educational and Health Outcomes of Unaccompanied Refugee Minors? A Systematic Review of the Evidence. *Clinical Child and Family Psychology Review*, *21*(3), 354–365. https://doi.org/10.1007/s10567-018-0256-7

Onwuegbuzie, A. J., & Combs, J. P. (2010). Emergent Data Analysis Techniques in Mixed Methods Research: A Synthesis. In A. Tashakkori & C. Teddlie (Eds.), *SAGE Handbook of Mixed Methods in Social & Behavioral Research* (pp. 397–430). SAGE Publications, Inc. https://doi.org/10.4135/9781506335193.n17

Organisation for Economic Co-operation and Development. (2010). *PISA 2009 Assessment Framework: Key competencies in reading, mathematics and science*. OECD Publishing. https://doi.org/10.1787/9789264062658-en

Organisation for Economic Co-operation and Development. (2012). *PISA 2009 Technical Report*. OECD Publishing. https://doi.org/10.1787/9789264167872-en

Organisation for Economic Co-operation and Development. (2020). *What is PISA?* https://www.oecd.org/pisa/

Ott, E. M., & O'Higgins, A. (2019). Conceptualising educational provision for unaccompanied asylum-seeking children in England. *Oxford Review of Education*. https://doi.org/10.1080/03054985.2019.1607274

Ouzzani, M., Hammady, H., Fedorowicz, Z., & Elmagarmid, A. (2016). Rayyan-a web and mobile app for systematic reviews. *Systematic Reviews*, *5*, 210. https://doi.org/10.1186/s13643-016-0384-4

Papapostolou, A. (2020). Professional Narratives in Refugee Education: Volunteer Teachers' Challenges, Needs, Skills, and Accomplishments within the Framework of Non-Formal Education. *The International Journal of Diversity in Education*, *20*(2), 57–68. https://doi.org/10.18848/2327-0020/CGP/v20i02/57-68

Pappé, I. (2007). *The Ethnic Cleansing of Palestine* (2nd ed.). Oneworld Publications.

Pastoor, L. de W. (2017). Reconceptualising refugee education: Exploring the diverse learning contexts of unaccompanied young refugees upon resettlement. *Intercultural Education*, *28*(2), 143–164. https://doi.org/10.1080/14675986.2017.1295572

Pearson, K. (1900). X. On the criterion that a given system of deviations from the probable in the case of a correlated system of variables is such that it can be reasonably supposed to have arisen from random sampling. *The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science, 50*(302), 157–175. https://doi.org/10.1080/14786440009463897

Pearson, K., Harris, J. A., Treloar, A. E., Wilder, M., & Pearson, K. (1930). On the Theory of Contingency. *Journal of the American Statistical Association*, *25*(171), 320. https://doi.org/10.2307/2278196

Peirce, C. S. (1932). *Collected Papers of Charles Sanders Peirce, Volumes I and II: Principles of Philosophy and Elements of Logic* (C. Hartshorne & P. Weiss, Eds.). Belknap Press of Harvard Univ. Press.

Peirce, C. S. (1935). *Collected Papers of Charles Sanders Peirce, Volumes V and VI: Pragmatism and Pragmaticism and Scientific Metaphysics* (C. Hartshorne & P. Weiss, Eds.). Belknap Press of Harvard Univ. Press.

Peña, C., Jones, L., Orange, A., Simieou, F., & Márquez, J. (2018). Academic success and resiliency factors: A case study of unaccompanied immigrant children. *American Journal of Qualitative Research*, *2*(1), 162–181. https://doi.org/10.29333/ajqr/5797

Peugh, J. L., & Enders, C. K. (2004). Missing data in educational research: A review of reporting practices and suggestions for improvement. *Review of Educational Research*, *74*(4), 525–556. https://doi.org/10.3102/00346543074004525

Phillippi, J., & Lauderdale, J. (2018). A Guide to Field Notes for Qualitative Research: Context and Conversation. *Qualitative Health Research*, *28*(3), 381–388. https://doi.org/10.1177/1049732317697102

Polzer, T. (2008). Invisible integration: How bureaucratic, academic and social categories obscure integrated refugees. *Journal of Refugee Studies*, *21*(4), 476–497. https://doi.org/10.1093/jrs/fen038

Prentice, C. M. (2022). Educators' positive practices with refugee pupils at two schools in England. *British Educational Research Journal*, *48*(6), 1125–1144. https://doi.org/10.1002/berj.3818

Prentice, C. M., & Ott, E. (2021). Previous experience, trickle-down training and systemic ad hoc-ery: Educators' knowledge acquisition when teaching refugee pupils in one local authority in England. *Teachers and Teaching*, *27*(1–4), 269–283. https://doi.org/10.1080/13540602.2021.1946034

Prince-Embury, S. (2008). The resiliency scales for children and adolescents, psychological symptoms, and clinical status in adolescents. *Canadian Journal of School Psychology*, *23*(1), 41–56. https://doi.org/10.1177/0829573508316592

Pynoos, R. S., Frederick, C., Nader, K., Arroyo, W., Steinberg, A., Eth, S., Nunez, F., & Fairbanks, L. (1987). Life Threat and Posttraumatic Stress in School-age Children. *Archives of General Psychiatry*, *44*(12), 1057–1063. https://doi.org/10.1001/archpsyc.1987.01800240031005

Rana, M., Qin, D. B., Bates, L., Luster, T., & Saltarelli, A. (2011). Factors related to educational resilience among Sudanese unaccompanied minors. *Teachers College Record*, *113*(9), 2080–2114.

Rania, N., Migliorini, L., Sclavo, E., Cardinali, P., & Lotti, A. (2014). Unaccompanied Migrant Adolescents in the Italian Context: Tailored Educational Interventions and Acculturation Stress. *Child and Youth Services*, *35*(4), 292–315. https://doi.org/10.1080/0145935X.2014.955173

Resilience Research Centre. (2018). *CYRM and ARM user manual*. Resilience Research Centre, Dalhousie University. https://resilienceresearch.org/

Rubin, D. B. (1976). Inference and missing data. *Biometrika*, *63*(3), 581–592. https://doi.org/10.1093/biomet/63.3.581

Rubin, D. B. (1987). *Multiple Imputation for Nonresponse in Surveys*. John Wiley & Sons Inc.

Rubin, H. J., & Rubin, I. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed). SAGE.

Rudd, G., Meissel, K., & Meyer, F. (2021). Measuring academic resilience in quantitative research: A systematic review of the literature. *Educational Research Review*, *34*, 100402. https://doi.org/10.1016/j.edurev.2021.100402

Rutkowski, L., Gonzalez, E., von Davier, M., & Zhou, Y. (2013). Assessment Design for International Large-Scale Assessments. In L. Rutkowski, M. von Davier, & D. Rutkowski (Eds.), *Handbook of International Large-Scale Assessment* (pp. 75–95). Chapman and Hall/CRC. https://doi.org/10.1201/b16061-9

Rutkowski, L., & Rutkowski, D. (2010). Getting it "better": The importance of improving background questionnaires in international large-scale assessment. *Journal of Curriculum Studies*, *42*(3), 411–430. https://doi.org/10.1080/00220272.2010.487546

Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M. W. Kent & J. E. Rolf (Eds.), *Social Competence in Children—Primary Prevention of Psychopathology* (Vol. 3, pp. 49–74). Blackwells.

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, *57*(3), 316–331. https://doi.org/10.1111/j.1939-0025.1987.tb03541.x

Rutter, M. (2006). Implications of Resilience Concepts for Scientific Understanding. *Annals of the New York Academy of Sciences*, *1094*(1), 1–12. https://doi.org/10.1196/annals.1376.002

Rutter, M. (2012). Resilience as a dynamic concept. *Development and Psychopathology*, *24*(2), 335–344. https://doi.org/10.1017/S0954579412000028

Sa'di, A. H., & Abu-Lughod, L. (2007). *Nakba: Palestine, 1948, and the Claims of Memory*. Columbia University Press.

Sameroff, A. J. (2000). Developmental systems and psychopathology. *Development and Psychopathology*. https://doi.org/10.1017/S0954579400003035

Sameroff, A. J. (2006). Identifying Risk and Protective Factors for Healthy Child Development. In A. Clarke-Stewart & J. Dunn (Eds.), *Families count: Effects on child and adolescent development* (pp. 53–76). Cambridge University Press. https://doi.org/10.1017/CBO9780511616259.004

Sameroff, A. J., Seifer, R., Baldwin, A., & Baldwin, C. (1993). Stability of Intelligence from Preschool to Adolescence: The Influence of Social and Family Risk Factors. *Child Development*, *64*(1), 80–97. https://doi.org/10.1111/j.1467-8624.1993.tb02896.x

Satterthwaite, F. E. (1941). Synthesis of variance. *Psychometrika*, *6*(5), 309–316. https://doi.org/10.1007/BF02288586

Schoenholtz, A. I. (2015). The New Refugees and the Old Treaty: Persecutors and Persecuted in the Twenty-First Century. *Chicago Journal of International Law*, *16*(1), 81–126.

Separated Children in Europe Programme. (2012). *Position Paper on Age Assessment in the Context of Separated Children in Europe*. https://www.refworld.org/docid/4ff535f52.html

Shamseer, L., Moher, D., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., Stewart, L. A., Altman, D. G., Booth, A., Chan, A. W., Chang, S., Clifford, T., Dickersin, K., Egger, M., Gøtzsche, P. C., Grimshaw, J. M., Groves, T., Helfand, M., … Whitlock, E. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: Elaboration and explanation. *BMJ*, *349*(g7647). https://doi.org/10.1136/bmj.g7647

Smid, G. E., Lensvelt-Mulders, G. J. L. M., Knipscheer, J. W., Gersons, B. P. R., & Kleber, R. J. (2011). Late-onset PTSD in unaccompanied refugee minors: Exploring the predictive utility of depression and anxiety symptoms. *Journal of Clinical Child and Adolescent Psychology*, *40*(5), 742–755. https://doi.org/10.1080/15374416.2011.597083

Smith, E. (2008). Pitfalls and Promises: The Use of Secondary Data Analysis in Educational Research. *British Journal of Educational Studies*, *56*(3), 323–339. https://doi.org/10.1111/j.1467-8527.2008.00405.x

Stamatopoulou-Robbins, S. (2024). *The Human Toll: Indirect Deaths from War in Gaza and the West Bank, October 7, 2023 Forward* (Costs of War). Watson Institute for International and Public Affairs, Brown University. https://watson.brown.edu/costsofwar/papers/2024/IndirectDeathsGaza

Stepputat, F., & Sørensen, N. N. (2014). Sociology and Forced Migration. In E. Fiddian-Qasmiyeh, G. Loescher, K. Long, & N. Sigona (Eds.), *The Oxford Handbook of Refugee and Forced Migration Studies* (pp. 86–98). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199652433.013.0036

Stoll, C. R. T., Izadi, S., Fowler, S., Green, P., Suls, J., & Colditz, G. A. (2019). The value of a second reviewer for study selection in systematic reviews. *Research Synthesis Methods*, *10*(4), 539–545. https://doi.org/10.1002/jrsm.1369

Sutton, A. J., & Higgins, J. P. T. (2008). Recent developments in meta-analysis. *Statistics in Medicine*, *27*(5), 625–650. https://doi.org/10.1002/sim.2934

Taha, S. A., & Anabtawi, M. (2024). Unheard voices: The living reality of unaccompanied refugee children in Jordan. *Child Abuse & Neglect*, *147*, 106531. https://doi.org/10.1016/j.chiabu.2023.106531

Tudge, J. R. H., Mokrova, I., Hatfield, B. E., & Karnik, R. B. (2009). Uses and Misuses of Bronfenbrenner's Bioecological Theory of Human Development. *Journal of Family Theory & Review*, *1*(4), 198–210. https://doi.org/10.1111/j.1756-2589.2009.00026.x

Tudor, K. E., & Spray, C. M. (2017). Approaches to measuring academic resilience: A systematic review. *International Journal of Research Studies in Education*, *7*(4). https://doi.org/10.5861/ijrse.2017.1880

Tyrer, R. A., & Fazel, M. (2014). School and community-based interventions for refugee and asylum seeking children: A systematic review. *PLoS ONE*, *9*(2).

Ungar, M. (2004). A Constructionist Discourse on Resilience: Multiple Contexts, Multiple Realities among At-Risk Children and Youth. *Youth & Society*, *35*(3), 341–365. https://doi.org/10.1177/0044118X03257030

Ungar, M. (2008). Resilience across cultures. *British Journal of Social Work*, *38*(2), 218–235. https://doi.org/10.1093/bjsw/bcl343

United Nations. (1951). Convention Relating to the Status of Refugees. *Treaty Series*, *189*, 137. A/CONF.2/108. https://undocs.org/A/CONF.2/108

United Nations. (1967). Protocol Relating to the Status of Refugees. *Treaty Series*, *606*, 267. A/RES/2198(XXI). https://undocs.org/A/RES/2198(XXI)

United Nations. (1989). Convention on the Rights of the Child. *Treaty Series*, *1577*, 3. A/RES/44/25. https://undocs.org/A/RES/44/25

United Nations. (2005). *General comment No. 6 (2005): Treatment of Unaccompanied and Separated Children Outside their Country of Origin*. Committee on the Rights of the Child. Thirty-ninth session. CRC/GC/2005/6. https://undocs.org/CRC/GC/2005/6

United Nations. (2024a). *Report of the Special Rapporteur on the situation of human rights in the Palestinian territories occupied since 1967, Francesca Albanese - Anatomy of a Genocide*. Human Rights Council. Fifty-fifth session. A/HRC/55/73. https://undocs.org/A/HRC/55/73

United Nations. (2024b). *Report of the Special Rapporteur on the situation of human rights in the Palestinian territories occupied since 1967, Francesca Albanese - Genocide as*

colonial erasure. General Assembly. Seventy-ninth session. A/79/384. https://undocs.org/A/79/384

United Nations Children's Fund. (2020). *Refugee and migrant children in Greece As of 30 April 2020*. United Nations Children's Fund. https://www.unicef.org/eca/media/12246/file

United Nations Children's Fund & Jordan Ministry of Education. (2020). *Jordan Country Report on Out-of-School Children*. https://www.unicef.org/jordan/reports/jordan-country-report-out-school-children

United Nations Children's Fund, United Nations High Commissioner for Refugees, International Organization for Migration, European Statistical Office, & Organisation for Economic Co-operation and Development. (2018). *A Call to Action: Protecting children on the move starts with better data*. https://data.unicef.org/resources/call-action-protecting-children-move-starts-better-data/

United Nations Educational Scientific and Cultural Organization & Jordan Ministry of Education. (2023). *Building a Resilient and Responsive Education System in Jordan: Strengthening Evidence-Based Crisis-Sensitive Planning and Governance*. https://reliefweb.int/report/jordan/building-resilient-and-responsive-education-system-jordan-strengthening-evidence-based-crisis-sensitive-planning-and-governance

United Nations High Commissioner for Refugees. (2006). *UNHCR Master Glossary of Terms*. https://www.refworld.org/docid/42ce7d444.html

United Nations High Commissioner for Refugees. (2020). *Global Trends: Forced Displacement in 2019*. https://www.unhcr.org/uk/statistics/unhcrstats/5ee200e37/unhcr-global-trends-2019.html

United Nations High Commissioner for Refugees. (2022a). *Born into a refugee life*. https://www.unhcr.org/refugee-statistics/insights/explainers/children-born-into-refugee-life.html

United Nations High Commissioner for Refugees. (2022b). *External Statistical Report on UNHCR Registered People Of Concern Jordan as of 30 November 2022*. https://data.unhcr.org/en/documents/details/97304

United Nations High Commissioner for Refugees. (2023). *Global Trends: Forced Displacement in 2022*. https://www.unhcr.org/global-trends-report-2022

United Nations High Commissioner for Refugees. (2024). *UNHCR's Refugee Population Statistics Database*. https://www.unhcr.org/refugee-statistics

United Nations Office for the Coordination of Humanitarian Affairs. (2024). *Reported impact snapshot | Gaza Strip (17 December 2024)*. https://www.ochaopt.org/content/reported-impact-snapshot-gaza-strip-17-december-2024

United Nations Relief and Works Agency for Palestine Refugees in the Near East. (2011). *UNRWA Statistics-2010*. Programme Coordination and Support Unit, United Nations Relief and Works Agency for Palestine Refugees in the Near East. https://www.unrwa.org/sites/default/files/2011120434013.pdf

United Nations Relief and Works Agency for Palestine Refugees in the Near East. (2012). *2010 Annual Report of Education Department*. https://www.unrwa.org/resources/reports/2010-annual-report-education-department

United Nations Relief and Works Agency for Palestine Refugees in the Near East. (2024). *UNRWA Statistics Bulletin*. https://www.unrwa.org/what-we-do/unrwa-statistics-bulletin

Vakali, F. (2020). A Professional Narrative about Refugee Education in Non-Formal Education Learning Centers in Athens. *The International Journal of Diversity in Education*, *20*(2), 75–84. https://doi.org/10.18848/2327-0020/CGP/v20i02/75-84

Vervliet, M., Lammertyn, J., Broekaert, E., & Derluyn, I. (2014). Longitudinal follow-up of the mental health of unaccompanied refugee minors. *European Child & Adolescent Psychiatry*, *23*(5), 337–346. https://doi.org/10.1007/s00787-013-0463-1

Vygotsky, L. S. (1967). Play and Its Role in the Mental Development of the Child. *Soviet Psychology*, *5*(3), 6–18. https://doi.org/10.2753/rpo1061-040505036

Vygotsky, L. S. (1978). Interaction between learning and development. In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.), *Mind and Society: The Development of Higher Psychological Processes* (pp. 79–91). Harvard University Press. https://doi.org/10.2307/j.ctvjf9vz4.11

Wald, A. (1943). Tests of statistical hypotheses concerning several parameters when the number of observations is large. *Transactions of the American Mathematical Society*, *54*(3), 426–482. https://doi.org/10.1090/S0002-9947-1943-0012401-3

Wang, M. C., & Gordon, E. W. (Eds.). (1994). *Educational resilience in inner-city America: Challenges and prospects*. Lawrence Erlbaum Associates, Inc.

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1994). Educational resilience in inner cities. In M. C. Wang & E. W. Gordon (Eds.), *Educational resilience in inner-city America: Challenges and prospects*. Lawrence Erlbaum Associates, Inc.

Welch, B. L. (1938). The Significance of the Difference Between Two Means when the Population Variances are Unequal. *Biometrika*, *29*(3/4), 350. https://doi.org/10.2307/2332010

Werner, E. E., & Smith, R. S. (1977). *Kauai's children come of age*. University of Hawaii Press.

Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Cornell University Press.

Werquin, P. & Organisation for Economic Co-operation and Development (Eds.). (2010). *Recognising non-formal and informal learning: Outcomes, policies and practices*. OECD Publishing.

Wickham, H., Çetinkaya-Rundel, M., & Grolemund, G. (2023). *R for data science: Import, tidy, transform, visualize, and model data* (2nd edition). O'Reilly Media, Inc.

Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, *17*, 89–100. https://doi.org/10.1111/j.1469-7610.1976.tb00381.x

World Bank. (2024a). World Bank Country and Lending Groups. In *World Bank*. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519

World Bank. (2024b). *World Development Indicators*. https://databank.worldbank.org/source/world-development-indicators

Wright, M. O. D., Masten, A. S., & Narayan, A. J. (2013). Resilience processes in development: Four waves of research on positive adaptation in the context of adversity. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of Resilience in Children* (2nd ed., pp. 15–37). Springer. https://doi.org/10.1007/978-1-4614-3661-4_2

Yule, G. U. (1900). VII. On the association of attributes in statistics: With illustrations from the material of the childhood society, &c. *Philosophical Transactions of the Royal Society of London. Series A, Containing Papers of a Mathematical or Physical Character*, *194*(252–261), 257–319. https://doi.org/10.1098/rsta.1900.0019

Zetter, R. (1991). Labelling refugees: Forming and transforming a bureaucratic identity. *Journal of Refugee Studies*, *4*(1), 39–62. https://doi.org/10.1093/jrs/4.1.39

Zetter, R. (2007). More labels, fewer refugees: Remaking the refugee label in an era of globalization. *Journal of Refugee Studies*, *20*(2), 172–192. https://doi.org/10.1093/jrs/fem011