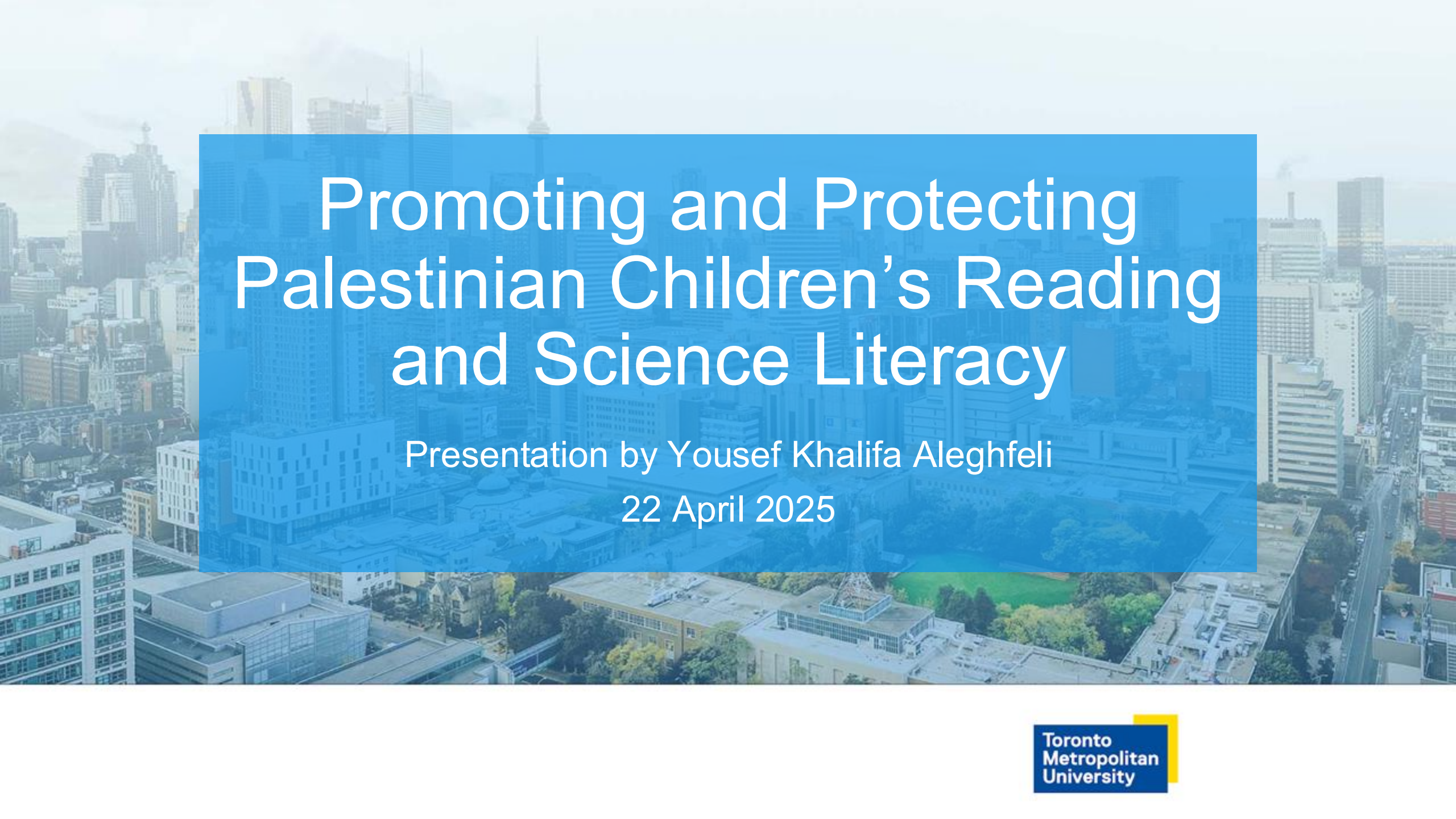


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Promoting and Protecting Palestinian Children's Reading and Science Literacy

Presentation by Yousef Khalifa Aleghfeli
22 April 2025

Education after *Nakba*

The Nakba (Arabic for “catastrophe”), or the ethnic cleansing of Palestinians from 1947 to 1949, resulted in the forced displacement of over 750,000 Palestinians.

Palestinian themselves initiated much of the earliest educational infrastructure, even amid the chaos of ethnic cleansing. Newly displaced refugees hastily arranged classes in camps, taught by former Palestinian teachers.



Nahr el Bared camp, Lebanon, 1952, UNRWA Archive

UNRWA Education

In 1949, UNRWA was created as a human development agency to provide direct relief and works programs for newly displaced Palestinian refugees in Jordan, Lebanon, Syria, and what is now, East Jerusalem, the West Bank, and the Gaza Strip.

Education holds immense significance for Palestinians in exile—both as a practical means to socioeconomic mobility in exile and, more profoundly, as a space to sustain Palestinian identity and reaffirm their right to return.



Khan Younis camp, Palestine, 1950, UNRWA Archive

Resilience as *Sumud*

The framing of educational resilience had been dominated by Western and neo-liberal conceptualizations of resilience that unfairly responsibilized children

To Palestinians, ***Sumud*** (صمود - Arabic for “steadfastness” or “perseverance”) refers the preservation of cultural heritage, communal cohesion, and attachment to one’s homeland as forms of survival in the context of military occupation, forced displacement, and chronic adversity.



Mar Elias camp, Lebanon, 1953, UNRWA Archive

Operationalizing ‘Educational Resilience’

This study defines **educational resilience** as being the presence of positive educational outcomes despite exposure to significant risk or severe adversity, as being the result of a dynamic engagement between the student and their immediate environment, and as being specific to the socio-ecological and socio-interactional context of the student ([Aleghfeli, 2023](#)).

The study examines two types of **resilience factors** that are associated with achieving positive educational outcomes and ameliorating risk ([Rutter, 1987](#); [Luthar et al., 2000](#)):

- Resilience factors that contributed to positive educational outcomes but whose positive effects decrease in the presence of adversity were deemed to have **promotive effects**
- Resilience factors that contributed to positive educational outcomes regardless of the presence of adversity were deemed to have **protective effects**

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Methodology

Research Objectives

1. Which learning and teaching practices function as promotive factors in reading literacy and science literacy for Palestinian students?
2. Which learning and teaching practices function as protective factors in reading literacy and science literacy for Palestinian students?

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>

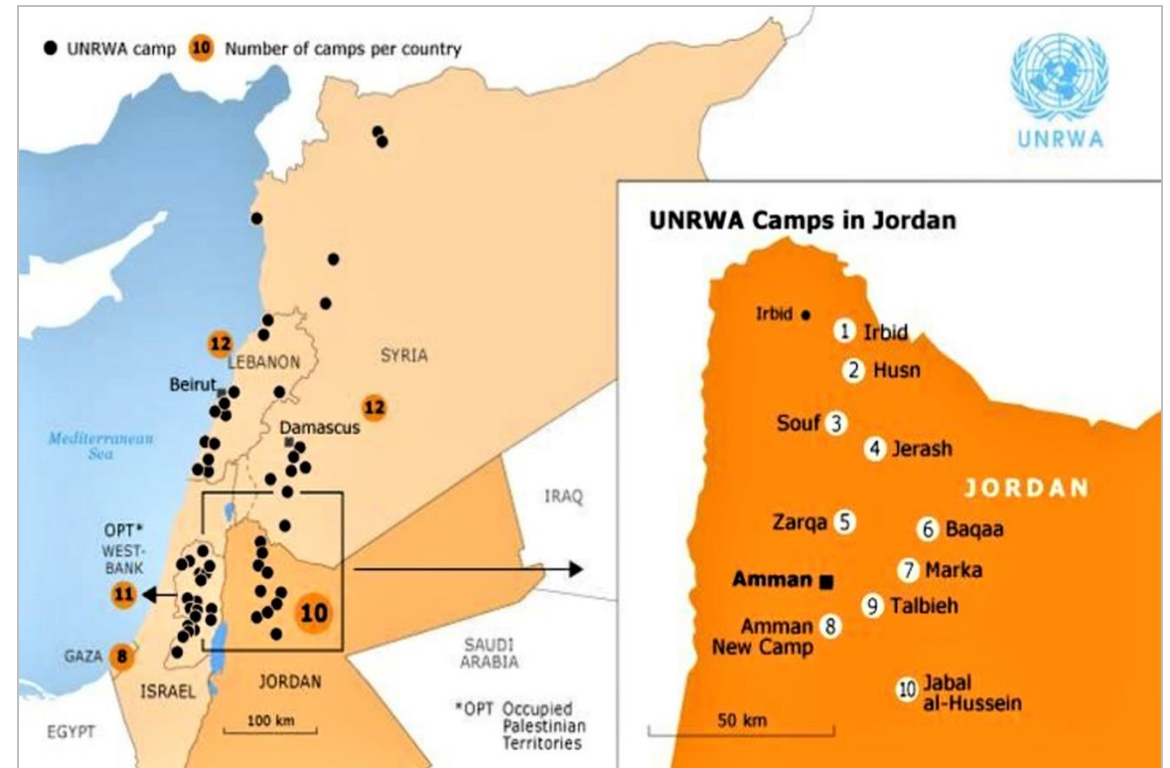


Jericho, Palestine, 1954, UNRWA Archive

Methods

PISA 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. For this study, two PISA cycles were examined:

- **PISA 2009**, which contains assessment results from 410 15-year-old Palestinian students in 13 UNRWA schools in Jordan;
- **PISA 2015**, which contains assessment results from 869 15-year-old Palestinian students in 28 UNRWA schools in Jordan.



[Alduraiddi et al, 2021](#)

Sample

	PISA 2009 (<i>N</i> = 410)		PISA 2015 (<i>N</i> = 869)	
Age (Mean, SD)	15.84	0.28	15.86	0.006
Gender				
Girls (<i>n</i> , %)	193	45.86	445	47.32
Boys (<i>n</i> , %)	217	54.14	424	52.68
Economic, Social, and Cultural Status (Mean, SD)	-0.82	0.93	-0.74	0.04

Data Analysis

This study constructed and analyzed mixed-effects models to examine variations in the relationship between reading literacy and literacy on one the hand and the student and teacher variables on the other.

- **Mixed-effects models** are regression models that include both fixed effects and random effects, which are useful for analyzing multilevel data such as PISA.
- **Fixed effects** are coefficients that are assumed to be fixed for all the students, while **random effects** are coefficients that vary by student (e.g., school membership, economic, cultural, and social status).

Given the structure of the dataset, procedures to estimate regression coefficients and standard errors were based on Rubin's rules (1987) and survey weights were applied as recommended by the OECD.

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Findings

Promotive Factors of Reading Literacy

Two **promotive factors** were found to have positive associations with reading literacy as fixed effects - **student online reading** ($\beta = 4.53$, $p < 0.05$) and **teacher–student relations** ($\beta = 9.35$, $p < 0.05$) - but whose positive association decreased with higher economic, social, and cultural status.

- Regarding **student online reading**, this finding should not be surprising, as access to the internet is not a societal norm but a privilege resulting from higher socio-economic status.
- Regarding **teacher–student relations**, this finding could imply that teacher–student relations were stronger for students with high socio-economic status and weaker for students with low socio-economic status.

Protective Factors of Reading Literacy

Two **protective factors** were identified that had positive associations with reading literacy regardless of economic, social, and cultural status: **student enjoyment of reading** ($\beta = 15.37$, $p < 0.05$) and **student control strategies** ($\beta = 15.37$, $p < 0.001$).

- Regarding **student enjoyment of reading**, this finding reaffirms the importance of cultivating the joy of reading among Palestinian students, especially in the early years.
- Regarding **student control strategies**, the findings could reflect the importance of self-regulated learning practices, as reflected in students' ability to control their own metacognition, cognition, motivation, affect, and behavior.

Protective Factors of Science Literacy

Two **protective factors** were identified that had positive associations with science literacy regardless of economic, social, and cultural status: **student awareness of environmental matters** ($\beta = 11.7, p < 0.001$) and **student epistemological beliefs about science** ($\beta = 11.18, p < 0.01$).

- Regarding **student awareness of environmental matters**, this finding warrants the importance of integrating environmental education into traditional science classrooms.
- Regarding **student epistemological beliefs about science**, this finding reaffirms the need to emphasize epistemic reasoning in science education and not just content or procedural knowledge about scientific concepts and constructs.

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Discussion and Implications

For Reading Educators

In the context of reading education, creating a classroom environment that fosters students' love of reading—such as by incorporating Palestinian literature into curriculums—and encourages student use of control strategies, such as goal setting and planning study sessions, may enhance Palestinian students' reading literacy despite adversity.

This aligns with research on inclusive education for refugees, which emphasizes the need for holistic approaches that address not only academic content but also the socio-emotional well-being of refugee students ([Aleghfeli, 2023](#); [McIntyre & Abrams, 2021](#)).



For Science Educators

In the context of science education, the study's findings highlight the importance of fostering students' awareness of environmental issues and encouraging positive epistemological beliefs about science.

This can be achieved by learning about the flora and fauna of their homeland, ecological concerns associated with war and conflict, and sustainable practices that promote environmental conservation. Palestinian students can also greatly benefit from learning that prioritizes scientific inquiry and evidence-based reasoning, rather than rote learning of scientific concepts



Sumud as Education

As the literature on refugee education has shown, pedagogical strategies that integrate refugee cultural knowledge are crucial for fostering refugee student engagement ([Aleghfeli et al., 2024](#); [Hunt et al., 2023](#)).

Inclusive teaching practices that recognize the educational resilience — or **Sumud** — of Palestinian students can empower them to thrive not just academically and individually but also for the benefit of their families and communities.



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Thank you for listening!