



UNIVERSITY OF
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FAMILY SOCIOECONOMIC AND MIGRATION BACKGROUND MITIGATING EDUCATIONAL-RELEVANT INEQUALITIES: FINDINGS FROM TIMSS, PIRLS AND PISA

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Background

- Immigration
- Socioeconomic inequality
- Equity

Selection of studies



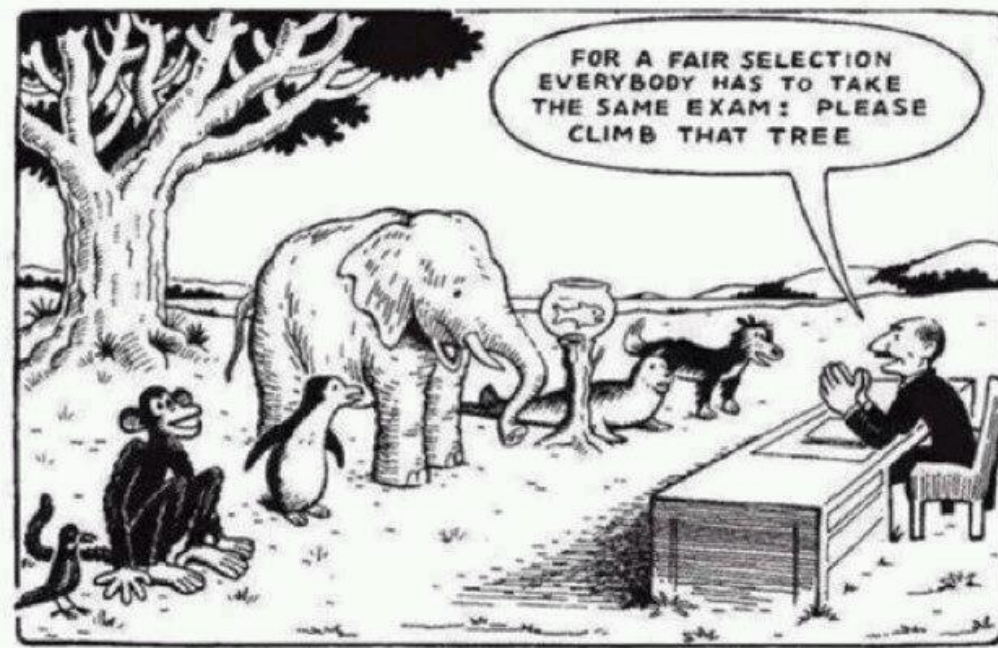
- Born from a comprehensive literature search
- Peer-reviewed journal articles, published in English, since 01/01/2000

ILSA + SES
– 848 results

ILSA + migration
– 242 results

ILSA + SES + migration
– 101 results

- 697 results after duplicates removed – down to 106 after review



Our Education System

“Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid.”

- Albert Einstein

Part I

Socioeconomic Status
(SES)

Problems of measuring Socioeconomic Status in the international large-scale studies

- Intangible and culturally specific;
- Children answer such information (e.g., Buchmann, 2002).

Measures of socioeconomic status

- The most commonly used indicators of SES are parental education, parental occupational status and family income (The Big Three; Duncan, Featherman & Duncan, 1972);
- An expanded SES measure could include different home possessions, number of books in the home, and ownership of different highbrow cultural items etc. (e.g., Cowan et al., 2014; Sirin, 2005).
- Home resources for learning/ Home educational resources (e.g., PIRLS and TIMSS).
- Index of economic, social and cultural status (ESCS in PISA) .

Operationalisation of socioeconomic status

- SES as a unidimensional composition;
- SES as a multi-dimensional construct;
- SES represented by a single indicator of SES.



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Conceptualization of socioeconomic status

- Marxian tradition considers social stratification in terms of ownership and non-ownership in the means of the productivity (e.g., economic capital) ;
- Weberian tradition on social stratification focused on the values of knowledge and skills, and other characteristics and qualities that individuals bring into the labor market (e.g., occupational prestige);
- Neo-Marxist approach to explain the SES inequality in educational outcomes (e.g., Bourdieu's different forms of capital and Cultural Capital Theory, Bourdieu & Passeron, 1977);

The function of socioeconomic status in analyses

An individual covariate to affect students' academic achievement (e.g., Marks, Cresswell, & Ainley, 2006).

Family SES is used as grouping variable to examine factors that may affect SES gap in achievement (e.g., Ammermueller, 2007; Howie, Scherman & Venter, 2008)

A socioeconomic gradient (e.g. Willms, 2003) indicating the degree of educational equity

Aggregated family SES of students is used as the indicator of classroom or school SES composition (e.g., Lam & Lau, 2014; Sun, Bradley & Akers, 2012; Televantou et al., 2015);

Study trend in school socioeconomic segregation (e.g., Lam et al., 2019; Yang Hansen et al., 2011).

Relative SES scores

Analytical methods applied in the studies

Multilevel analytical approach

- Hierarchical Linear Model
- Multilevel structural equation model
- Two-level latent class analysis

Single-level approach

- Ordinary Least Square regression
- Path analysis

Effects of SES on academic achievement

Based on the estimates given in the reviewed studies:

- the standardised SES effect on academic achievement varies greatly across countries and studies, ranging from 0.14 to 0.42;
- The unstandardised SES effect ranged from 45 score points to non-significant;
- In a multilevel model, the aggregated level SES effect tends to be larger than that at the individual-level.

Variability SES effect

- SES indicator used:
 - Single indicator, e.g., ESCS, HRL/HER → positively significantly affect achievement, highest in reading
 - Cultural capital indicators → positive and significant effects, and the highest among the dimensions of SES
 - Random effects at school or country levels
- Level of the analysis:
 - school SES composition effects are generally higher than the effect of family SES
 - a significant moderation effect of School SES composition on family SES gradient. Moreover, School SES composition effects may also differ across different subpopulations.
 - School commentary effect of educational equity measure differ across developed and developing countries

Summary of the findings: SES

- Family SES is significantly and positively related to the student's academic achievement;
- The cultural capital factor tends to have a higher impact on academic achievement than other SES sub-dimensions;
- SES effect at an aggregated level tends to be stronger than those estimated at the individual level or in a single-level analysis;
- The size of the SES effect varies according to the indicators used, unit of analysis and the sub-groups in focus;
- Organisational factors of the educational system, such as differences in curricula, school choice and tracking, school contextual factors, and home conditions, can intensify or compensate for educational inequality measured by SES-achievement relationship;

The image features three dark silhouettes of birds in flight against a bright, warm yellow background. One bird is partially visible on the left edge, another is in the center, and a third is on the right. The birds are captured in a dynamic, winged position, suggesting movement across the sky.

PART 2

Migration background

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Migration background: concept

Multiple search terms to account for the differing socio-political contexts researchers contributing to the literature on migration background and achievement operate in.

Excluded studies included:

- Those conflating native minorities with immigrants e.g. indicating migration using language used at home in multilingual countries (i.e. Canada, Indonesia).
- Studies exploring internal migration (i.e. within China, or between China and Hong Kong SAR).
- Studies which conflated race and migration.



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Migration background: indicators available

1. Nativeness
2. Region of origin.

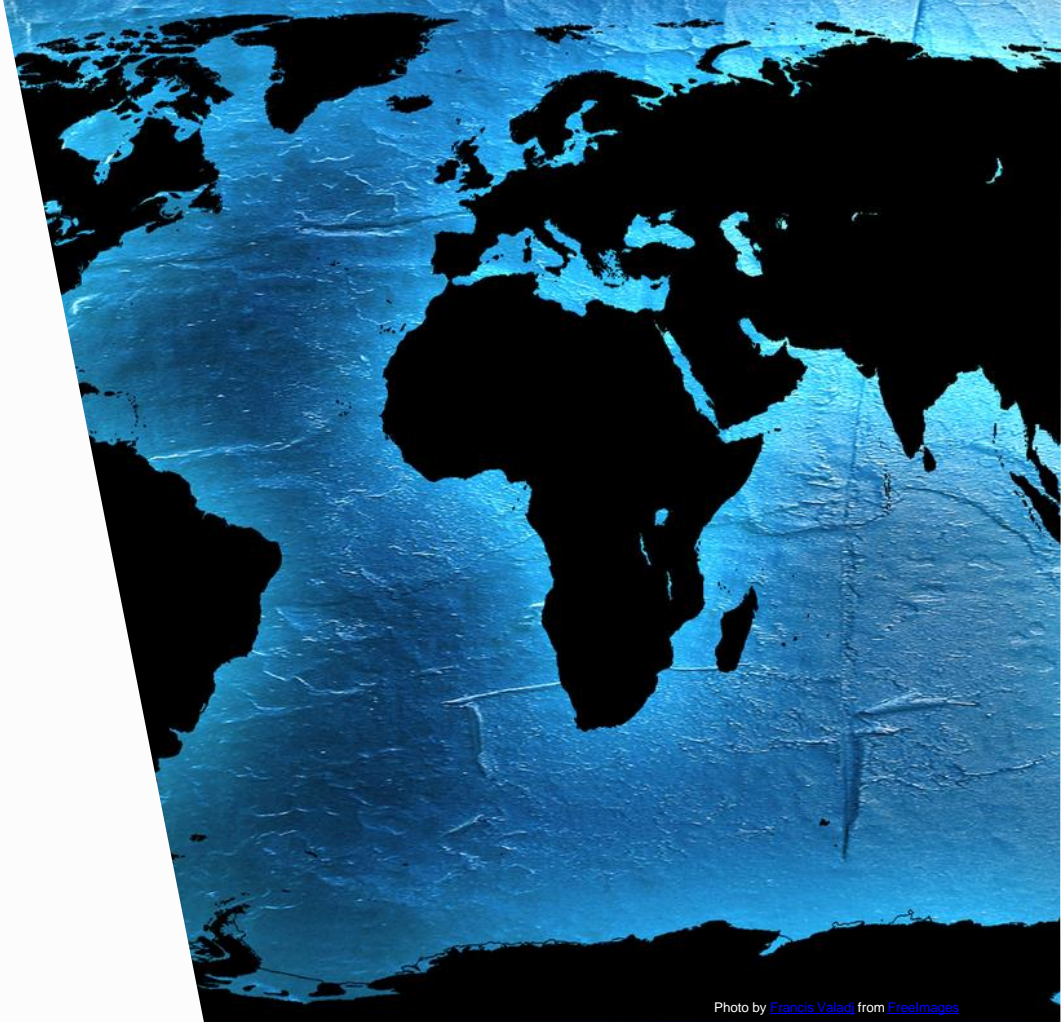


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Operationalisation of migration background in SES-achievement studies

1. Student level indicators of migration background
2. School-level indicators of migration background
3. Country-level indicators of migration background

Functions of Migration Background

- Dummy variables within a model
- Grouping variable - native or generation of non-nativeness
- Grouping variable - region of origin

Effect of migration on achievement

- Students with migrant backgrounds experience lower academic performance than their native peers.
- Level of academic disadvantage is highly variable, related to how established an immigrant family is in their host country, and country of origin.
- Difference between generations?

Effect of region of origin

- Australia has a documented immigrant over-performance when compared to native students, and large immigrant populations from high performing East Asian countries.
- Jerrim (2015) tested whether the non-cognitive factors which are commonly used to explain the success of East Asian economies in PISA were also present in Australian migrant families, and how high PISA performance is replicated by second-generation immigrants of East Asian descent in Australia.
- 4 groups of second-generation migrants: high performing East Asian countries, low performing East Asian countries, the Indian subcontinent, and the UK.
- Achievement gaps between natives and all second-generation students can be explained by immigration background alone.
- An especially large advantage for students with high performing East Asian backgrounds.
- Even taking into account family background students from high performing East Asian countries still outperformed their local counterparts.



Effects of migration at the school level

- Measure of individual circumstances → measure of community characteristics.
- Schools with more socioeconomic homogeneity achieve higher average mathematics scores.
- Tracked school systems more commonly see segregation of students with migration backgrounds than comprehensive ones.
- Are immigration gaps just immigration gaps?

Varying SES effect by migration status

Variation in the effect of SES based on migration status was inconsistent across the literature.

1. Immigrant gap attributed to SES
2. SES reduces immigrant gap

Summary of the findings: Migration

- Migration background is negatively related to student's academic achievement, and the strength of the effect varies depending on the migration stage;
- Migration effects often diminish or disappear when family SES is accounted for;
- The interplay between family SES and migration status also is observed.



DISCUSSION

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Discussion remarks

Some issues appeared in the reviewed articles warrant special attention:

1. Ignoring the sampling design in large-scale international studies.
2. Ignoring the uncertainty in the test scores in ILSA studies.
3. Non-uniform indicators in measuring family SES.
4. The measurement invariance of SES and migration status constructs between sub-groups, across educational systems and over time.
5. A conflation between the concepts of race and migration.

Future Research

- Mixture modelling to investigate the unobserved heterogeneity in the effect of family SES.
- A meta-analysis of SES and migration effects on achievement in ILSA.



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Thank you for listening.

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