

Excess under-5 mortality of children born to immigrants:

longitudinal evidence from France

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Wittgenstein Centre Conference on "Exploring Population Heterogeneities"

December 06-07, 2023, Vienna

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- Ethnic disparities in child survival in France (Wallace et al., 2020)
- In spite of much progress in child survival in France and around the world (UN IGME, 2019)
- Contradictory findings in the literature

Ex: advantage in BW, PTB and gestational age (Florian et al., 2021) and high IM (Wallace et al., 2020) for children of Maghreb women

❓ Are disparities in U5M based on migratory origin attributed to differences in the distribution of confounding variables or to differences inherent in migratory origin ?

Healthy Immigrant Effect (HIE)

Intergenerational transfer of health advantages.

Evidence on birth outcomes and IM (Hummer et al., 2007)

Discrimination

occurs during the interaction between caregivers and patients during prenatal or postnatal consultations.

Adverse birth as a result

Social capital

The attributes of a social organization, including networks, norms, and social trust (Putnam, 1993)

Ex: parental or partner support.

Country of origin context

Socio-sanitary characteristics of the country of origin, environmental factors. For ex: a high IMR of mother's origin is associated to a higher IMR in Norway (Kinge & Kornstad, 2013)

Hypotheses

H₁

Migration background significantly contributes to the U5M disparities, with African immigrants being particularly disadvantaged.

H₂

Having the paternal support reduces the risk of U5M

H₃

A higher % of births to immigrant women in the local municipality of birth is associated to a lower risk of U5M. This association is more beneficial for immigrant women compared to native women

Data

EDP= several data files including,
birth and death certificates and census data,
648,040 births in France from 1990 to 2019

Independent variables

Parental origin
Paternal support
% of births of immigrant in municipality
child characteristics and parent's SES

Dependant variable

U5M

$$\begin{cases} = 1 & \text{if children died before age 5} \\ = 0 & \text{otherwise} \end{cases}$$

Statistical analysis

Propensity Score Method (PSM) using
inverse probability of treatment weighting

Longitudinal analysis → Weibull mod

Results (1/3)

Figure 1: Equilibrium statistics before and after weighting

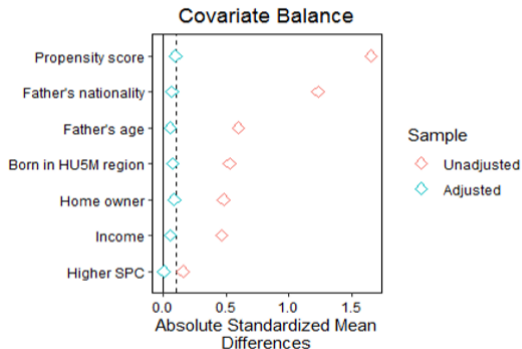
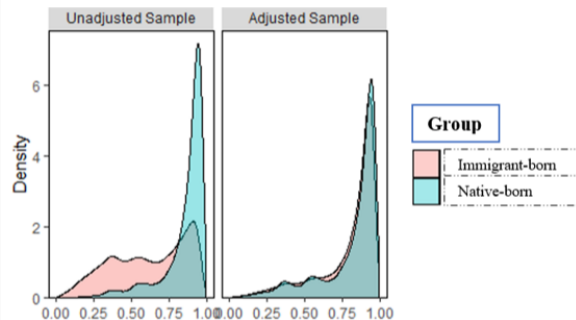


Figure 2: Distributional balance for Propensity score



Source: Author's calculations based upon EDP, 1990–2019

- Satisfactory balance for all covariables,
- specifically for the higher SPC

Results (2/3)

- Higher U5M among children born to SSA and North Africa immigrant mothers
- Disparities remain in spite of the adjustment of covariates
- The central role of migratory origin in the shaping of U5M inequalities independently of other characteristics

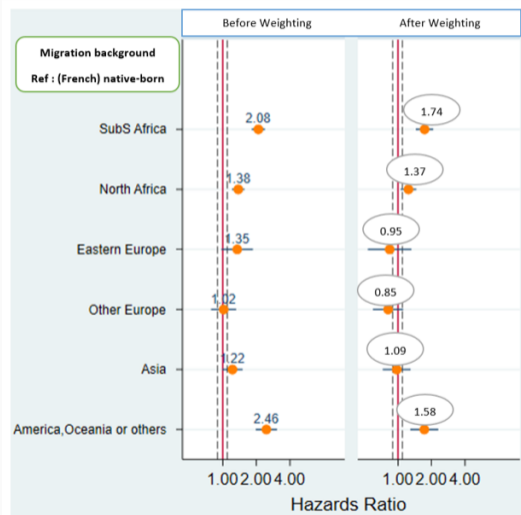


Figure 3: HR before and after Weighting, EDP

Table 1. Weibull model of U5M weighted through optimal matching

Variables	M_1	M_2	M_3
Paternal support(No)	0.56***(0.46-0.68)	0.56***(0.46-0.68)	0.56***(0.46-0.68)
% births (Low)		1.64*** (1.35-1.96)	
% births x Migratory status (French-born x Low % births)			
Foreign-born x High			1.86***(1.47-2.34)
Foreign-born x Low			1.28***(1.14-1.44)
French-born x High			1.82***(1.43-2.31)

EDP, 1990-2019, ***p<0.001, (Ref)

- % of births of immigrant not consistent with inverse association between the % of immigrants in the neighborhood and PTB among SSA women but consistent with the positive relationship for French natives (Zeitlin et al., 2011)

Lessons learned

✓ H_1 & H_2 confirmed, the important role of migration background and paternal support in U5M inequalities

✗ H_3 rejected, adverse effect of the clustering of births to children of immigrants on child survival

Strengths

Address bias arising from diff in observable characteristics using PSM

Clarify the real role of migration background in inequalities in the U5M

Reliable regression estimates using longitudinal approach

Limitations

Possible bias due to unobservable factors

Does paternal support, as measured, really reflect involvement or support during pregnancy ?

What about biomedical and health behavior variables during pregnancy ?

Thank you for your attention!

Thanks to Louvain4Migration for funding access
to the EDP data and FNRS for funding my research fellowship

