Adult-to-child ratios and group sizes in early childhood education and care need more high-quality research

What is the aim of this review?
This systematic review examines the effects of reducing adult/child ratios and group sizes on process quality and on individual children’s psychosocial adjustment, development and well-being in early childhood education and care for children aged 0-5 years old. The review analyses evidence from 12 studies, two of which were randomised control trials, representing eight different populations.

There are surprisingly few high-quality studies exploring the effects of adult/child ratio and group size in early childhood education and care (ECEC) using a methodologically suitable study design.

Based on the available evidence, it is not possible to draw any definitive conclusions regarding the impact of adult/child ratio and group size on children in ECEC. However, the results of a meta-analysis tentatively suggest that fewer children per adult and smaller group sizes do increase process quality – defined as more positive adult/child and child/child interactions, less coercive and controlling adult interference, and less aggressive and more prosocial child behaviour.

What is this review about?
Every day around the globe, a large number of children aged 0-5 years old spend a majority of their waking hours in ECEC. Theoretically, structural features of ECEC settings, such as lower adult/child ratios (fewer children per adult) and smaller group sizes, are proposed to be associated with increased process quality.

In this review, increased process quality is defined as an increase in nurturing and stimulating adult/child interactions, meaning less detached and controlling caregiver behaviours, fewer conflicts and aggressive child behaviour, more prosocial child behaviour and fewer children who are aimlessly wandering around without being meaningfully engaged in activities.

What studies are included?
Very few high-quality quantitative studies have examined the effects of different adult/child ratios and group sizes in ECEC. High-quality studies did not cover all age groups and no high-quality studies have explored the effects of the adult/child ratio on children’s socio-emotional adjustment and well-being.

Similarly, no high-quality studies have explored the long-term effects of adult/child ratios and group sizes in ECEC.
In total, 31 studies met the inclusion criteria, e.g. they were quantitative studies using a well-defined control group. The studies analysed 26 different populations. Only 12 studies (analysing eight different populations) could be used in the data synthesis. The included studies were from Australia (1), Denmark (1), England (1), Italy (1), Korea (1), New Zealand (2), Portugal (1), Sweden (2), The Netherlands (1) and the USA (20).

What are the main findings of this review?
The main finding of the review is that there are surprisingly few high-quality studies exploring this research question using a methodologically suitable study design. Furthermore, the existing studies on the topic are on average almost 30 years old, and there is not a single high-quality study exploring the effects of different adult/child ratios and group sizes for children younger than two years old.

Similarly, no high-quality studies explored the long-term effects of adult/child ratio and group size in ECEC.

Results of the meta-analysis on language and learning outcomes are inconclusive, while the results of the meta-analysis analysing process quality outcomes suggest an effect in the expected direction.

What do the findings of this review mean?
The review should be interpreted cautiously due to the low quality of the evidence. However, results tentatively support the theoretical impact of two structural features – adult/child ratio and group size – on process quality, which is reflected in legislation and quality standards imposing minimum requirements on the adult/child ratio and a maximum group size in ECEC settings.

Findings from the review serve as a testimony to the urgent need for more contemporary research on the effects of adult/child ratio and group size in ECEC. Reducing the adult/child ratio and group size in ECEC is costly, and we do not know if they lead to improvement, as the research literature to this day provides little guidance on optimal adult/child ratio and group size in ECEC.