

Exploring the Variation in the Impact of Day Care on Child Development by Family Socio-Economic Status

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Keywords: day care; socioeconomic status; socio-emotional wellbeing; early childhood; longitudinal

Introduction

In Hungary, early childhood education and care (ECEC) system is regulated by the Child Welfare Act as part of the basic child welfare services. This protocol for day care centres outlines the expectation that care should have a positive impact on children's social-emotional and cognitive development, support the development of children at higher risk through prevention and intervention, and help identify and overcome developmental delays. The aim of the study is to explore the extent to which, and under what conditions the current day care system can achieve these objectives for families with varying socio-economic statuses.

Theoretical focus

The development of children's socio-emotional well-being is paramount during the early years of their lives. High quality non-parental centre-based care, can significantly influence children's development, particularly for disadvantaged children (Melhuish et al., 2015). Although it is typically children from families with low socioeconomic status (SES), who benefit the most from centre-based care, they are less likely to attend this type of care (Felfe & Lalive, 2013).

In their review, Bradley and Vandell (2007) found that institutional day care has a positive impact on children's cognitive and language development even when controlling for their family background. The effect was more significant for disadvantaged children and for high quality care. However, research findings for early childhood (0-3 years) also differ by the age at entry into institutional childcare. Blaskó (2010) summarised the international literature and found that maternal employment and early day care before the age of one year has a negative impact on children's development, while after the first year of life the negative effects may be increasingly outweighed by the positive consequences of good quality institutional day care, especially in terms of intellectual development.

According to van Huizen and Plantenga (2018), the impact of institutional day care on child development significantly depends on the quality of care and has a greater influence on cognitive development than on social-emotional development. The results of their meta-analysis also showed that early day care provides greater benefits for disadvantaged children. Within this framework, several studies have investigated whether the negative impact of low socio-economic status on socio-emotional well-being is moderated by non-parental day care (Green et al., 2021; Parkes et al., 2021). The effect of centre-based care may differ for various developmental outcomes and the results on socio-emotional development and behavioral problems are mixed. Berger et al. (2021) found in France that centre-based care at age 1 positively impacted language skills, had no impact on motor skills, and had a negative effect on behavior at age 2. According to Volodina et al. (2022), children who attend centre-based care at the age of 2 tend to exhibit better peer relationships. In Ireland, Morando & Platt (2022) found that

centre-based care had a negative impact on externalizing behavior and on prosocial behaviour, but no impact on internalizing problems.

Early childhood education and care (ECEC) system in Hungary

In Hungary, the day care system, as a part of child welfare system, provides free of charge services based on social need. Day care centers are primarily state-funded and state regulated institutions. Despite significant developments and capacity building in early care in recent years, the institutional day care's social acceptance in Hungary remains low, and institutions are perceived less favorably by disadvantaged families (Kapitány, 2020). The system also harbors various inequalities. Due to regional disparities, fewer day-care facilities are available for children living in economically deprived areas (Baranyai, 2023). Moreover, while the wording of the Child Protection Act benefits several social groups, in practice, children of mothers returning to the labor market are predominantly enrolled in day care (Keller, 2018; Makay, 2011; Ökrös et al., 2023). Access difficulties for mothers living in small settlements with disadvantaged families and who are not employed make the equalizing function of day care centers less likely to be realized (Keller, 2018). The fact that fewer families of low SES are willing and able to use day care services may lead to an increase in early social inequalities, negating the disadvantage-compensating role of day care (Kapitány, 2020).

Research questions

How do families from different backgrounds decide to use institutional care in early childhood?

Whether the impact of socioeconomic status on socio-emotional wellbeing is moderated by non-parental day care in early childhood?

How does day care affect various types of socio-emotional outcomes?

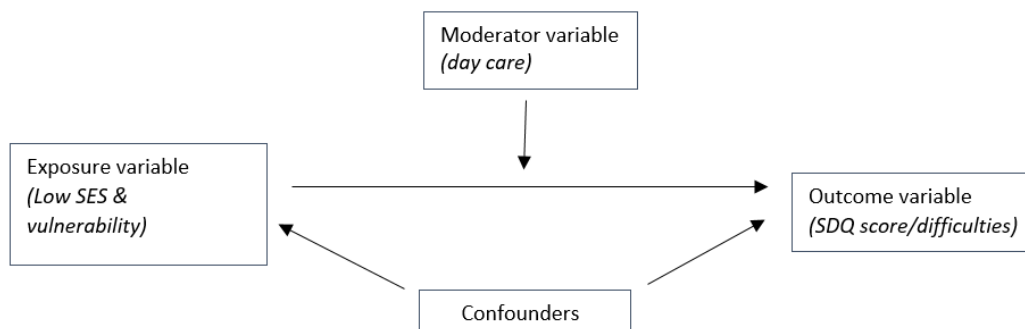
Data

The analyses utilized the weighted longitudinal database of children from five waves of the Cohort '18 Growing Up in Hungary study. This longitudinal research program, conducted by the Hungarian Demographic Research Institute, follows a birth cohort born in 2018/2019, representing a 10 percent sample of children, from the pregnancy period (Veroszta et al. 2020). Subsequent waves were conducted at 6 months, 18 months, 2.5, and 3 years of age. The longitudinal database and datasets from several waves are weighted based on maternal educational level, age, parity, partnership status, and the developmental level of the residence. Data collection methods were face-to-face interviews (CAPI or PAPI) with the mothers and self-administered questionnaires, while at 2.5 years of age telephone interviews were conducted. Data collection methods included face-to-face interviews (CAPI or PAPI) with the mothers and self-administered questionnaires. At 2.5 years of age, telephone interviews were conducted. Analyses are based on the weighted longitudinal database of mothers from five waves of the Cohort '18 Growing Up in Hungary study: t1 (pregnancy), t2 (6 months), t3 (18 months), t4 (2.5 years), t5 (3 years), with n=5,560 participants.

Methods

Descriptive analysis was employed to examine day care attendance rates for children from families with different SES. Explanatory models aimed to explore the effect of day care and the age of first admission as a moderator of the impact of a disadvantaged background on internalizing and externalizing symptoms. The theoretical model of the investigation is as follows:

Figure 1. Theoretical model

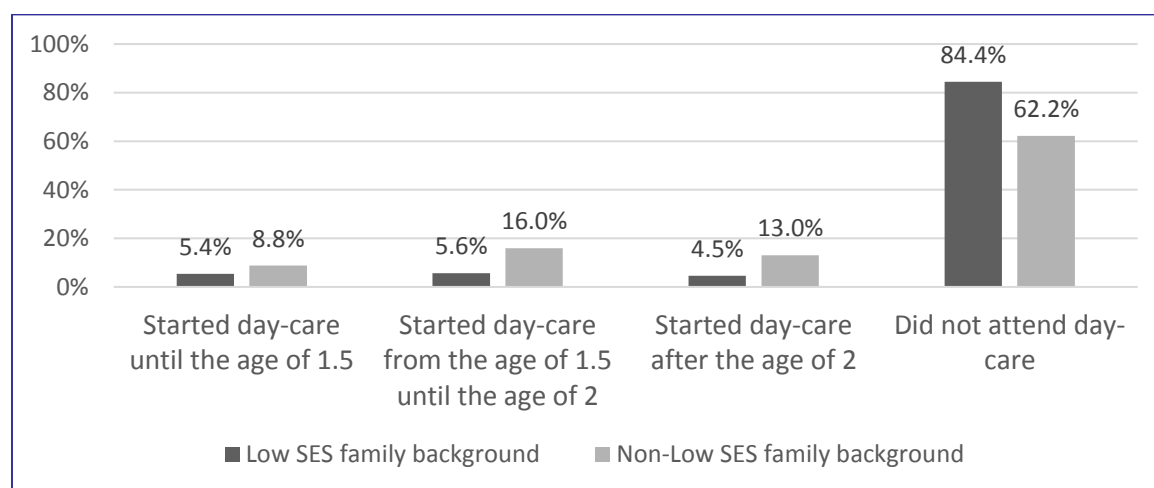


Children's socio-emotional wellbeing was assessed through their externalizing and internalizing symptoms at the age of 3 years. These symptoms were measured using the Strengths and Difficulties Questionnaire (SDQ). Linear regression models were employed to identify the factors influencing these two outcome variables. The exposure variables considered low socioeconomic status (SES), which was derived from parental education, the economic situation, and the cultural capital of the family. Additionally, parental social disadvantages, such as the prevalence of single motherhood or paternal unemployment during the first three years, as well as unfavorable ethnic or regional backgrounds, were taken into account. The model included confounding factors related to demographic background characteristics and the prevalence of intensive grandparent care, which is a common alternative to center-based day care in Hungary.

Preliminary findings

The data revealed that the timing and frequency of day care attendance in Hungary are relatively low, impacting only one third of children up to the age of 2.5 years. Even within this group, late entry (after 1.5 years) is more common. Notably, children from low SES families are less likely to attend day care (refer to Figure 2).

Figure 2. Distribution and timing of day care attendance by family SES



Source: Hungarian Demographic Research Institute, Cohort '18 – Growing Up In Hungary, Waves 1-5, 2023

The estimates from the linear regression model, which examines the association between a low socioeconomic status (SES) family background and day care attendance, with internalizing symptoms at the age of 3, indicate that the presence of internalizing symptoms at this age is exacerbated by both low family SES and an unfavorable regional location of residence. However, the impact of low SES is significantly moderated by the use of day care at any age of the child.

In contrast, the results of the regression analysis for externalizing symptoms at the age of three present a different perspective. While low SES and an unfavorable regional location also contribute to a higher prevalence of externalizing symptoms, the use of day care does not moderate the effect of low SES on these issues. Furthermore, early entry into the care system, up to 18 months of age, is associated with a significant increase in the extent of externalizing symptoms (see Table 1.).

Table 1. Linear regression model estimates for the association of low SES family background and day care attendance with internalizing and externalizing symptoms at age 3

	Model1 for internalizing symptoms (Std. Beta)	Model2 for externalizing symptoms (Std. Beta)
Low SES family	0.114***	0.118***
Vulnerability		
Disadvantaged developmental region of residence	0.098***	0.042*
Prevalence of single motherhood	0.034	0.025
Prevalence of inactive status of the father	0.019	0.010
Roma ethnicity	0.010	0.037
Day-care attendance and timing		
Started day-care until the age of 1.5	-0.047*	0.066**
Started day-care from the age of 1.5 until the age of 2	-0.084***	-0.028
Started day-care after the age of 2	-0.054**	-0.016
Grandparent's involvement in day care	0.016	0.038*
Demographic characteristics		
Younger sibling(s)	0.040*	-0.014
Older sibling(s)	-0.042*	-0.033
Mothers age at childbirth	0.016	-0.063**
Sex (girl)	-0.048*	-0.050**
Interactions		
Low SES*start day-care until 1.5	-0.047*	-0.029
Low SES*start day-care from 1.5 until 2	0.019	0.036
LowSES*start day-care after 2	-0.021	-0.008

Note. Model1: Adj.R²=0.079. N=2,793; Model2: Adj.R²=0.072. N=2,802.

***Significant at 0.01, **significant at 0.05, *significant at 0.1

Source: HCSO HDRI, Growing Up In Hungary, 2023.

In general, the study confirmed a buffering effect of day care against the adverse consequences of low socioeconomic status (SES) on internalizing symptoms. This suggests that non-parental care may partially compensate for children's social disadvantages in this regard. However, for externalizing problems, a timing effect was observed concerning the commencement of day care. Early entry had a negative impact, and non-parental care did not mitigate the adverse effects of disadvantages on this outcome. Therefore, initiating day care before the age of 18 months could have mixed effects on socio-emotional development.

Based on these findings, it is essential to consider not only the caregiving aspect of the day care system but also its educational and social compensatory role in the Hungarian context. By identifying the developmental effects of early childhood education that are dependent on social background, policymakers can better target the development of the day care system and enhance social communication.

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