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ACTA PÆDIATRICA NURTURING THE CHILD WILEY

BRIEF REPORT

An online survey carried out in 2022 showed that COVID-19 was associated with negative changes in children's lives

The COVID-19 pandemic has had adverse effects on the well-being, health and behaviour of children and adolescents, probably due to social restrictions.[1–3] A lot of studies were conducted during the particularly challenging first year of the pandemic, when there were lockdowns and day care, schools and leisure facilities were closed. Our online survey in February 2022 investigated parents' perceptions of the long-term consequences of the pandemic on child development. We also explored associations between these consequences and the children's age and sex, the family's socioeconomic status (SES) and the children's fear of COVID-19.

The data were collected as part of the LIFE Child longitudinal cohort study in Leipzig, Germany, which has been investigating healthy child development from the prenatal period to young adulthood since 2011. Most of the children, up to 16 years of age, are recruited through advertisements in healthcare facilities, and those with chronic, chromosomal or syndromic diseases are excluded. The study complies with the Declaration of Helsinki and was approved by the Ethics Committee of the Medical Faculty of the University of Leipzig (number 264/10-ek). All parents provided written informed consent.

This study analysed the data from an online survey designed by the authors. The link was sent to 2114 participants in February 2022, 2 years after the pandemic started, when infection rates were high and a number of anti-pandemic measures were in place. These included wearing masks and limited access to shops and leisure facilities. The survey was completed by the parents of 465 (51% girls) subjects from 1–18 years of age, with a mean age of 8.6 ± 4.8 years. The response rate was 22%. The SES of the participating families, based on parental education, occupation and income,[4] were middle (50%) and high (50%), which reflected the general under-representation of low-SES families in the wider study. T-tests and chi-squared tests showed that the distributions of age, sex and SES did not differ significantly between responders and non-responders (all $p > 0.05$).

The survey asked parents whether the COVID-19 pandemic had positively or negatively affected their children's health, well-being, family relationships, friendships, autonomy, learning ability and school performance. The options were negative change, rather negative change, no change, rather positive change and positive change. Multiple ordinal mixed-effect models were used to assess associations between the perceived changes and the child's age, sex, fear of COVID-19 and a continuous measure of SES, ranging from low to high.[4] The data were controlled for siblings in the sample. The associations are reported as odds ratios and 95% confidence intervals (Table 1).

Overall, 40%–60% of parents perceived no changes in the various areas of their children's lives (Figure S1). Changes to health, well-being, friendships, learning ability and school performance were more frequently perceived as negative than positive, in line with previous studies.[1,3] Possible explanations include reduced contact with peers,[1] lack of exercise during restrictions[2] and limited support during distance learning.[3] Changes in family relationships and autonomy were more frequently perceived as positive than negative, probably because school closures triggered more time alone and more time with families.

Table 1 shows the regression analyses. As the children aged, the parents perceived significantly more negative changes in their well-being, family relationships and learning. That normal tendency may have been increased by the pandemic. There were significantly more positive changes in autonomy in older children, possibly because they were more likely to be left alone at home during school closures than younger children.

The parents of girls perceived more positive changes in autonomy, friendships, school performance and learning. Other studies have shown that girls were more vulnerable to pandemic-related mental health problems,[1] but our findings suggest that they coped better with the social and school-related burdens of the pandemic.

Increasing SES was associated with increasingly positive perceptions of the children's school performance, learning and autonomy, supporting the assumption that families with a lower SES suffered most during the pandemic.[5]

The perceived changes in children's health and autonomy were more negative, if they were afraid of COVID-19, supporting previous study findings.[1] However, we did not use a longitudinal design or investigate the reasons for these fears, such as the infection or the anti-pandemic measures.

Overall, we found that pandemic-related changes in healthy children from middle to high SES families were more frequently perceived as negative than positive, particularly for mental and physical health, friendships and education.

Abbreviation: SES socioeconomic status

TABLE 1 Associations between perceptions of pandemic-related changes in children's lives and sociodemographic parameters and fears of COVID-19

	Dependent variable: perceived changes in the area in children's lives[a]						
Independent variable	**Health**	**Wellbeing**	**Family**	**Friends**	**Autonomy**	**Learning**	**School performance**
Number[b]	455	452	454	452	444	363	271
Child's age							
Odds ratio	1.00	0.93	0.76	1.04	1.11	0.88	1.01
95% CI	0.96–1.04	0.88–0.98	0.68–0.87	0.98–1.10	1.06–1.17	0.84–0.93	0.93–1.09
p-value	0.903	0.007	<0.001	0.198	<0.001	<0.001	0.853
Child's sex (reference male)							
Odds ratio	1.19	1.06	1.08	1.92	1.73	1.97	2.34
95% CI	0.82–1.73	0.66–1.70	0.44–2.68	1.13–3.25	1.12–2.67	1.28–3.03	1.36–4.05
p-value	0.363	0.808	0.866	0.016	0.013	0.002	0.002
SES							
Odds ratio	1.04	1.03	1.14	0.95	1.11	1.08	1.13
95% CI	0.97–1.11	0.94–1.13	0.86–1.51	0.85–1.06	1.02–1.21	1.00–1.17	1.02–1.25
p-value	0.248	0.563	0.364	0.354	0.021	0.041	0.020
Fear of COVID-19							
Odds ratio	0.73	0.72	0.99	1.04	0.70	0.91	1.01
95% CI	0.57–0.94	0.51–1.01	0.52–1.89	0.72–1.49	0.52–0.95	0.69–1.20	0.71–1.44
p-value	0.016	0.056	0.972	0.841	0.020	0.501	0.957

[a]operationalised as an ordered ordinal scaled variable where higher values indicate more positive perceptions.

[b]Variations in the number of observations are due to specific items missing.

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CONFLICT OF INTEREST

None.

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