

## Research Summary

### How parental mental health and family wellbeing shaped child mental health and wellbeing after the 2014 mine fire

June 2025



## Background

The fire in the Morwell open cut brown coal mine adjacent to the Hazelwood Power Station blanketed the town of Morwell and the surrounding area in smoke and ash for six weeks in February and March 2014. The smoke event was recognised as one of the most significant air quality incidents in Victoria's history. It caused considerable community concern within Morwell and the broader community. In response to these concerns, and following extensive community consultation, the Hazelwood Health Study (HHS) was established to examine the impacts of the mine fire. The HHS involves multiple research streams targeting different health outcomes and different vulnerable groups.

The Psychological Impacts research stream investigates the associations between exposure to smoke from the Hazelwood coal mine fire and psychological trauma and distress. The Latrobe Early Life Follow up (ELF) research stream follows the health and growth of children who were exposed in early life.



### Analysis aims

We aimed to investigate the relationship between exposure to smoke from the Hazelwood mine fire in early childhood and the mental health of the children and their parents eight years later. We examined how these mental health outcomes were influenced by parent, child, and family-wide factors, as well as adverse events that have occurred in the community since the mine fire.



## What we did

Parents who had previously completed the 2016 ELF Baseline Survey were invited to participate in the 2022 HHS Survey of ELF Parents and Families. Their children were categorised as either exposed to mine fire smoke while in the womb, exposed between the ages of 0-2 years, or conceived after the mine fire and not exposed. To assess child mental health, parents completed the Strengths and Difficulties Questionnaire and provided details of any child mental health diagnoses. Parent mental health was assessed using the Kessler General Psychological Distress Scale, the Parental Stress Scale, and self-reported mental health diagnoses. Family-wide factors which were assessed included family history of major challenges, family issues impacting the child in the previous 12 months, current family stress level, sociodemographic factors, and family concerns relating to the 2019-2020 Black Summer fires and COVID-19 pandemic.

Hazelwood Health Study website: [www.hazelwoodhealthstudy.org.au](http://www.hazelwoodhealthstudy.org.au)



## What we found

There were no clear relationships between exposure group and either child or parent mental health outcomes. However, comparisons between survey responses and other data available for Latrobe City, Gippsland and beyond, suggested that participating families had higher than usual/expected rates of childhood mental health diagnoses, childhood emotional and behavioural difficulties, general psychological distress among parents, and problems in the family. The differences between the surveyed families, and others of the wider Latrobe region, suggest that families facing particular challenges may have been more likely to take up the invitation to respond to our survey on longer-term child and family health and wellbeing outcomes following the mine fire. This greater likelihood, for parents experiencing family challenges to participate in a post-mine fire study, suggests that these parents may have ongoing concerns in relation to the mine fire.

A detailed report describing the findings from this analysis can be found at <https://hazelwoodhealthstudy.org.au/study-findings/study-reports>

### Meet the team

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## Considerations

We noticed that participating families differed from the levels expected in Latrobe City in terms of mental health, income and education levels. We used some statistical methods to correct for these differences, but it remains possible that our findings still don't reflect the experiences of the wider community.



## Where to from here?

Further reports on child development outcomes are expected from the ELF team, and on longer-term adult mental health outcomes from the Psychological Impacts team.

The HHS is led by Monash University with collaborators from Menzies Institute for Medical Research, Federation University, The University of Adelaide and CSIRO.

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