

Research Summary

The Impact of a Mine Fire and Smoke Event on Academic Outcomes for Primary and Secondary School Students

June 2020



Background

Analysis aims

This study aimed to determine whether students in years 3, 5, 7 and 9 who were from schools highly exposed to the Hazelwood mine fire, or who reported higher levels of ongoing distress associated with the event, had different academic outcomes from students who were less exposed or who reported less distress associated with the event.

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, with the concentration of smoke contaminants reaching high levels.

The smoke event 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.

Meet the team

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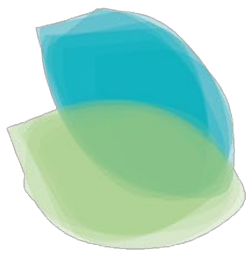


What we did

This analysis compared students from schools in Morwell, which were highly exposed to the smoke event, with those from lesser exposed schools located elsewhere in the Latrobe Valley. 303 students aged 7 to 16 years completed a survey more than one year after the event, which included the Children's Revised Impact of Events Scale (CRIES-13); a measure of distress associated with the mine fire. This survey information was coupled with students' NAPLAN scores (obtained from the Australian Curriculum, Assessment and Reporting Authority) from the years before and the year after the Hazelwood event. When we analysed the data, we took into account other known factors that can affect academic performance, including age, sex and school sector.

A more detailed paper describing the findings from this analysis can be found at

<https://hazelwoodhealthstudy.org.au/study-findings/publications>



What we found

The longitudinal analysis found that secondary school students from schools most exposed to the smoke had delayed academic development (as measured by NAPLAN scores) after the event compared to students from lesser exposed schools. Primary school students from Morwell did not show the same delay in academic development. Having a higher level of distress was not associated with delayed academic outcomes.



Considerations

The number of participating students was relatively low. We cannot rule out the possibility that the results occurred by chance, or were due to other unmeasured factors that can affect academic performance such as another distressing event.

The finding that primary school students from Morwell did not have the same delay in academic development as older secondary students could be because more supports may have been targeted at primary schools following the event.



Where to from here

Future research will aim to analyse NAPLAN data for all students across the Latrobe Valley, and not just those who completed our survey. HHS results will be shared with relevant organisations to ensure they are used to shape services for the future wellbeing of the Latrobe Valley.



The Hazelwood Health Study is a collaborative program of research led by the Monash University Schools of Public Health and Preventive Medicine and Rural Health in partnership with Federation University, the Menzies Institute for Medical Research at the University of Tasmania, the University of Adelaide and the CSIRO.

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