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# Intersectionality between young people, environmental disasters and the criminal justice system in Australia

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There is an absence of research specifically addressing the intersectionality between young people, environmental disasters and the criminal justice system globally. This paper examines the existing literature for the likely connections between young people impacted by environmental disasters in Australia, with a particular focus on young Indigenous people, and their future intersection with the criminal justice system. Young people and Indigenous communities are particularly vulnerable to the detrimental effects of environmental disasters. In analyzing the similarities between those unique vulnerabilities and the common risk factors for engagement in the criminal justice system, we infer that exposure to environmental disasters can increase the likelihood of young people, particularly young Indigenous people, engaging in the criminal justice system in Australia. Empirical research on this topic is paramount to developing measures for preventing and reducing engagement in the criminal justice system for young people impacted by environmental disasters. Ultimately, young people exposed to environmental disasters may be at increased risk of future exposure to the criminal justice system.

#### KEYWORDS

disaster, environment, youth and adolescence, crime, Indigenous

### Introduction

Disaster justice discourses emerge from a common understanding that the impacts of climate change and the environmental disasters it will increasingly produce, will impact vulnerable populations the most (Verchick, 2012). Environmental disasters— bushfires, floods, cyclones, heatwaves—are increasing in frequency across the world. Young people (children up to 18 years) are uniquely affected by environmental disasters because they have specific needs that when unmet, produce vulnerabilities (UNICEF, 2015; UNDRR, 2015). For example, young people are more at-risk of psychological and physical harm (including abuse) and disruptions to their developmental and educational progress after environmental disasters (Deloitte Access Economics, 2024). Young Indigenous<sup>1</sup> peoples are at even further risk because of the unique and disproportionate impacts of environmental disasters on Indigenous communities, and the youthful population profile of Indigenous people in Australia (National Indigenous Disaster Resilience, 2024). Given this context it is increasingly important, and urgent, to consider

<sup>1</sup> Throughout this paper, references to "Indigenous" people and are to Australian Aboriginal and Torres Strait Islander people.

the realm of exposures young people, and in particular young Indigenous people, will face during times of crisis.

While it is known that vulnerable populations are more at-risk, and Indigenous communities are at increased risk of exposure during and post-disaster, there is a notable gap in literature on causal connections between a young person's experience of environmental disaster and their potential engagement with the criminal justice system. This mini-review explores this issue.

We write as a collective of academics and lawyers. Bhiamie Williamson and Nell Reidy are researchers with the National Indigenous Disaster Resilience program at Monash University in Melbourne, Victoria. Deni Jokovic-Wroe and Leanne Collingburn are practicing lawyers with HopgoodGanim Lawyers based in Brisbane, Queensland.

In this paper, we (1) draw from literature relating to the impacts of environmental disasters on young people and also specifically on Indigenous people, (2) analyse the common risk factors and protective factors for young people's engagement in the criminal justice system, specific consideration is given in the context of risk factors and protective factors experienced by Indigenous peoples (3), examine the existing literature relating to environmental conditions and crime (in adults) and (4) provide recommendations for further research.

The terms Indigenous people (singular) is used to signify individuals and Indigenous peoples (plural) is used to signify political-legal groups. The term young people is inclusive of young Indigenous people, unless indicated otherwise.

#### Methodology

The researchers conducted a systematic literature review to identify existing literature on, and adjacent to, young people impacted by environmental disasters from Australia and abroad, and their future intersection with the criminal justice system. Particular focus was given to young Indigenous people given the disproportionate impact of environmental disasters on Indigenous peoples and the disproportionate representation of Indigenous young people in the criminal justice system. Key search terms included: disaster, environment, youth, young people, crime, Indigenous and Australia. The terms were searched for in online journal databases and google scholar within the date range of 2000 to present.

#### Findings

# Unique impact of environmental disasters on young people

The question of "who is vulnerable" in relation to environmental disasters continues to be a topic of debate in disaster discourses. While a thorough discussion of what is meant of vulnerability is out of the scope of this paper, it is deserving of a brief discussion. Vulnerability is an idea that some people in society have a lower capacity to absorb shocks and disruptions. Richardson (2014) states: Understanding vulnerability and resilience in the emergency management context is assisted by understanding the complexity inherent in the consequences of losses and the severe disruption from emergency events. This understanding shines a light upon what individual lives, households, families, businesses, organizations, and community networks may be vulnerable to, or in fact resilient from (2014, p. 6).

While calculable indexes of "vulnerability" vary, all indices suggest that young people are at higher risk to the impacts of environmental disasters than older populations. We acknowledge that even within the context of "young people," some will experience greater vulnerability than others. Vulnerability relating to young people relates equally to their reliance on parents or carers and educational institutions, as well as their physical and emotional vulnerability when compared to adults (Makwana, 2019). In this way the vulnerability of young people is formed around social and biological determinants which are out of their sphere of control. Vulnerability is not related to choices made by children.

Literature that explores some of the psychological, social, economic and educational impacts that environmental disasters have on young people are mostly silent on the specific legal entanglements between young people and criminal justice systems. Exploring what is meant by psychological, social, economic and educational factors will demonstrate that the degradations of these factors drives increased exposure between young people and criminal justice systems.

#### Psychological impacts

Childhood is a period of immense developmental change, and young people can experience greater difficulty in processing trauma (Bernstein and Pfefferbaum, 2018). Evidence suggests that the human brain continues to develop throughout adolescence and does not reach developmental maturity until a person reaches their mid-20s (Barendregt and van der Laan, 2019; Prior et al., 2011), and this is a significant reason for the disproportionate negative impact that environmental disasters have on young people. A considerable body of international research shows that young people who are exposed to environmental disasters 'are at risk of various psychological effects: feelings of fear, overwhelm, worry, distress, hopelessness and anger; stress; PTSD; depression; anxiety; phobias; panic disorder; sleep disturbances; attachment disorders; learning difficulties; substance abuse; shock and trauma symptoms; adjustment problems; behavioral problems; and, suicidal thinking' (Carnie et al., 2011; Dyregrov et al., 2018; Gibbs et al., 2014; Godden et al., 2021; Kousky, 2016; Makwana, 2019; UNICEF, 2015). Case studies support this, for example, negative mental health impacts, including aggression and behavioral problems were identified in studies of drought affected children in Australia and young people impacted by Hurricane Katrina in the United States (Carnie et al., 2011; Scott et al., 2014).

Psychological responses to environmental disasters differ based on a variety of factors. One factor is the severity of the exposure to the environmental disaster, as greater exposure correlates with more adverse psychological outcomes (Bernstein and Pfefferbaum, 2018). Psychological responses typically vary based on age group, with teenagers being more likely to exhibit rebellion and other behavioral problems as well as engagement in risk-taking (Peek, 2008). The personal resilience and coping skills of a young person are also a significant contributing factor to their growth or distress post-disaster. Bernstein and Pfefferbaum's (2018) study on post traumatic growth demonstrates that, whilst further research is required on the topic, children can survive and thrive when faced with environmental disasters.

#### Education

Education may be disrupted by the destruction of facilities or the displacement of families (Gibbs et al., 2019; Kousky, 2016), and from trauma-induced neurodevelopmental impacts, which can compound when a young person's social networks are affected through the loss of family members and others in their community (Gibbs et al., 2014). A 2019 study of primary school children impacted by major bushfires in Australia found that the event caused poor academic performance amongst some participants, which was not observable until years after the traumatic event (Gibbs et al., 2019).

#### Economic and housing

Environmental disasters can have detrimental effects on the economic security of families (Gibbs et al., 2014). This may cause families to have less money to spend on medical care, food or school supplies, and in some cases, families may become homeless as a result of the destruction of their home or inability to afford housing. Reducing the investment toward young people's health and education can have long term negative implications (Kousky, 2016).

#### Social

The effects of environmental disasters are collective, and can have profound impacts on a young person's social network, including as a result of the loss of family members and others in their community (Gibbs et al., 2014). Young people are particularly sensitive to the impact that an environmental disaster has upon their caregivers and their ability to cope and experience post traumatic growth will likely be influenced greatly by their caregivers' reactions (Bernstein and Pfefferbaum, 2018; Gibbs et al., 2014). This is supported by research findings that a young person's relationships with their caregivers "shapes pathways in the brain and affects future developmental outcomes" (Gibbs et al., 2014, p. 8). Furthermore, as environmental disasters often wreak havoc across the wider community, a young person's wider social and community network may be compromised thus weakening their network of support (Bernstein and Pfefferbaum, 2018; Gibbs et al., 2015).

Consideration should also be given to the increased prevalence of family and domestic violence in the aftermath of environmental disasters and how this negatively impacts young people (Boddy et al., 2024; Quinn et al., 2022). This has been documented across the globe, including following the 2009 Black Saturday bushfires in Australia (Parkinson and Zara, 2013), and in New Zealand following the 2010 Canterbury earthquake and 2011 Christchurch earthquake (Parkinson, 2019).

#### Unique impacts of environmental disasters on Indigenous peoples in Australia

In Australia, Indigenous people are disproportionately impacted by natural hazards and disasters (National Indigenous Disaster Resilience, 2024). Two thirds (63%) of Local Government Areas (LGAs) across Australia that were impacted by disasters between July 2021 and June 2024, have Indigenous populations higher than the national average of 3.8%. Further, the average Indigenous population of impacted LGAs is nearly four times higher (13.72%) than the national average (National Indigenous Disaster Resilience, 2024). Indigenous people are also uniquely impacted by disasters. Indigenous peoples' have distinct social and spiritual connections and relationships with the land meaning that disasters can have additional cultural and spiritual impacts (Williamson, 2022). Indigenous people in Australia also continue to be affected by colonization and its influence on contemporary policies and practice in the disaster sector (Williamson and Weir, 2021).

# Risk factors and protective factors for young people and the criminal justice system

Criminal justice discourse frequently identifies factors that may increase or decrease the likelihood of a person engaging in criminal behavior. These are often referred to as "risk factors" and "protective factors," the former referring to conditions or characteristics that can increase the likelihood of an individual offending and the latter referring to things that can reduce an individual's likelihood of offending, or reduce their exposure to risk factors (Kennedy et al., 2019; Lee et al., 2018). Young people who commit crimes experience more risk factors and less protective factors, when compared to young people who do not commit crimes (Kennedy et al., 2019). Whilst specific data is lacking on the intersection between young people, environmental disasters and the criminal justice system (Harrison et al., 2024), the breadth of literature on risk factors and protective factors for young people's engagement with the criminal justice system help us to draw inferences about the ways in which environmental disasters increase the likelihood of a young person, particularly young Indigenous person, engaging with the criminal justice system. Parallels can be drawn between the unique impacts of environmental disasters on young people (discussed above) and the commonly accepted risk factors and protective factors for young people's entanglements with the criminal justice system.

Common risk factors include; mental health issues, such as experiencing stress, trauma, depression or anxiety; economic and housing insecurity such as homelessness and growing up in socioeconomically disadvantaged households or communities; family stress and dysfunction, including poor parental supervision and parenting skills; and educational disengagement and difficulties (Ayano et al., 2024). Many of the identified risk factors correlate with the negative impacts that environmental disasters have on young people. Moreover, adverse childhood experiences, such as trauma, have been associated with more frequent youth recidivism (Astridge et al., 2023). There are important links that summarize this story; environmental disasters increase the prevalence of risk factors experienced by young people and thus increase the likelihood of young people's encounters with criminal justice systems.

It is important to also consider the protective factors limiting the risk of engagement in the criminal justice system for young people, many of which mirror the identified risk factors. For example, education can be a risk factor in circumstances where there are higher rates of truancy but a protective factor if lower. Other protective factors include social cohesion, strong families, access to friends, participation in community groups such as sporting clubs or youth groups, and socio-economic factors, such as being employed or living with parents that own their home (Astridge et al., 2023; Honorato, 2018). Understanding protective factors is crucial for developing effective intervention strategies for youth crime.

#### Risk factors and protective factors for Indigenous peoples and criminal justice systems

The literature detailing the overrepresentation of Indigenous young people in the Australian criminal justice system is extensive (Boersig, 2005; Cunneen et al., 2016; Little et al., 2018; Papalia et al., 2019; White, 2015). The risk factors identified in much of this literature relate to entrenched disadvantage, marginalization, substance abuse, unemployment and trauma, stemming from historic injustices and discriminatory policies including land dispossession and sanctioned child removal (Papalia et al., 2019). Evidence supports a correlation between both direct and indirect involvement in the Stolen Generations with prevalence and frequency of arrests (Ferrante, 2013). More recently, the placement of young Indigenous people in out of home care has also been shown to exacerbate existing risks for involvement in criminal offending (Davis, 2019). Racial profiling and over policing have also been linked to the over incarceration of Indigenous people (O'Brien, 2021).

Protective factors identified in the literature include connection to community and cultural identity (Davis, 2019; Ferrante, 2013). Research suggests that for Indigenous peoples, social connectedness to their community may be as, if not more, influential in reducing involvement in the criminal justice system than other more commonly accepted protective factors such as education. The importance of cultural identity is also known to be a protective factor, particularly amongst those who live in remote areas (Ferrante, 2013). Data from the 2022–2023 National Aboriginal and Torres Strait Islander Health Survey supports the existence of these protective factors, revealing that Indigenous people who felt satisfied or very satisfied with their own level of knowledge of culture were more likely to experience low or moderate levels of psychological distress in a 4 week period (71%) than those who were not very satisfied or not at all satisfied (61%; Australian Bureau of Statistics, 2022–23). Harnessing these protective factors reduce the likelihood of young Indigenous people entering or re-entering criminal justice systems.

# Environmental disasters and environmental impacts and youth crime

In light of the lack of specific data and research on the intersection between environmental disasters, young people and the criminal justice system, it is worthwhile considering more broadly how environmental disasters and environmental impacts might increase a person's encounters with criminal justice systems.

A comprehensive literature review on the association between environmental disasters and violence was undertaken in 2013 (Rezaeian, 2013). This review found that environmental disasters "might increase rates of violence both in the short and long term by developing mental distress and anger" (Rezaeian, 2013, p. 1105). Comparably, associations have been made between environmental impacts, such as exposure to pollution and extreme heat, and poor decision-making and crime (Chandra et al., 2022; Corcoran and Zahnow, 2022; Herrnstadt and Muehlegger, 2015; Manduca and Sampson, 2021). A 2022 review concluded that there is a consistent finding that "warmer temperature is positively associated with violent crime" (Corcoran and Zahnow, 2022, p. 10). Moreover, a 2020 study found that children raised in areas with higher levels of traffic-related air pollution and housing-derived lead risk experienced higher likelihood of being incarcerated as an adult (Manduca and Sampson, 2021). This is supported by other studies finding connections between exposure to air pollutants and 'an increased risk of lower cognitive function' among young people (Chandra et al., 2022, p. 1).

These findings reveal relationships between environmental disasters and violence in adults, and environmental impacts and criminal behavior in youth. From this, we suggest that environmental disasters may increase risk factors associated with antisocial behaviors in young people, and may subject them to family and domestic violence which can increase their interactions with the criminal justice system.

Moreover, parallels can be drawn between exposure to environmental impacts and poor decision-making and in turn increased likelihood of interaction with the criminal justice system. As such, environmental disasters can exacerbate pre-existing disadvantages (Godden et al., 2021).

Indigenous children and young people are already overrepresented in the criminal justice system (Australian Institute for Health Welfare, 2024). In the June quarter 2024, on average, 3 in 5 young people (aged 10–17) in detention were Indigenous, and Indigenous young people (aged 10–17) were 27 times as likely as non-Indigenous young people to be in detention (Australian Institute for Health Welfare, 2024). As prior detention is a risk factor for recidivism (Payne, 2007), this places young Indigenous people at higher risk of reengagement with the criminal justice system in the context of environmental disasters. The disproportionate representation of Indigenous youth in the criminal justice system is indicative of systemic issues arising from colonial processes of discrimination (Williamson and Weir, 2021).

## Conclusion

In the face of increasing environmental disasters, considerations of how to effect disaster justice must include examinations of young people and their future entanglements with the criminal justice system. Our review reveals significant gaps in research on this topic, including with respect to young Indigenous people. The available related literature overwhelmingly indicates that young people have unique vulnerabilities which increase their susceptibility to environmental disasters. Based on this review, we believe that this is likely to be compounded in circumstances where those young people identify as Indigenous, with Indigenous communities uniquely impacted by environmental disasters and already disproportionately represented in the criminal justice system.

Further research is required in this area, and is crucial to understanding youth risk factors that are linked to environmental disasters, which in turn can inform the development of approaches to prevent and reduce their future engagement in the criminal justice system. However, it is abundantly clear that experience of, and exposure to, environmental disasters further exacerbates already present risk factors, increasing the likelihood for young people to become entangled with the criminal justice system, particularly young Indigenous people.

Whilst this is an issue of global significance, we have identified the need for further research on the experience of young Indigenous people in Australia. We pose the following as a specific question for future research:

What challenges do environmental disasters create for young Indigenous people, and how do these challenges correlate with increased interactions with the criminal justice system?

The specific "challenges" explored may include mental health and wellbeing; educational challenges; housing; family and domestic violence; cultural, spiritual and physical dispossession and destruction. In engaging with this question, mediating and confounding variables should also be considered, including the magnitude of the environmental disaster and demographics of impacted people (e.g., gender, socio-cultural and socioeconomic factors).

The research may be informed by existing data available from mental health services, schools, community legal centers, Aboriginal and Torres Strait Islander legal centers, and the justice system. It is crucial that trauma-informed and culturally competent approaches to this research be applied.

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