

Abstract

Youth misuse of fire is a community concern, with potentially devastating consequences. In Australia, youth misuse of fire predominantly occurs in Caucasian populations. However, Indigenous young people are disproportionately represented in statistics for misuse of fire. Evidence shows that early intervention is key to reducing youth misuse of fire, but most research has been conducted on Caucasian populations. This is concerning where evidence suggests that Indigenous communities benefit most from targeted and culturally sensitive interventions. The aim of this study was to bridge this gap by co-designing a youth fire intervention program with Indigenous communities. Between December 2023 and February 2024, Indigenous peer researchers facilitated workshops in 3 Indigenous communities in New South Wales (NSW) Australia. Community members explored what they needed and wanted in terms of youth misuse of fire intervention. Thematic analysis revealed 7 main themes: approach, connection, colonisation, education, empowerment, engagement and personnel. The results showed thematic commonalities within and between Indigenous communities. While these results may not be generalised to communities more broadly, they do indicate that there are shared considerations that must be respected when designing, developing, implementing and evaluating a culturally appropriate youth fire intervention program for Indigenous communities.

Co-designing a youth fire intervention program with Indigenous communities in New South Wales, Australia

Peer reviewed


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Introduction

Youth misuse of fire is defined as any illegitimate use of fire or incendiary materials by a person under the age of 18 years (Pooley 2018). Youth misuse of fire is a community concern with the potential for devastating consequences. In Australia, youth misuse of fire predominantly occurs in Caucasian-Australian populations; however, Indigenous young people are over-represented in misuse of fire statistics (Muller 2008; Pooley 2018). Pooley (2018) conducted an analysis of Youth Justice Conferencing for fire-related offences in NSW and found that those who identified as Aboriginal and Torres Strait Islander accounted for 25.9% of all young people referred to conferencing for a fire-related offence, despite only accounting for 3.4% of the NSW population. While the majority of young people who participated in conferencing were non-Indigenous, Indigenous young people were disproportionately represented. This over-representation is concerning given young people who identify as Indigenous are less likely to be diverted to conferencing than non-Indigenous people (Allard et al. 2010). Muller's (2008) analysis of bushfire arson offenders similarly identified an over-representation of Indigenous offenders among youth (37%) and adult (20%) fire-related offenders in NSW.

Due to the risks and consequences of youth misuse of fire, early intervention is widely supported. Evidence suggests that early intervention programs are central to changing fire-specific behaviours in young people and their caregivers (McDonald 2010). While reviewing fire-related offences in NSW at the request of the NSW Attorney General, the NSW Sentencing Council (2019) identified education and therapeutic interventions as key intervention mechanisms for youth misuse of fire. Despite evidence that early intervention reduces youth

misuse of fire, most research to date has been conducted on Caucasian populations. A recent systematic review of interventions for preventing fires found a dearth of evidence gathered directly from Indigenous communities (Al-Hajj et al. 2022). Al-Hajj et al. (2022) recommended culturally sensitive interventions targeted at Indigenous communities. This aligns with Pooley's (2020) systematic review of common components of effective youth offender programs. The review found that programs designed for Indigenous people were more effective than mainstream programs, particularly when they incorporated culturally appropriate activities, embedded traditions and norms and were implemented by someone with shared place, language, histories or beliefs. Programs designed for Aboriginal and Torres Strait Islander young people should incorporate culturally appropriate interventions and the active participation of cultural leaders in the design, development, implementation and evaluation of programs (Murphy et al. 2010). Despite this, there are no known culturally specific early intervention programs for young Indigenous people who misuse fire.

Methodology

The National Health and Medical Research Council (NHMRC) guidelines state that ethical research with Aboriginal and Torres Strait Islander peoples and communities should:

- improve the way all researchers work with Aboriginal and Torres Strait Islander peoples and their communities
- develop and/or strengthen research capabilities of Aboriginal and Torres Strait Islander peoples and their communities
- enhance the rights of Aboriginal and Torres Strait Islander peoples as researchers, research partners, collaborators and participants in research.

The guidelines cover 6 core values (spirit and integrity, cultural continuity, equity, reciprocity, respect and responsibility) that should underpin all human research undertaken with Aboriginal and Torres Strait Islander people and communities. These values underpin the co-design approach.

Co-design refers to a collaborative approach whereby people come together to connect their knowledge, skills and resources to understand, interpret and address a challenge or opportunity (Zamenopoulos and Alexiou 2018). Co-design is a collaborative, cooperative, collective or connective approach to conceptualisation, development, implementation and/or evaluation (Zamenopoulos and Alexiou 2018). According to a recent systematic review, co-design approaches can overcome the knowledge-to-practice gap because they are relational,

context-driven and based on lived experience (Grindall et al. 2022). Co-design is especially important when working with and for Indigenous communities. Successful co-design with First Nations communities places true value on diverse knowledge systems and is built on strong relationships and authentic partnerships (Tamwoy et al. 2022). Further, for co-design with Indigenous communities to be successful, processes must be respectful, reciprocal and relational (Akama et al. 2019). To ensure respectful, reciprocal and relational co-design, this project adopted concepts of, and applied, Aboriginal Participatory Action Research (APAR) and Community-Based Participatory Research (CBPR).

APAR is positioned as a transformative and critically self-reflexive Indigenous research methodology. APAR aligns with the guiding principles of Indigenous self-determination, empowerment and cultural recognition. It involves Indigenous epistemology (knowledge construction), ontology (way of being), axiology (way of doing) and research methodology. Indigenous co-researchers are critical to APAR, ensuring that Indigenous peoples are central to all components of the research process, from design, data collection, data analysis and interpretation, and conclusions and recommendations (Dudgeon et al. 2020).

CBPR emerged in response to controversial research conducted on marginalised groups. A grassroots movement, guided by the motto 'nothing about us without us', shifted research practice to include meaningful community involvement (Damon et al. 2017). CBPR focuses on local relevance, offers opportunity to build on the community strengths and resources, facilitates co-learning and capacity building and has a greater likelihood of sustainable outcomes (Smith et al. 2020). Communities may be involved in research through review panels, advisory groups or as peer researchers. Peer researchers are community members who are directly employed as research team members (Damon et al. 2017). The use of peer researchers is highly participatory and facilitates inclusive, community-focused research (Damon et al. 2017).

To ensure a respectful, reciprocal and relational co-design process, APAR and CBPR approaches were employed through the inclusion of Indigenous firefighters as peer researchers.

Peer researchers

In June 2023, the research team held preliminary discussions with the committee chairs of Fire and Rescue NSW (FRNSW) Aboriginal and Torres Strait Islander Advisory Committee (ATSIAC). The ATSIAC advises FRNSW and its staff on the lived experiences and issues facing Aboriginal and Torres Strait Islander peoples in NSW. The ATSIAC consists of members of staff, sponsored by management, and is provided with avenues and

opportunities to inform FRNSW policies, procedures and practices. The research team and ATSIAC collectively agreed that Indigenous firefighters should be employed as peer researchers to collect information from their communities. Indigenous firefighters were perceived as uniquely positioned to understand the cultural and environmental significance of fire in their communities and to facilitate data collection in a culturally appropriate and sensitive manner. The project was promoted by word-of-mouth through the ATSIAC and FRNSW community. Seven Indigenous firefighters self-selected to work as peer researchers. Three of these firefighters subsequently facilitated workshops in their communities.

The peer researchers also served an advisory role throughout the study. From June 2023, the peer researchers engaged in collaborative discussions with the other members of the research team to inform all facets of the project including the Human Research Ethics Committee application, study design, data collection and analysis processes, and the interpretation and translation of the results.

While the use of peer researchers was supported by existing literature and the ATSIAC, there were concerns that the employment of Indigenous firefighters as peer researchers would contribute to cultural loading. Cultural loading refers to the additional workload borne by Aboriginal and/or Torres Strait Islander peoples due to extra Indigenous-related expectations and work demands that are not placed on non-Indigenous people (Australian Public Service Commission 2023). To mitigate cultural loading, only those firefighters who self-selected to participate were included in the research team.

Firefighters were informed that they could withdraw from the study at any time. While 7 firefighters initially expressed interest, only 3 collected data from their communities. Four firefighters withdrew due to personal and professional demands and this withdrawal was supported by the research team. The remaining 3 firefighters were supported throughout and remunerated for their time and contribution. To reduce the risk of cultural loading on the 3 peer researchers, the fourth author managed the administrative and logistical tasks associated with this study, drafted the workshop/discussions schedules, provided transcription support, facilitated briefings and de-briefings, and drafted and edited associated reports in line with the peer researchers advice and feedback. The fourth and fifth authors managed ethics approval and all associated forms and processes.

Ethics approval

Ethics approval from the Victoria University Human Research Ethics Committee was obtained (HRE23-138).

Participants

Peer researchers invited community members to participate in the study if they:

- were adults (aged 18 years and over)
- identified as an Aboriginal and/or Torres Strait Islander
- usually resided in the community of interest; and
- had exposure to, or knowledge of, youth misuse of fire.

Recruitment

Between December 2023 and February 2024, Indigenous peer researchers discussed the project and its purpose with members of their communities. The peer researchers contacted known community members who had prior exposure to, or knowledge of, youth misuse of fire. Using snowball sampling, these community members then referred the peer researcher to other community members. Snowball sampling was used because the peer researchers suggested that this was the most appropriate approach. While NHMRC guidelines state that local Elders or respected community members may be best placed to identify potential participants, the peer researchers stated that Elders and community representatives, like Land Councils, are not always representative of their communities and may produce a skewed sample.

While participants were not recruited through Land Councils or Elders, if the peer researchers deemed it appropriate, they were informed of the research and asked for their permission to involve the community in the research. This process did not require written consent unless the representative also participated in the research. Instead, the process of discussing the research with Elders or respected members followed usual community protocols. The importance of following community protocols was critical and the peer researchers had the knowledge and capacity to ensure this occurred.

Peer researchers provided potential participants with an information form about the research project. Participants, either verbally or through another community member, notified the researcher of their interest in participating. Participants were required to provide informed consent using a QR code prior to the workshop or discussion.

Activities

The Indigenous researchers, and the Indigenous people they engaged with, chose a research method that was most suitable to them and their context. In 2 communities, group workshops were deemed the most appropriate approach, while in one community, the peer-researcher held small group discussions to mitigate power imbalances and facilitate accessibility (i.e. discussions were held at times and locations that best suited participants).

Peer researchers were provided with 7 questions to use as prompts for discussion:

- Based on your experience and knowledge, what do you think young people need to help them stop misusing fire?
- What do you think families and communities need?
- What resources do you think may be helpful?
- What has worked in the past in supporting young people who misuse fire?
- What hasn't worked or has made things worse?
- How do you think we could keep young people engaged or interested in a program?
- Do you have any other comments or ideas that can help us reduce misuse of fire in young people?

Despite providing the prompts above, peer researchers were encouraged to facilitate conversation beyond these questions where relevant.

The 2 workshops went for a duration of 2 hours, while the small group discussions went for 1–2 hours. After completion, participants were reimbursed \$40.00 per hour via eGift cards disseminated to their nominated email address.

Sample

Three peer researchers facilitated workshops or discussions in their communities. Communities were diverse. They were geographically located in a major city, inner regional area and remote area of NSW. Community populations ranged from 8,000 to 180,000 people. Aboriginal and/or Torres Strait Islander peoples accounted for between 4% and 23% of community populations, all of which were above the NSW average of 3.4%. Despite their geographic and demographic diversity, all 3 communities experienced high rates of youth misuse of fire, as recorded by FRNSW incident data.

Data collection

The data collection method was chosen by the peer researchers and their participants. In one community, summaries and dot points were handwritten by a scribe. In another, mind maps were created on butcher's paper by a scribe, while the scribe also recorded in-depth notes and the peer-researcher recorded their reflection on the workshop. The peer-researcher who held small group discussions recorded participant's in-depth contributions by hand.

Data analysis

The data was collated and thematically analysed, as per Braun and Clarke's (2006) 6-step process: familiarising yourself with your data, generating initial codes,

searching for themes, reviewing themes, defining and naming themes, and producing the report. Collaborative yarning¹ was used to unpack different perceptions and interpretations. This involved an iterative process whereby the peer researchers reviewed and refined the themes and sub-themes to ensure accurate interpretation and portrayal. Using Fereday and Muir-Cochrane's (2006) approach to thematic analysis, inductive and deductive coding was used. Codes were developed deductively from the research questions to draw out knowledge on effective intervention for youth misuse of fire. The idea is not to preconceive codes but to discuss them before coding based on the research questions and then seek them out from the data. The rest of the coding process was inductive where codes were generated from the data. Two researchers coded each of the data sources. After coding, the coders met with the peer researchers to discuss the coding and interpretation and reach agreement.

Limitations

Fire is an integral part of Indigenous culture. For tens of thousands of years before colonisation, fire was a core component of Indigenous peoples' relationship to culture, Country and community. However, since colonisation, legislation, policies and practices have negatively influenced Indigenous peoples' traditional relationships with fire. As a result, youth misuse of fire sits within a complex history of intergenerational dispossession, deprivation and disadvantage. Government agencies, including FRNSW, may be perceived as part of the problem. While this project seeks to co-design culturally sensitive components of a youth misuse of fire intervention for Indigenous youth with Indigenous people, there is potential for Indigenous people to feel frustrated that a state government organisation that may be seen as part of the problem, is approaching Indigenous people to understand how to fix the problem. To mitigate this risk, Indigenous peer researchers were employed to work collaboratively with communities to ensure their cultural safety and wellbeing.

Some Indigenous knowledge and practices are unique to, and protected by, communities. There may be some knowledge and information that Indigenous participants do not want to be shared outside of their communities. The intention of this project was to collect knowledge and information that benefits the broader community through reduction of youth misuse of fire. It is therefore important that results are shared. In the participant information form and in discussions with Indigenous participants about the research, this intention was clearly stated. Participants were asked only to share knowledge and information that can be shared and used more broadly. While this approach

1. 'Yarning' is a conversation that involves the sharing of one's own stories and the creation of new knowledge.

may have limited the information received by participants, it was necessary to maintain cultural safety.

Despite the intention to create a program that is culturally sensitive and suitable for Indigenous youth, people under 18 years were not included as participants. Behaviour that is considered unacceptable according to traditional cultural lore may result in feelings of shame or community exclusion. As a result, being identified as someone who has misused fire may have significant cultural ramifications for young Indigenous people. Where the potential cultural ramifications for young people who may have engaged in misuse of fire were too high for them to be participants in this project, they were excluded. This is a limitation of this study.

Three Indigenous communities were included in the study. While these communities were diverse, representing communities in major cities, inner regional areas and remote areas, the findings can not be generalised to all Indigenous communities across NSW and beyond. Despite this, thematic coding revealed commonalities between communities, suggesting that some themes and sub-themes are common across communities and may be translatable.

Results

The workshop data was coded by research question to ensure appropriate contextualisation of each contribution. Overall, there were 7 main themes: approach, connection, colonisation, education, empowerment, engagement and personnel. These themes were evident across multiple research questions. Engagement informed all 7 research questions, followed by empowerment (n=6), personnel (n=5), approach, connection and education (n=4, respectively) and colonisation (n=2).

Within each theme there were several sub-themes, as shown in Table 1. The number of distinct contributions that were coded within each sub-theme are noted in parentheses. The number of distinct contributions does not necessarily constitute a measure of importance where participants may have mutually agreed on one distinct contribution or made separate contributions that all fell within the same sub-theme.

The results highlight thematic commonalities within and between Indigenous communities. While these results may not be generalisable to communities across NSW or more broadly, they do indicate that there are shared considerations that must be respected when designing, developing, implementing and evaluating a culturally appropriate youth fire intervention program.

Approach

Participants suggested that young people should be engaged as early as possible to instill fire safety knowledge

and cultural learning at a young age (early engagement). Approaches should facilitate pro-social modelling to demonstrate and embed pro-social behaviour throughout the life course (modelling). Young people also need individualised approaches that meet their varied needs, interests and motivations, including those related to gender and developmental stage (individualised). Programs should employ a skills-based, practical approach (skills-based) with ‘hands-on teaching over reading and writing’. Young people also need a safe space (safe space) as reiterated by one participant’s comment, ‘Let’s create a community program that is a safe space for young Indigenous people’. It is also important to recognise that young people and their families and communities have experienced intergenerational trauma that requires trauma-informed care (trauma-informed).

Participants recalled previous successful approaches as those involving targeted, inclusive processes designed to meet the needs of the young person (individualised). Conversely, participants also recalled 3 main approaches that they felt were ineffectual or caused adverse outcomes. One participant described satiation via repetitive, controlled, supervised use of fire as ineffective in satisfying young people’s curiosity and interest, and potentially causing iatrogenic outcomes. They stated:

... if you think lighting a fire in a drum in the backyard with all the controls in place will satisfy a kids desire to see the power of a fire, it will just make them more hungry to start a bigger fire...(satiation).

Participants also stated that punitive approaches, such as punishment and negative labelling, are not conducive to encouraging the development of positive relationships with fire (punitive). Some participants also referred to detention as causing a detachment from culture, which could have a negative outcome, particularly given the associated disconnection with culture, community, Country and fire (detention).

To ensure program success, participants highlighted the importance of embedding the program within business-as-usual to normalise its implementation. As one participant said, ‘Trying to normalise the process is super important’ (normalise program processes).

Colonisation

Participants emphasised that young people have experienced the effects of colonisation and cultural genocide, leading to a disconnection with their culture and traditional relationships with Country and fire. This cultural dispossession has led to the loss of cultural stories, effecting connection with culture and Country. As one participant stated:

Table 1: Indigenous workshop themes and sub-themes by research question.*

Research questions	What do you think young people need to help them stop misusing fire?	What do you think families and communities need?	What resources do you think may be helpful?	What has worked in the past in supporting young people who misuse fire?	What hasn't worked or has made things worse?	How do you think we could keep young people engaged or interested in a program?	Do you have any other comments or ideas?
Themes							
Approach	Early engagement (3) Individualised (4) Skills-based (1) Modelling (1) Safe space (1) Trauma-informed (1)			Individualised (6)	Satiation (1) Punishment (1) Detention (2)		Normalise program processes (1)
Colonisation	Consideration of cultural dispossession (2)				Cultural dispossession (3) Distrust in government (1)		
Connection	Fire (4) Culture (6) Community (4) Country (2)	Culture (1) Continuity (1)		Culture (5)		Culture (2) Continuity (1)	
Education	Consequences (2) Science of fire (1)	Promotion (2) Targeted messaging (2) Events (1)	Primary prevention (1) Cultural competency (2) Culturally appropriate (2) Developmentally appropriate (2)		Lack of targeted information (1) Lack of promotion (1)		
Empowerment	Responsibility (2) Co-design (1)	Community presence (2) Community-led (1)	Co-design (2)	Restorative (2) Responsibility (6) Perspective (4) Community-led (2)		Responsibility (1) Strengths-based (1)	Co-design (1)
Engagement	School programs (1) Activities (1) Firefighters (2)	Authenticity (3) Multiagency (7)	Co-design (2) Cultural activities (1) Social media (2) Cultural approaches (2)	Multiagency (1)	Lack of authenticity (3)	Observation (1) Social media (1) Community (2) Multiagency (5)	Authenticity (1)
Personnel		Local community contact (1) Centralised contact (1)	Engagement Officers (3) Knowledge holders (3) Firefighters (2) Mentors (3) Pool of facilitators (1) Facilitator characteristics (3)	Elders (5) Mentors (2) Support person (2)	Lack of cultural competency (1) Few Indigenous firefighters (1)	Mentors (2) Firefighters (1)	

*The number of distinct contributions that were coded within each sub-theme are noted in parentheses.

From an Aboriginal perspective, our communities and especially our young ones, there is a direct impact of colonisation that has hugely broken our traditional relationship with all things Country and Wiyu (fire)’ (cultural dispossession).

As a result, young people have not been taught cultural stories and practices that form the foundation of a healthy relationship with fire. As one participant stated:

The old cultural stories of Wiyu (fire), and there are many of these in many forms across this Country, have been lost or broken because of colonisation and cultural genocide (cultural dispossession).

The effects of colonisation have also engendered distrust in government agencies and personnel that must be repaired prior to, or during delivery of youth fire interventions (distrust in government).

Connection

Participants stated that young people and their families and communities need strong, positive, sustainable connections with fire, Country, community and culture. Young people need opportunities to renew and share cultural stories about, and relationships with, fire. As one participant recommended, ‘Traditional cultural knowledge to help build relationship again with Country which includes Wiyu (fire)’ (culture). However, it is important to recognise that cultural stories of fire vary across Country and should be shared by local communities. Opportunities to renew and share a connection and traditional relationship with Country were thought to engender respect for the land and the way young people and their communities interact with it (Country). Young people need to connect with and learn from their communities and Elders so that they can develop a sense of community and identity as well as confidence in their culture. One participant emphasised this by stating, ‘Connect them within the mob allowing them to meet respected individuals... allowing them to own who they are and be confident in their culture’ (community). For this to occur, young people must connect with their culture, embed culture into practice and develop cultural pride. To facilitate this, young people should have access to opportunities to learn about and participate in local cultural burning practices. As one participant, who had a history of misusing fire as a young person, said:

Having opportunities to also burn Country in our old cultural ways has completely changed my story also for the better.... Understanding cultural burning and involving this knowledge in the program will give them more insight, more respect for the land they are on (fire).

Connection may be achieved by embedding the renewal and sharing of traditional knowledge and practice within fire intervention programs for youth. Such an approach

may enhance the likelihood that the program is culturally sensitive and specific while building young people’s connection with culture (and thus) community, Country and fire (culture). Participants also felt that engagement with youth fire intervention programs could be sustained by providing young people with opportunities to learn about and practice culture, connect with and fulfil their responsibilities and obligations and care for Country. This connection would support continuity of care post program participation. One participant said, ‘Getting the kids to engage on a cultural (level)... Not just doing it once and leaving them’ (continuity). Familial and kinship engagement in programs was also deemed important to assist young people and their families with continuity of care post program participation (continuity).

Education

Participants felt that there was a lack of targeted, accessible, culturally informed information for communities (lack of information) and poor promotion of targeted information and programs (lack of promotion). A participant stated that ‘...they (firefighters) don’t really have good information for mob’. Consequently, participants recommended that fire safety education should be delivered in schools as a form of primary prevention (primary prevention). However, schools should complete cultural competency training to ensure education is culturally informed (cultural competency). Culturally informed information should be provided to local community organisations and schools for wider dissemination (culturally appropriate), while resources should also be developmentally appropriate (developmentally appropriate).

Specifically, participants stated that young people need education on the dangers of playing with matches and lighters and on the effects of misuse of fire on their community. Participants recommended education about personal harm, property damage and potential legal ramifications of misuse of fire. One participant recommended, ‘More education around the negative effects on mob and community’ (consequences). Participants also recommended education on the nature and speed of fire, on high-risk conditions that exacerbate fire, the challenges associated with controlling fire and the ramifications of losing control (science of fire). Participants wanted messaging on ignition source accessibility and safe storage as well as the importance of caregiver supervision and awareness, particularly during high-fire-danger periods. One participant recommended:

Messages on keeping ignition sources like matches and lighters out of kitchen drawers and sheds, encourage families and communities to keep these ignition sources in places out of reach of kids and even a secret from teenagers’ (targeted messaging).

Participants thought that short videos on the dangers of misusing fire, accessible via QR codes on posters displayed at central locations and at community events may promote fire services while also delivering fire safety education (promotion). Participants also recommended education days or events for local communities (events).

Empowerment

Participants suggested that young people can be empowered by taking responsibility for their stories and by giving them responsibility as the caretaker of Country. Participants recommended that young people be provided with opportunities to tell ‘...their stories and owning it’ and give ‘...them responsibility as caretaker of the land’ (responsibility). Young people can also be empowered by taking ownership over certain program processes (co-design). Participants recommended that young people be involved in the design, development and/or implementation of resources. As one participant stated, ‘Letting youth lead the way, being the creators...’ may empower young people and enhance ownership over program processes and outcomes (co-design). Participants felt that empowering young people and giving them a sense of responsibility for fire safety would improve their engagement in a program. One participant stated:

Make them feel empowered or like leaders in fire awareness by creating a sense of responsibility they are more likely to be invested in what the program offers (responsibility).

A strengths-based approach is therefore recommended. This can be achieved by tailoring the program to the strengths, interests, and needs of the young person (strengths-based).

Further, participants stated that families and communities need support to encourage and build a stronger cultural presence within community (community presence). Communities may be empowered where program processes establish roles and responsibilities and use community communication lines, which align with the inherent structure and characteristics of each community (community-led). Participants felt that initiatives that empower communities to work collectively to improve young people’s understanding of community, culture and Country were beneficial (community-led).

Participants recalled previous successful approaches as those involving restorative approaches. They recommended providing young people with opportunities to repair harm caused by their misuse of fire and empower them to design and deliver an apology to victims that draws on their strengths and interests (restorative). In line with restorative approaches, participants highlighted the importance of providing young people with the opportunity to share their stories and take responsibility

for their actions. As one participant noted, ‘Story telling is really powerful’. By telling their story, taking ownership and apologising for their behaviour, young people can own and express remorse for their actions (responsibility). Restorative approaches provide an opportunity for people to share their stories and experiences, that encourage young people to understand the effect of their actions from a victim’s perspective. This not only empowers the victim but ensures the young person understands the effects of their behaviour on others. As one participant said, ‘The key is for our young people to sit, listen and take on a victim’s perspective’ (perspective).

Engagement

Participants stated that a lack of authenticity in engagement that results from a tick-box culture rather than a genuine desire to instigate change has led to ineffective approaches. One participant said, ‘Most of the time what they (firefighters) are doing there is just gammon (fake)...’ (lack of authenticity). Another stated, ‘Mob need meaningful engagement’ (authenticity). To enhance authentic engagement, program facilitators should gain an understanding of the community and their needs to inform a context-specific, tailored approach (community).

Participants recommended the formation of multi-agency networks and partnerships to facilitate multi-modal program delivery and service accessibility and continuity. Participants emphasised the importance of meaningful, genuine engagement between fire services, other organisations and communities. Local, Indigenous community support services and networks could be accessed via a multi-modal program and/or referral pathways. Indigenous representation at inter-agency meetings would build relationships with stakeholders to inform and promote culturally appropriate engagement and access to opportunities and services (multiagency). As one participant stated, ‘Collaboration and partnership have presented good outcomes...’.

Participants provided examples of the types of engagement that may improve young people’s commitment to a program. Participants felt that young people should be provided with the opportunities to participate in fire safety education programs at school (school programs), school or community-based cultural activities (e.g. weaving, language, cultural activities) and targeted, accessible and culturally informed programs and events (cultural approaches). Participants felt that young people would benefit from engaging with firefighters in the community, particularly at career days, NAIDOC week and other community events (firefighters). They suggested that by providing opportunities for young people to observe firefighting activities, they might gain an awareness of the challenges associated with fire (observation). Young

people may also remain engaged through interactive social media platforms (social media). Targeted, accessible, engaging social media channels and posts may be used to disseminate tailored messaging. One participant recommended, ‘Keep up with the social media presence, make content that will reach young people... memes that are relevant and using light-hearted humour’ (social media).

Personnel

Participants identified key personnel as critical to youth fire intervention program effectiveness. Firstly, participants wanted a local community contact who can provide context-specific, culturally informed fire safety information and resources. As one participant stated, ‘Communities need to know who to contact in their community if they need to know something around fire safety and stuff like that’ (local contact). Participants also wanted a centralised contact to direct communities to their local contact and/or provide information and resources. One participant noted, ‘Even on the firies web page there is no contact information on who to contact for Aboriginal specific resources’ (centralised contact). Participants recommended the employment of Indigenous Community Engagement Officers who can serve as the first point of contact for young people and their families and communities (engagement officers).

Participants recognised traditional knowledge holders and community Elders as critical to the renewal and practice of culture, the sharing of stories (lore) to reconnect community and to encourage community to fulfil responsibilities to Country and fire. Traditional knowledge holders may be the most appropriate person, as elected by the community, to teach young people about culture. As one participant stated, ‘Help these knowledge holders pass on essential story (Lore) to reconnect our mob so that all can fulfil traditional cultural obligation and responsibilities’ (knowledge holders). Participants also recalled successful interventions as those that connected young people with community Elders to facilitate the renewal and sharing of traditional cultural knowledge and practices. By connecting young people with Elders, continuity of care and responsibility post program participation could be facilitated. Participants recommended that community Elders be invited to participate in components of the program where appropriate (elders).

In addition, participants highlighted the importance of mentors. Where Elders are cultural leaders and teachers, they can be perceived as authoritarian. Mentors, on the other hand, can be matched to young people on certain characteristics such as age and gender to enhance relatability and ensure cultural protocols are followed (mentors). Participants felt that young people would stay engaged in a program if they connected with Indigenous mentors who could form positive relationships with young

people and individualise the intervention (mentors). Young people who have graduated from a youth fire intervention program may also work as mentors to share their lived experiences of desistance (mentors). While participants believed that it was important to identify and include the young person’s support person in the program (support person), mentors may also serve this purpose.

A lack of Indigenous firefighters was perceived as a barrier to youth fire intervention effectiveness (lack of Indigenous firefighters). Indigenous firefighters were deemed important to serve as role models and to personalise the risks and consequences of fire to Indigenous young people. One participant recommended:

More Aboriginal firies working back in their communities, so the young ones can see that if they light some bush or a car or a house on fire, they see the Koorie firies risking their lives to put it out (firefighters).

Importantly, participants felt that by employing more Indigenous firefighters, fire services could improve representation and the formation of positive, relatable, sustainable relationships (firefighters).

Finally, participants recommended that the program be facilitated by a pool of practitioners who could share caseloads (pool of facilitators). However, participants recalled negative experiences that arose from poor cultural competency in program facilitators due to a lack of cultural education and awareness (lack of cultural competency). Consequently, program facilitators should possess certain characteristics, such as cultural competency, knowledge, professionalism, a calm demeanour and good communication skills to ensure they are relatable and effective (facilitator characteristics).

Discussion

Workshops and small group discussions with Indigenous communities in NSW revealed shared considerations that should be respected when designing, developing, implementing and evaluating a culturally appropriate youth fire intervention program. These findings have implications for academics and practitioners. The findings indicated that the 3 Indigenous communities in the study are seeking an approach that largely aligns with the evidence-base. To reduce the risk of misuse of fire, the literature supports primary prevention approaches, such as fire safety education programs delivered in schools (e.g. Satyen et al. 2004) and secondary prevention approaches including youth fire intervention programs (e.g. Fritzon et al. 2011). Youth fire intervention literature supports early intervention (Fritzon et al. 2011) that applies a targeted, individualised approach and draws on the young person’s needs, interests, motivations and strengths (e.g. Lambie et al. 2012). The evidence supports skills-based, practical education (e.g. Haines et al. 2006) that involves pro-

social modelling (e.g. Houvouras and Harvey 2014) and that avoids satiation and other punitive approaches (e.g. Grolnick et al. 1990). The literature calls for programs that are trauma-informed for young people who misuse fire (e.g. Franklin et al. 2002) and Indigenous peoples (e.g. Tujague and Ryan 2021) and programs that are culturally informed and appropriate and delivered by culturally competent facilitators (Al-Hajj et al. 2022). The evidence supports co-designed approaches that empower young people and enhance ownership over program processes and outcomes (e.g. Office of the Advocate for Children and Young People 2020); restorative approaches that provide young people with opportunities to share their stories and take responsibility for their actions (e.g. Braithwaite 2002); strengths-based approaches that tailor the program to the strengths, interests and needs of the young person (e.g. Andrews and Bonta 2007) and multiagency or multimodal approaches that are based on authentic, collaborative partnerships (e.g. Haines et al. 2006). The literature also highlights the importance of trained program facilitators who possess the necessary skills and characteristics, such as cultural competency, to ensure they are relatable and effective (e.g. Lambie et al. 2012).

The findings reflect the evidence-base regarding Indigenous peoples representation in fire services and government agencies. Participants stated that Indigenous firefighters have the capacity to improve representation; form positive, relatable and sustainable relationships with young people and communities and can personalise the risks and consequences of misuse of fire. These findings align with evidence supporting Indigenous peoples representation in fire services, which builds community trust, strengthens social cohesion and increases community pride (e.g. Rasmussen and Maharaj 2020). Further, participants highlighted that Indigenous firefighters could serve at their local fire stations and as local community engagement officers to provide context-specific, culturally informed fire safety information and resources. When Indigenous firefighters serve as program facilitators and/or mentors, they can act as positive, relatable role models; apply inherent cultural competency to program processes; individualise the program to the young person within the context of their community and ensure cultural protocols are followed. Such an approach would align with recommendations by Al-Hajj et al. (2022) for culturally sensitive interventions.

The lived experiences of the participants echo those represented in the literature. Participants reflected on the effects of colonisation and cultural genocide on connections and traditional relationships between Indigenous peoples and their culture, dispossession and detachment from culture and associated loss of cultural stories and identities and poor relationships with government agencies and personnel due to misguided

policies and practices that entrench systematic racism. These experiences align with the historical and cultural context of Indigenous people represented in the literature (e.g. Dudgeon et al. 2014; Tujague and Ryan 2021).

There was only one minor deviation from the literature. Participants recommended employing peer mentors who have graduated from a youth fire intervention program to share their lived experiences of desistance with young people. However, evidence suggests that peers may contribute to the maintenance or escalation of problematic behaviour through the normalisation of antisocial actions, association with antisocial role models, reinforcement of antisocial values and stronger alignment with antisocial subcultures (Rhule 2005). Further research is needed to determine if peer mentoring is appropriate in the context of youth fire intervention.

Despite strong alignment with the evidence-base, this study revealed innovative findings. This is the first known study to identify youth fire intervention programs as an avenue through which to support and facilitate strong, positive and sustainable connections between Indigenous young people and:

- culture - by providing opportunities and safe spaces for the renewal and sharing of traditional knowledge and practices
- community - by connecting young people with their communities and supporting the development of a sense of community, identity and confidence in their culture
- Country - by supporting traditional relationships with Country, engendering respect for the land and the way young people and their communities interact with it
- fire - by facilitating the renewal and sharing of cultural stories about, and relationships with, fire through participation in local cultural burning practices.

While there is a growing body of evidence advocating for the renewal of cultural burning knowledge and practices (e.g. Williamson 2021), none of this research investigates the influence of cultural burning on misuse of fire by young Indigenous peoples. This is a significant gap where this study found that healthy relationships with fire are intertwined in connections to culture, community and Country. By providing opportunities for young people to learn about traditional cultural knowledge and practices they may feel more connected with community and their shared identity, be encouraged to fulfil their responsibilities and obligations to Country and fire and develop cultural pride. Participants thought that this connection would support long-term relational, behavioural, and attitudinal changes towards fire, and thus reduce the risk of misuse. Further research is needed to determine if connections between Indigenous young people and culture, community, Country and fire influence misuse of fire, and if so, for whom and in what context.

This study illustrated the value of Indigenous peer researchers as facilitators of respectful, reciprocal and relational co-design processes. During the workshops and small group discussions, the peer researchers created culturally appropriate and safe environments that supported participants in recalling prior positive and negative experiences with government-run programs. Participants also freely expressed their concerns about the effects of colonisation on culture, community and relationships with government agencies and personnel. It is likely that the use of peer researchers mitigated some of the limitations associated with government-led research with Indigenous communities and produced more honest and valuable insights as a result.

Conclusion

Co-design workshops and small group discussions were held with participants from Indigenous communities in NSW to explore what they need and want in terms of youth misuse of fire intervention. Indigenous firefighters, as peer researchers, created culturally appropriate and safe environments for the generation of invaluable information. The results revealed thematic commonalities that must be respected when designing, developing, implementing and evaluating culturally appropriate youth fire intervention programs. While most of the findings align with the literature and reiterate the importance of applying an evidence-based approach, other findings are new and highlight the importance of co-designing programs with Indigenous communities regardless of the presence of a rigorous evidence-base. In the words of one participant, 'Whatever the outcome of these yarns, it needs to be meaningful and in the best interests of our communities'. Practitioners and academics are therefore encouraged to consider these findings when tailoring approaches to young Indigenous people who misuse fire and to do so in close collaboration with Indigenous communities.

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