STARTING TO SMOKE:

Experiences of Indigenous Youth

Vanessa Johnston, David Thomas, Darren Westphal, Cyan Earnshaw

the Lowitja INSTITUTE
Australia's National Institute for Aboriginal and Torres Strait Islander Health Research

menzies school of health research

ISBN 978-1-921889-21-9

First published in January 2013

 The project on which this report is based has been funded by the Lowitja Institute, which incorporates the Cooperative Research Centre for Aboriginal and Torres Strait Islander Health.

Contact: Dr Vanessa Johnston MB BS, MPH, PhD
Senior Research Fellow
Menzies School of Health Research
PO Box 41096
Casuarina NT 0811
T: +61 (0)8 8922 7968
F: +61 (0)8 8927 5187
E: vanessa.johnston@menzies.edu.au

Authors: Dr Vanessa Johnston,[1] Dr David Thomas,[1,2] Mr Darren Westphal,[1] Ms Cyan Earnshaw[1]
1. Menzies School of Health Research, 2. The Lowitja Institute

Managing Editor: Cristina Lochert

Design and Print: Inprint Design (6678)

For citation: Johnston, V., Thomas, D., Westphal & Earnshaw, C. 2013, *Starting to Smoke: Experiences of Indigenous Youth*, The Lowitja Institute, Melbourne.

CONTENTS

ACKNOWLEDGMENTS

The team gratefully acknowledges the enormous contribution of the peer researchers who worked on this project: Cyan Earnshaw, Derek Mayo-Spry, Tiffany Wanybarrnga, Alvin Gaykamangu, Jasmine Christie and Renae Williams. We also thank the contribution made by the schools and the Darwin not-for-profit youth centre that participated in the project. In particular, we thank Helen Spiers, Rafael Perez, Geoff Guymer, Cheryl Dwyer, Peter Ramsay, Jennifer Dally and Levi Aldenhoven for their advice and assistance with engaging young people. Lastly, we thank all the young participants who donated their time and energy to this project, and the Lowitja Institute for funding it.

Vanessa Johnston is supported by an NHMRC Postdoctoral Training Fellowship for Aboriginal and Torres Strait Islander health research (545241). David Thomas is supported by a National Heart Foundation Research Fellowship (CR 09D 4712). The views expressed in this publication are those of the authors and do not reflect the views of NHMRC or the National Heart Foundation.

KEY MESSAGES

- Family and peer influence play a central role in smoking initiation among Indigenous youths.
- Social influences to smoke are similar between Indigenous and non-Indigenous youths but are more pervasive (especially in the family domain) among Indigenous youths.
- Although Indigenous youths report high levels of exposure to smoking role models and smoking socialisation practices among family and social networks, this study provides some encouraging evidence of a progressive denormalisation of smoking among some Indigenous youths.
- Future initiatives aimed at preventing smoking uptake in this population need to focus on changing social normative beliefs around smoking, both at a population level and within young people's immediate social environments. Such interventions could be effectively delivered in both the school and family environments.
- Measures to continue to denormalise smoking and to support families to provide clear anti-smoking socialisation messages to youths should contribute to reducing smoking uptake in this population.

EXECUTIVE SUMMARY

Adult smoking usually has its roots in adolescence. If individuals do not initiate smoking during this period it is unlikely they ever will. Conversely, young people who begin smoking during adolescence are more likely to become dependent, to progress to daily smoking, to smoke for a greater number of years and to smoke more heavily as adults [1]. Therefore, preventing the onset of adolescent smoking is a key part of any tobacco control strategy to reduce smoking prevalence among Indigenous Australians. National data indicate that by early adulthood (15–24 years), 42 per cent of Indigenous Australians are current smokers [2]. Despite a wealth of literature in other populations, there is a dearth of evidence on the factors that predispose Indigenous youths to start smoking, or protect them from taking up this behaviour. This information would make a significant contribution to the design and delivery of effective programs to prevent smoking among Indigenous youths.

The aim of the 'Starting to Smoke' project was to explore the determinants of smoking among Indigenous young people with a particular emphasis on the social and cultural processes that underlie tobacco use patterns among this group.

This project was undertaken in the Northern Territory and involved two sites: one in Darwin and one in a remote community in Arnhem Land. The project utilised a participatory approach and depended on collaborative input from a team of four young Aboriginal 'peer researchers' (a male and a female in Darwin and in a remote Northern Territory community) who were trained in research ethics and interview methodology. They recruited participants and, with support, undertook the data collection. One assisted with interpretation of the data. An opportunity arose early in the research to recruit two additional non-Indigenous peer researchers and include a smaller non-Indigenous sample. We included this sample to explore any significant differences in determinants of early smoking experiences across ethnic groups and to investigate the wider social and environmental context in which young Indigenous people start smoking.

Young people aged 13–20 years were recruited from urban and remote contexts through schools, a local youth centre and peer networks. We used a qualitative methodology of group interviews with 65 participants and individual in-depth interviews with 11 youths. Individual interviewees were given a camera to document visually how they experience smoking in their everyday lives. Photographs were used in interviews to elicit data on their personal stories relating to smoking.

We used the theory of triadic influence (TTI) [3], an ecological model of health behaviour, as an organising theory for analysis. TTI recognises that all behaviours are influenced by an interaction of genetic (nature) and environmental (nurture) factors. It divides these factors into three streams of influence on behaviour: personal, social and environmental. Within each stream of influence there are different levels of 'causation', from predictors most distant to those closest to the behaviour of interest. Within this theoretical framework, all data were analysed thematically.

Findings

The final study group comprised 46 Indigenous and 19 non-Indigenous youths. The average age was 16 years. Forty per cent of the sample was female and 37 per cent were smokers. Approximately 50 per cent of the final sample nominated a remote community as their home. Of the Indigenous participants, 21 (46 per cent) were smokers (inclusive of occasional and regular smokers). Of the non-Indigenous participants, three reported smoking.

Participants identified different stages of smoking from first puff and experimentation to social or 'casual' smoking through to established smoking. They applied different criteria to these stages of smoking and they generally corresponded to different developmental stages.

Themes that emerged relating to smoking initiation among Indigenous youths highlighted the particular role of family influences. Facilitating access to tobacco, role modelling and smoking socialisation were all factors that contributed to early smoking experiences and appeared to set the stage for some youths to progress to more regular smoking during their mid to late teens. Although numbers in our sample living in a remote community at the time of the study were small, data from this group and from boarding students in Darwin suggested that in the remote setting smoking within families is normative and exposure is frequent. Findings for the non-Indigenous participants suggested that youths were similarly influenced to smoke by watching family, and frequently accessed tobacco covertly from household supplies. However, there was less indication that they regularly experimented with family members (they smoked mainly with peers) or were actively given tobacco by family members.

Conversely, anti-smoking socialisation in the home appeared to be a key determinant of not smoking. This included smoke-free indoor spaces, not smoking around children, strong anti-smoking messages and clear, communicated consequences to smoking. This was true even when parents were smokers. Explicit parental anti-smoking socialisation was a more significant theme for non-Indigenous participants, compared with Indigenous participants (although the majority of non-Indigenous participants were non-smokers). Nevertheless, the protective effect of anti-smoking socialisation, when it did occur, appeared to be the same across ethnic groups.

It was during high school (approximately 13–18 years of age) that progression of smoking from initiation to more frequent experimentation and, in some cases, regular smoking was perceived to generally occur. During this developmental stage, the influence of friends and broader social networks on smoking behaviour was reported to increase, and peers became a more common means to access tobacco. In particular, social 'pressure' to smoke was perceived to be an increasingly influential determinant of experimentation and progression of smoking. This process of peer socialisation operated more through indirect pressure to conform to social norms, rather than peers providing direct encouragement to smoke, and was a more central theme for female participants in this study. Non-smokers commonly described smoking in pejorative terms that referenced the denormalisation of smoking in their social groups and the wider community. This was a more dominant theme among non-Indigenous than Indigenous participants but nevertheless highlighted how peer socialisation against smoking could operate to protect young people from smoking, as well as encourage the behaviour.

The findings also highlighted that smokers were more likely to be in closer friendship networks with other smokers, and the same applied for non-smokers (who were more likely to be in closer friendship networks with other non-smokers). In some instances participants reported seeking out social networks with similar smoking norms and behaviours to their own (known as peer selection). Peer group membership reinforced social norms around smoking behaviour and thus acted to reinforce smoking or protect against smoking depending on the composition of the group.

Several other personal and environmental factors had some influence on smoking uptake and progression. Personal factors included alcohol use, stress and nicotine dependence. Environmental factors, such as smoke-free areas, social marketing and education, were also reported to influence tobacco use through the denormalisation of smoking.

The findings revealed that for Indigenous (and non-Indigenous) young people, the immediate social environment (that is, family and peer networks) played a central role in smoking initiation and progression, thus highlighting the social stream of influence within the TTI framework on youth smoking behaviour in this context. Family influences, including parenting practices, role modelling, facilitating access to tobacco and smoking socialisation, all contributed to early smoking experiences and appeared to set the foundation for some youths to progress to more regular smoking during their mid to late teens. This is consistent with what is already known about the role of parental

and family smoking-specific practices in the development of social norms around smoking and subsequent smoking behaviour with young Indigenous and non-Indigenous populations [4, 5]. Conversely, anti-smoking socialisation in the home appeared to be a key factor in young people not starting to smoke [6].

Peers appeared more influential during adolescence, a critical time of transition to physical and emotional maturity and to a coherent sense of self [7]. We found evidence for both peer socialisation and peer selection [8], and both significantly influenced social norms around smoking. These processes not only affected smoking initiation but also continued to reinforce smoking beyond initiation. Similar to two qualitative studies published on smoking initiation among Australian Indigenous populations [9, 10], we found that peer socialisation is more a normative process rather than overt pressure to smoke [8]. Our study also found that there is substantial peer group homogeneity in respect to adolescent smoking [11]; young smokers were more likely to report being close friends with other smokers and the reverse was true for non-smokers. This study highlighted that in a context of falling smoking prevalence, peer influence can also be protective [12].

Our findings suggest that the types of social influences to smoke were similar between Indigenous and non-Indigenous youths but that these influences were more pervasive (especially in the family domain) among Indigenous youths. This reflects the fact that Indigenous smoking prevalence is double the non-Indigenous prevalence [2] and smoking in many Indigenous families and communities remains a normative social practice [10, 13]. The conclusion we draw is that higher rates of smoking uptake among Indigenous Australians are likely attributable to known causes of smoking initiation [14].

Conclusion

Our findings have implications for both future research and practice. One important avenue for research is to explore the range of responses and beliefs regarding youth smoking from the perspectives of Indigenous parents of children and adolescents, as they were excluded from our recent study and we relied solely on young people's reports of these. This is important given the role of general parenting and smoking-specific practices on youth smoking uptake.

Regarding interventions for preventing youth smoking in this context, future activities need to focus on changing social normative beliefs around smoking, both at a population level and within young people's immediate social environments. Currently, the Northern Territory is the only jurisdiction in Australia that grants government schools the ability to apply for an exempted smoking area on school grounds if the majority of staff members are in favour and if the designated area is not visible to students. Findings from this study suggest that the Northern Territory Department of Education and Training should consider following other jurisdictions in making the whole of school campuses smoke free and the Northern Territory Tobacco Control Regulations should also be amended to remove this exemption relating to schools.

Another avenue through which schools might intervene to reduce youth smoking is to further explore school-based interventions designed to alter social norms within established peer groups and harness the power of positive peer influences to reduce youth smoking, as has been successfully trialled elsewhere [15]. An additional area for attention is the family unit, where interventions could be targeted to encourage positive parenting practices, both general and smoking-specific practices [8]. A review of the effectiveness of interventions to help family members strengthen non-smoking attitudes and promote non-smoking by children or adolescents found that although the evidence base is limited, some well-executed randomised controlled trials show family interventions may prevent adolescent smoking [16].

It is encouraging that this study provides some evidence for changing social norms relating to smoking among young Indigenous Australians. Measures to continue to denormalise smoking and to support families to socialise their children against smoking should contribute to reducing smoking uptake in this population and make significant inroads into reducing the disease and death caused by smoking in Indigenous communities.

BACKGROUND

Rates of smoking among Australian Indigenous populations are alarmingly high. National statistics indicate that in 2008, 47 per cent of Indigenous adults were regular smokers – approximately twice the prevalence of non-Indigenous adults [2]. Local reports indicate smoking rates are in excess of 70 per cent in some remote Northern Territory communities [17]. In 2003 tobacco use was responsible for 20 per cent of Indigenous deaths [18].

Adult smoking usually has its roots in adolescence. If individuals do not take up smoking during this period, it is unlikely that they ever will [19]. Moreover, once smoking becomes established, cessation is challenging; the probability of subsequently quitting is inversely proportional to the age of initiation [20]. Consequently, the prevention of the onset of adolescent smoking is a key component of efforts to reduce the overall prevalence of smoking among Indigenous Australians and the associated morbidity and mortality.

Data from the 2008 National Aboriginal and Torres Strait Islander Social Survey revealed that by early adulthood (15–24 years of age), 42 per cent of Indigenous Australians are current smokers [2]. Many Indigenous smokers begin their habits at a young age. In 2004–05, 10 per cent of Indigenous current and ex-smokers reported they began smoking regularly before the age of 13 years and more than two-thirds began before the age of 18 years [21].

Research reviews and longitudinal studies have revealed an array of often inter-related factors that are associated with smoking initiation and progression in other contexts [22–25]. These include personal (e.g. age, ethnicity, substance abuse, emotional disorders, risk perceptions), family (e.g. parental smoking, parenting styles, parental attitudes towards smoking, socio-economic status), social (e.g. peer smoking) and environmental (e.g. tobacco advertising, cigarette pricing) factors. The most robust findings in the literature relate to the influencing role of peers and family on youth smoking behaviour [26–28], while there is emerging evidence on the impact of environmental determinants such as indoor smoking bans [29, 30] and social marketing campaigns [31].

Despite this wealth of literature in other populations, a recent comprehensive literature review found little published research that focused on young Indigenous Australians and tobacco [32]. Since this review, two qualitative studies exploring smoking among Indigenous youths have been published. One project in Western Australia investigated smoking experimentation and notions of addiction among youths using focus group methods. The study included a subgroup of Australian Indigenous young people (n = 37) and found that Indigenous youths were more likely to cite stress, boredom and overt encouragement from friends as reasons for smoking [9]. Overall, this study concluded that although adolescents had a reasonably good understanding of the concept of addiction, they did not generally regard smoking as particularly addictive at their age. A more recent exploratory study of rural adult Aboriginal women's experiences of smoking initiation in south-east Australia identified peer and family influences as factors contributing to smoking initiation; participants reported that smoking was normalised within extended family networks and that young women often smoked so as to be accepted among their social networks.

Although there is emerging evidence on the determinants of smoking among Indigenous youths, there are still significant gaps in our knowledge. Although a study by Leavy et al. [9] explored the concept of addiction in some depth, other social and cultural determinants of initiation and smoking were not the focus. A study by Passey et al. [10] was informative regarding the social

context of smoking uptake among rural Aboriginal women but was limited in its scope by gender and geographical location. Also, because interviewees were almost all adults, their experiences of smoking uptake may have occurred a long time in the past. Although there are more studies in the international literature that report on smoking uptake in other Indigenous and minority groups [4, 33, 34], they remain a relatively small proportion of the evidence base considering the burden of smoking in these specific populations. Further research is required to understand young Indigenous people's experiences, behaviours, interactions and social contexts as they relate to smoking, especially in Australia.

The aim of this research project was to explore the determinants of smoking among Australian Indigenous young people with a particular emphasis on the social and cultural processes that underlie tobacco use patterns among this group. Specifically, we sought to understand the factors that predispose Indigenous youths to start smoking, or protect them from taking up this behaviour, and whether these differ by geographical context or gender. This information will make a significant contribution to the design and delivery of effective programs to prevent smoking among Indigenous youths.

RESEARCH DESIGN

Methodology

This project was undertaken in the Top End of Australia between June and December 2011. It involved one urban (Darwin) and one remote site (a mainland community in Arnhem Land with approximately a thousand residents). It took a participatory approach to give young Indigenous people, an often marginalised group, both agency and a voice in research that has direct relevance for them and that may ultimately impact upon them [35].

The project depended on collaborative input from a team of four trained, Aboriginal 'peer researchers' (a male and a female in each site). An opportunity arose early in the research to involve two non-Indigenous peer researchers and recruit a smaller non-Indigenous sample. We included this sample to explore any significant differences in determinants of early smoking experiences and to elicit more data about the wider social and environmental context in which young Indigenous people start smoking. The focus on Indigenous smoking remained unchanged.

We used a qualitative research methodology to explore smoking among Indigenous youths. The methods chosen for the project were focus group discussions and a smaller number of in-depth individual interviews. With the focus group discussions we aimed to generate a range and diversity of views on smoking initiation and to explore differing perspectives [36]. The aim of the interviews was to explore individual experiences in more depth and to understand the smoking or non-smoking trajectory of individual participants [37]. Alongside these traditional qualitative methods, we also used visual methods to explore the social context and social influences of youth smoking. We used photography with individual interviewees to investigate the impact that smoking has on their lives and the social context in which young people do or do not smoke.

In recent years the use of visual methodologies has gained increasing prominence in social research, especially with marginalised communities. These methodologies are arguably suited to working with young people because they can help bridge asymmetries in age, verbal skills and social positions between youth and adult researchers [38]. The most well known of these methodologies is 'photovoice' [39, 40], a form of participatory action research that uses photography to promote critical reflection and community engagement on health and social issues. The use of photography in this project, while informed by the principles of photovoice, was employed as an individual exercise to promote reflection about the social context and social impact of smoking, as seen through the eyes of young people [41]. The photographs acted as prompts for discussion about smoking and, as such, the method is more in line with the technique of photo-elicitation, where the emphasis is on the images as a means to unearth rich verbal data in individual interviews, rather than focusing on the visual content of the photographs themselves [42].

We gave disposable cameras to 11 young people (both smokers and non-smokers) and asked them to take photographs of how they experienced smoking in their everyday lives. The team then asked participants to talk about the content of their photographs and their interpretations of the visual data they had created [43].

Data collection and analysis

The six young people we trained (four Indigenous and two non-Indigenous) contributed to defining the final research questions and research methods through a consultative process. They recruited participants and undertook the data collection with the support of the research team and they assisted in interpreting the data. All peer researchers attended a two-day training workshop to learn about research protocol, collecting informed consent, research ethics and interview techniques.

We used a mix of network and purposive sampling to recruit youths (13–20 years of age) across key socio-demographic factors; age, gender and geographical location (urban/remote). We aimed for a quota of never smokers, experimental smokers and regular smokers in the final sample. Our primary points of recruitment were three participating schools (two in Darwin and one in the remote community). However, in an effort to include young people who might not be attending school, we also recruited through the local social networks of the peer researchers and through a not-for-profit local youth centre in Darwin, which caters to at-risk, mostly Indigenous youths. Youths were recruited to take part in focus group discussions initially and from this group a subset of youths was selected for in-depth interviews based on their interest and enthusiasm for the project, ensuring a mix of ages, gender and smoking status.

Although we intended to divide focus group discussions by gender, in most instances this was not possible because of the challenges of getting young people to commit to set times when they had many competing priorities. We ran 15 group interviews; seven were run as focus group discussions, but the remaining eight group interviews included only two or three participants owing to unforeseen circumstances for young participants at the time. In these eight group interviews we loosely followed the focus group interview guide but commonly deviated to a deeper exploration of the personal experiences of one or more participants. We also conducted 11 photo-interviews with individual participants (in one session three Indigenous participants felt more comfortable meeting together). Towards the end of data collection, our sample included a diverse range of participants and no new themes were emerging during further interviews. Although we would have liked to interview more non-Indigenous smokers to compare to our Indigenous cohort, time and resources for the project did not allow this.

We pilot tested the focus group and individual interview guide with our youth researchers before they started data collection. Because they were all members of the eligible target group for this project, we included their interviews as key informant data. Group and individual interviews ranged in duration from 30 to 90 minutes and were facilitated at schools, a youth centre and our research institution. Participants were each reimbursed with a $30 gift voucher in recognition for their time and effort. The interviews were audio-recorded with the consent of participants and were transcribed verbatim for analysis.

We used the theory of triadic influence (TTI) [3], an ecological model of health behaviour, as an organising theory for analysis. TTI recognises that all behaviours are influenced by an interaction of genetic (nature) and environmental (nurture) factors. It divides these factors into three streams of influence on behaviour: environmental (community characteristics, media influences, legislation and policy), social (including parent and peer influences and their attitudes, use of tobacco and characteristics of relationships) and personal (genetic, biological, personality variables, gender, ethnicity and age) [23]. All three streams flow from causes distant from the behaviour (over which individuals may not have much control) through to predictors closest (proximal) to the behaviour, providing a cascade of multiple and interacting influences. Proximal predictors are conceptualised as those that predict behaviour, while distal influences help explain it [44].

We chose this theory because of its comprehensive reach. Recent qualitative research with remote Indigenous adults has revealed a multiplicity of influences on smoking behaviour, which is in keeping with the principles of TTI [13]. We structured the questions relating to why youths smoke in our interview guides around this framework and predictors of youth smoking found in the literature. The topics covered in our semi-structured group and individual interview guides were age of initiation, where youths smoke and with whom, where they access tobacco at different ages and stages

of smoking, why they start smoking and, for regular smokers, why they continue to smoke. The individual interviews probed more deeply into individuals' smoking or non-smoking 'careers' to date.

Within this framework, our analysis utilised a process of thematic coding. Our first level of analysis organised 'chunks' of textual data into open codes that arose inductively from the data. Two authors (VJ and DW) each independently coded a subset of the group and individual interviews and then compared coding. Code terms were discussed and refined and, after a second level of analysis of the same subset of data, codes were grouped into categories and a category codebook was constructed. The first author completed the remainder of the data analysis using the codebook. The final level of analysis involved elucidating the key themes arising from the data as they corresponded to TTI. After this, the first author discussed the findings and her interpretations with the research team, which included one Indigenous peer researcher, which elicited further discussion and refinement of the key emergent themes. The content of photographs was not specifically analysed in this study; instead, the dialogues generated by the photographs were analysed thematically as described above. Some photographs are used in the description of the findings to illustrate specific themes. Data were organised and managed using NVivo 9 software.

Ethical approval was given by the Human Research Ethics Committee at Menzies School of Health Research, including its Aboriginal subcommittee.

FINDINGS

In total we interviewed 65 young people aged 13–20 years in this project. The majority (71 per cent) were Indigenous (table 1). Twenty-six (40 per cent) were female. Of the Indigenous participants, 21 (46 per cent) were smokers (inclusive of occasional and regular smokers). Of the non-Indigenous participants, we were only able to recruit three smokers. Due to a change in staff roles at the remote community school and the involvement of peer researchers in ceremony business, which meant they were unavailable for long stretches of time, we were only able to recruit nine participants living in the community. However, we did recruit a numbers of youths who attended boarding school in Darwin but who resided in a remote community. Approximately 50 per cent of the final sample nominated a remote community as their home. All participants attended school or were employed at the time of the study.

Because our primary aim was to explore the determinants of smoking initiation among Indigenous young people, we focus our findings on the prominent themes that emerged from the Indigenous data and draw attention to where there are significant differences with non-Indigenous youths within these themes. Unless indicated, all quotations used to support the emergent themes came from Indigenous participants.

Table 1: Socio-demographic characteristics of participants

Characteristic	Study participants (n=65)
Age (mean years)	15.6
Ethnicity	
Indigenous, n (%)	46 (71)
Non-Indigenous, n (%)	19 (29)
Gender	
Male, n (%)	39 (60)
Female, n (%)	26 (40)
Current smoking status	
Smoker*, n (%)	24 (37)
Non-smoker, n (%)	40 (62)
Unknown, n (%)	1 (2)
Home community	
Remote community, n (%)	31 (48)
Darwin, n (%)	34 (52)

*Self-reported smoker (includes occasional and regular smokers). Percentages may not equal 100 because of rounding.

Starting to smoke

Participants identified different stages of smoking from first puff and experimentation through to social or 'casual' smoking and established smoking. They applied different criteria to these stages of smoking and they generally corresponded to different developmental stages. These classifications implicitly acknowledge that starting to smoke is not a 'one-off' event. Instead, starting to smoke is a dynamic process with several stages between pre-contemplation to established (daily) smoking [19]. In this study, themes that emerged relating to smoking initiation (first few cigarettes) highlight the particular role of family influences. Facilitating access to tobacco, role modelling and smoking socialisation were all factors that contributed to early smoking experiences.

'Trying it out'

Acquiring tobacco from family members was a common route of access for early smoking experimentation and was particularly common for the first puff, which was usually opportunistic and facilitated by the availability of tobacco in the home. Some participants were supplied tobacco directly by family members, usually older cousins or siblings. Young people also stole tobacco from ashtrays, cigarette packets or discarded cigarette butts.

Study participants reported that experimenting with smoking commenced usually between the ages of 10 and 13, but it was not unusual to take the first puff before this and as early as seven or eight years of age. Those who revealed that they initiated smoking earlier generally lived with other smokers and had greater exposure to the behaviour and more ready easy access to tobacco. A key motivation for experimenting with smoking was curiosity, particularly if there was high exposure among young people's family and/or social networks.

Many Indigenous participants had their first smoking experience with relatives around their age or older, usually siblings or cousins. Overt pressure from older relatives to try smoking was reportedly not uncommon. Further, family members sometimes played a key role in providing instruction on smoking technique, as well as methods by which to mitigate the taste or physiological effects of tobacco smoke:

> Q. Have you tried smoking before?
>
> When I was ten. My sister was a smoker; I used to hang around her a lot. And one night she told me to put some smoke in my lung. So I did… Yeah, I stole them when mum and dad were asleep. And she told me to have a puff, so I did, but then I started coughing and I said 'Yuck, how do you do that?' and she said 'If you keep doing it, you get used to it.' And yeah I tried, and she told me 'If you swallow it and have a feed, it's better' and yeah, so I did that…
>
> Q. How old was your sister at the time?
>
> She was, like, thirteen at the time. (Female, smoker, 15 years)

The first puff was universally characterised as a 'bad' experience, described as 'disgusting' and 'yuck,' with reported experiences of nausea, vomiting and headache. For some it was such a negative experience that they delayed trying again for a significant period of time. However, if subsequent 'tries' were supported by family or peers, the negative physiological effects could be overshadowed by positive reinforcement [34]. For a few participants, the first puff was instrumental in establishing them as non-smokers. Generally, those for whom the physiological effects contributed to their decision not to smoke also received reinforcing messages from their family members and/or friends not to smoke:

> I mean, I didn't like it the first time and I was coughing and yuk. I didn't want to try it anymore. And then the second time I sort of, I don't know, my friend was doing it and I was like 'Okay' and then I didn't like it and I was just like 'No'. Like after having a few tries I'm like 'What's the point?' (Female, non-smoker, 17 years)

Family as 'teachers'

Smoking in the household and among extended family networks was prevalent for youth smokers in this study and a key theme was that of learning to be a smoker through family exposure. 'Teaching [smoking] off parents' took various forms. These included being exposed to tobacco and smoking paraphernalia from an early age when asked to roll cigarettes or light a 'smoke' for older family members. Direct mimicry and copying adult smoking behaviour using rolled-up paper or twigs was also learned through observation. Additionally, there was the implicit assumption that behaviour that parents engaged in must be sanctioned:

> Oh well, as a little kid, like mucking around you know, you copy your parents, you don't know what they're doing, you think it's cool, and then you're probably like six years old and you just think how cool, I'm going to try it too. (Female, smoker, 15 years)

> Because you learn a lot when you're growing up through visual and seeing how everything works really. So it's accepted and the fact that your family is doing it, so yeah, must be okay if mum's doing it. (Male, smoker, 19 years)

This echoes previous qualitative research with Native American youths, who perceived that because smoking was so prevalent among families, it was regarded as 'normal' and acceptable behaviour [34].

Another related theme to emerge was the role of general parenting practices in facilitating young people's smoking behaviour. A permissive or ambivalent attitude by parents of their smoking, lack of or ineffective consequences for youth smoking, and a general lack of monitoring were themes reported by smokers:

> Q. Are there rules around where you smoke at home?

> Yeah, just not inside, that's basically it. And I think my brother, because he's under 18, Mum's doing the same thing that she did with me. [She says] 'If you want to smoke, smoke outside the gate.' So yeah, I think he smokes outside the gate usually when she's at home, but when she's not there he'll go out the back with everyone else. (Male, smoker, 19 years)

> Sometimes I smoke with my mum when she's drunk. (Female, smoker, 15 years)

Young people reported that parents did not generally give their children tobacco or actively support their smoking behaviour. However, it was perceived that by the time young people reached their mid to late teenage years, parents often believed their children were 'old enough' to make their own decisions or that they were beyond parental control to influence their lifestyle choices. This scenario was more commonly described among Indigenous compared with non-Indigenous participants:

> Q. Does your father know that you smoke?

> I'm pretty sure he's aware that I smoke; like my step mum does know. Every now and then when I'm stressed out because of him, I will like have one out the back or whatever. And she doesn't care like, because my older sister does it, and she's whatever, like she can't stop us, we're like older, we're ourselves now, we're not little kids. (Female, smoker, 15 years)

Another way in which families facilitated youth smoking behaviour was through smoking together. Sharing of cigarettes or sharing in the act of smoking has previously been found to nurture a sense of belonging and social cohesiveness among Aboriginal families and communities [13]. Similarly, in this study, some young people reported that sharing a smoke with relatives provided opportunities for socialising, 'hanging out' and gaining support, which also reinforced the behaviour:

> So it was always good to go talk to my Aunty, because I know that she's been through a lot through her life, so it was good to talk to her about the issues that I had in my life at the time. And yeah, it was just good to sit down and have a smoke. (Male, smoker, 19 years)

Although numbers of participants in our sample living in a remote community at the time of the study were small, data from this group and from boarding students suggest that in the remote setting smoking within families is normative and exposure frequent. High prevalence of smoking in remote Australia and frequent overcrowding would support this [2]. Data elicited from photographs taken by three remote interviewees focused on the litter from used butts and discarded cigarette packets in homes and generally around the community (photograph 1). Smoking was also associated with other social activities in remote communities, such as gambling, where adolescents had the opportunity to win extra disposable income that could be used to purchase tobacco.

Photograph 1: Three young people in the remote community site discussed this photograph during a group interview. It is a photograph of a window sill in a home where residents discard their cigarette butts among other rubbish. The participants reported that smoking is common in this remote community; very few households have no smokers living in them. While some households are smoke free inside, many are not

Findings for the non-Indigenous participants suggested that youths were similarly influenced to smoke by watching family and frequently accessed tobacco covertly from household supplies. However, there was less indication that they regularly experimented with family members (they smoked mainly with peers) or were actively given tobacco by family members. Although experimenting with family was commonplace among Indigenous participants, some did report that they smoked exclusively with friends and avoided smoking around family because they were afraid that relatives would disclose their behaviour to parents.

Indigenous and non-Indigenous participants who smoked at the time of interview and who indicated that they had been exposed to family influences to smoke as children reported a progression in their smoking later in high school.

A contrast: the influence of anti-smoking socialisation

Although the data mostly focused on determinants of smoking, lack of access to tobacco and role modelling in the home, as well as anti-smoking socialisation from family, appeared to be protective against starting to smoke. Explicit parental anti-smoking socialisation was a more significant theme for non-Indigenous, compared with Indigenous, participants (although the majority of non-Indigenous participants were non-smokers). Nevertheless, the protective effect of anti-smoking socialisation, when it did occur, appeared to be the same across ethnic groups.

Both Indigenous and non-Indigenous non-smokers generally reported no or less smoking in their households. A lack of access and direct role modelling was, they perceived, a key determinant in why they did not become smokers, even though most did experiment to varying degrees.

> My parents never smoked, so you're just never really around it… So, none of us smoke… none of my brothers or sisters smoke. (Female, non-smoker, 18 years)

Photograph 2: 'My brothers are a big part of smoking not being in my life. [This one] especially came at like at an age where I would probably be most likely to make my mind up about smoking. It was around like 11 or 12 when I was sort of, I wasn't thinking about it but I had a lot of more exposure from my friends... but then once he came along and my mum stopped and there was just none around the house, yeah. It helped me not make a decision but reinforce the decision not to smoke.'
(Female, non-smoker, 17 years)

Additionally, strong anti-smoking socialisation in the home was a central theme among non-smokers. Anti-smoking socialisation included smoke-free indoor spaces, not smoking around children, strong anti-smoking messages, and clear and communicated consequences to smoking. This was true even when parents were smokers themselves and it appeared to be moderated by whether youths and their parents had a positive relationship characterised by respect and trust. This theme is well illustrated by data elicited by a photograph taken by one young woman, Sandy (a pseudonym), who was interviewed for this project (photograph 2).

Sandy is a 17-year-old Indigenous woman from a close-knit family living in Darwin. Sandy was exposed to smoking among her immediate and extended family from an early age but, despite this, she was brought up not to smoke. Although her mum smoked, she never did so around the children. She banned smoking inside the house and provided strong anti-smoking messages, telling them it 'was a disgusting habit'. When her two younger brothers were born, Sandy's mum quit for good and this appeared to be a defining moment for Sandy. Although she experimented on a few occasions, her dislike of the experience and positive family influences were reportedly central to her decision not to smoke. Many of Sandy's aunties and uncles smoked, however she reported that none of her cousins did and noted a generational shift among her family to be progressively more anti-smoking.

Another key theme for not starting to smoke revolved around health; non-smokers wanted to avoid the long-term health effects of smoking and wanted to be healthy in the short term, usually to pursue sporting and recreational hobbies without being impeded by nicotine addiction. In general, both smoking and non-smoking youths were well versed in a wide range of negative health impacts from smoking. Several non-smokers had been witness to the health effects of smoking within their own families and this had a profound impact. Others had been dissuaded by anti-smoking messages they had received from respected family members and through education from schools, social marketing and health warning images on packets, as illustrated by the following exchange:

Q. Why didn't you start?

'Cause if we started, we'd probably get hit by our brothers... They just told me not to try it 'cause it'll just stuff you up. (Male, non-smoker, 13 years)

Q. Would you say that's the main reason why you didn't start to smoke?

Mum told us not to. (Male, non-smoker, 13 years)

Yeah, my mum. She told us not to... She said it's bad. (Male, non-smoker, 15 years)

Notably, not all youths interviewed received education at school about the harms of tobacco. Many youths reported there was a role for health education about tobacco but that it should be delivered prior to high school when fewer students have started experimenting.

Smoking as a social activity

It was during high school that progression of smoking from initiation to more frequent experimentation, and in some cases regular smoking, was perceived to generally occur. Additionally, during this developmental stage the influence of friends and broader social networks on smoking behaviour was perceived to increase as exposure to smoking among peers escalated and smoking assumed a fundamentally social function. In contrast to the influence of peers and the general social environment on smoking uptake, intrapersonal determinants, such as personality, were not a major theme, although several non-smokers reported it took strong conviction and confidence to say no to smoking, especially when 'a lot of other kids are doing it'.

Smoking alone at this developmental stage was not perceived as commonplace. Instead, teenagers smoked where 'everyone else smokes', often in groups in public but secluded places away from the prying eyes of parents and teachers. In remote communities adolescents went to secluded waterholes and places in the bush to smoke. In the city they smoked at the bus stop (photograph 3) and outside the mall and the skate park—common 'hang out' or 'meet up' spots where smoking was embraced as a social activity. They also smoked at school, despite universal 'no smoking' policies. Participants across different schools shared stories of known secluded smoking sites behind the toilets, on the oval and in bushes on the school perimeter where smoking was common.

Young people acknowledged that smoke-free laws imposed greater restrictions on smokers. However, the over-riding perception was that such laws did not necessarily impact on smoking initiation, especially as the smoke-free regulations young people are most in contact with (at school, bus depot, outside the mall) were commonly flouted by smokers, with perceived negligible consequence. Compliance with smoke-free laws in the remote context was perceived as particularly poor. Despite this, a few urban Indigenous participants did reflect on the impact of smoke-free areas on denormalising smoking and impacting on behaviour. Those who perceived smoke-free laws as effective in preventing youth smoking also generally reported being influenced by other anti-smoking messaging from family and/or media:

> **But smoking is just becoming you know, more and more banned everywhere and you just—I don't see it that much anymore, I mean I guess that is a pretty important, like a pretty important thing that the lack of, like the lack of smoking in my life is pretty significant.** (Female, non-smoker, 20 years)

Photograph 3: 'I see lots of people just having a quick one before they go on a bus or kids just sitting around, I don't know, copying each other, having a smoke before they go to school or something, after school.'
(Female, smoker, 15 years)

As youths progressed from trying smoking for the first time to more regular smoking, often during high school, avenues for acquiring tobacco broadened [45]. Notably, peers became a more common means to access tobacco, although Indigenous participants, in particular, cited family members as a continued source of tobacco during adolescence. Friends shared smokes, 'went halves' and 'bummed smokes' from one another – behaviour that reinforced social bonding through shared experience and consequently reinforced smoking.

Other sources of tobacco included older friends or sometimes strangers who were asked to purchase tobacco for minors. Mostly, urban Indigenous participants reported a common practice of approaching itinerant Indigenous adults ('countrymen') for the purpose of acquiring tobacco. A packet of cigarettes purchased through this route was exchanged for the change from the sale

and/or some tobacco from the packet. Youths also reported the ability to access a black market where cigarettes were purchased as single sticks at an inflated price. Although a known practice in remote settings [13], this was also reportedly a means to access tobacco for both Indigenous and non-Indigenous youths across schools in the urban setting. Finally, it was not uncommon for under-aged youths to purchase tobacco directly at outlets, usually 'known' small corner shops where identification of age is rarely required (the larger retail outlets are avoided). This reflects findings from previous research that have found youths to be adept at finding outlets that are prepared to sell tobacco to minors [46] and difficulties with enforcing bans on sales to underage purchasers [47].

Participants also highlighted the particular role of alcohol, usually in the context of social gatherings, in facilitating smoking. Smoking tobacco in combination with marijuana was also reported, highlighting the common co-occurrence of tobacco, alcohol and cannabis use in adolescence [48]. Alcohol use promoted participation in social gatherings in which access and availability of tobacco was increased and social inhibitions and control reduced:

> Because I've had friends who don't smoke but when they're under the influence of alcohol they've tried it out a lot, [but] if they were sober I know that they wouldn't… I think some people may even get into smoking cigarettes because they just kept trying it when they're drunk and then it just sort of leads on one to another and they just start doing it as well, yeah, usual thing. (Female, non-smoker, 17 years)

Youths who smoked infrequently in the context of social gatherings and often in association with alcohol were commonly defined as 'social' or 'casual' smokers, regardless of the regularity of their smoking behaviour:

> I don't know. Like one of my friends. She only smokes when she's around us; she's only a social smoker. So when she's by herself she won't smoke. Like she's told us that. (Female, smoker, 17 years)

Starting to smoke to 'fit in'

Participants noted that during high school years social pressure to smoke was an increasingly influential determinant of experimentation and progression of smoking. This process of peer socialisation, whereby adolescents take on the values and behaviours of the group in order to be accepted [49], was a theme that cut across Indigenous and non-Indigenous participants, but was a more central theme for female participants generally.

There were differing perceptions as to the prevalence of overt pressure to smoke. Nevertheless, some participants did report feeling 'forced' into smoking on one occasion or more; the consequences for not smoking could include ridicule and humiliation. However, a more consistent theme was that peer socialisation worked more through indirect pressure to conform to social norms, rather than peers providing direct encouragement to smoke. Some young people smoked to 'fit in' with friends or to avoid being the 'odd one out' or an 'outcast' among peers:

> They want to be the same as the other ones who smoke… Because if you are a non-smoker and you see them over there, and they are your friends, it doesn't suit you if you are not smoking. But if you start smoking, it's like you are a member of that group. (Male, non-smoker, 20 years)

Others started to smoke to project or maintain a certain image, again generally to be accepted by a specific group or crowd, or to attract the opposite sex. Smoking in this context played a functional role in assisting young people to reflect an image that was 'rebellious', 'cool' or 'grown up':

> Oh well, I grew up with all those Karama mob, running around and yelling out gang names… Yeah so for me it was something to fit in with the group. Now I'm addicted and can't get off it. So now I'm swearing because it costs me $20.00 a day. (Female, smoker, 17 years)

> They're growing up, they think they getting smarter and smarter, like an adult, becoming a woman and not a girl anymore. (Female, smoker, 20 years)

Conversely, non-smokers commonly described smoking in pejorative terms, describing it as 'gross' and 'disgusting', and this negative imagery was a key reason given for not starting to smoke. This characterisation of smoking was more dominant among non-Indigenous than Indigenous participants, perhaps reflecting the difference in the degree to which smoking is denormalised in the majority population compared with this minority group in Australia. Nevertheless, some Indigenous participants reported similar views, especially if they had also received strong anti-smoking messages from their families:

> It's sort of switched from cigarettes being cool to cigarettes being just disgusting and really not, yeah, not cool at all… That's how I see it. (Female, non-smoker, 17 years)

Participants perceived that a negative image of smoking had progressively developed as a consequence of the behaviour being far less common in the community than it once was. A perceived drop in prevalence, increasing restrictions on smokers as a consequence of smoke-free areas and graphic packet warnings have all assisted in denormalising and, to an extent, stigmatising smoking, in some instances stigmatising the smokers themselves. This had implications for not only how non-smokers perceived smoking but also how non-smokers related to smokers:

> My brother's like that. If a girl smokes, he doesn't want a bar of it. It's just a really big turn off. (Female, non-smoker, 18 years)

The reinforcement of social networks

Related to the theme of peer influence on smoking initiation is the role that peer behaviour played in maintaining smoking (or non-smoking) behaviour. Smokers 'clustered' [8] in closer friendship networks with smokers (and non-smokers clustered with non-smokers), and the cues to smoke or not to smoke were a strong reinforcer of smoking behaviour.

In the previous section we described how adolescents are socialised to smoking by the influencing norms and behaviours of their social group (peer socialisation). Another avenue through which peer influence leads to group homogeneity is 'peer selection', which describes the process whereby young people gravitate towards or select social networks with similar norms and behaviour to their own [50]. This is exemplified in the following quote, where a young male smoker described how he was 'encouraged' to seek out other smokers as a consequence of feeling marginalised by the wider school community. In this instance, the 'smokers group' is described as a separate entity with inclusion predicated on smoking status and members exhibiting strong social bonding by virtue of being excluded from the mainstream:

> When I was 15, I was comfortable with the fact that I was going to be looked at as a smoker anyway, so I may as well get used to it. Then in school, I mean, smoking was something that was frowned upon by most people, so I did feel singled out at that point as well as a smoker, which encouraged me more to hang around with more smokers and begin the cycle of more and more cigarettes going in to my body too… Like the whole smoking group socialised together and we all mixed in after a while because there was no point in being separated because we were all singled out anyway… (Male, smoker, 19 years)

His social context, while providing him with a supportive environment, also contributed to a progression in smoking intensity. This is perhaps a reminder of how universal efforts to denormalise

smoking may potentially cement smoking in the lives of some youths who find themselves excluded by social practices that are progressively viewed as 'deviant' and unacceptable [51].

Socialising processes that may encourage adolescent smoking also operated to protect young people from smoking [52], as highlighted by data elicited from a photograph taken by one young non-Indigenous woman interviewed for this project (photograph 4). Talking about the image, she explained that her group of non-smoking friends entertained themselves with other activities during school breaks when smokers commonly go for a smoke. As a collective, they found no 'need for cigarettes' in their lives and these distinguishing values and behaviours consistently reinforced the group as non-smoking. Indeed, peers in non-smoking groups were cited as a source of sometimes vehement anti-smoking messages and demonstrated the power of indirect pressure to conform to actual or perceived social norms, particularly in this age group. This was a lesser theme among Indigenous participants but was nevertheless present, as exemplified in the following excerpt, where a young Indigenous woman recalled the negative reaction of her friends on the few occasions she experimented with smoking at parties:

Photograph 4: 'So this is two of my best friends. And so this is at lunch-time when a lot of smokers do go for smokes as well. And so, yeah, we find other ways to entertain ourselves. So they have their phones out, food, just talking. No need for cigarettes. And sometimes we study during lunch as well. Yeah. My friends don't smoke, I don't smoke... These are the people that I'm like really closely knit with. They don't smoke. But I'm not really, really good friends with anyone who does smoke.'

(Female, non-smoker, 15 years)

> My close friends disapproved highly… they sort of thought that I got what I deserved the next day, from being sick, they weren't really that sympathetic, they were like well, 'that's what you get.' So I guess, like, I think that helped in me not smoking as well, [because] my close friends didn't approve of smoking at all, they thought it was trashy and they really talked it down a lot so yeah. (Female, non-smoker, 20 years)

Being a 'real smoker' and the role of dependence

Some participants in our study had progressed from experimenting with smoking or smoking socially to being established smokers. Similar to a 'social' smoker, the 'real' or established smoker was perceived by smokers and non-smokers to possess unique identifiers. An established smoker was described as someone whose smoking had progressed from an infrequent occurrence to behaviour that had become incorporated into his or her routine. A real smoker smoked 'naturally' and the act of smoking was no longer bound up with projecting a type of image or was no longer an exclusively social activity. Instead, it was incorporated into the everyday routine—'normal day, smoke a cigarette':

> It's just like a thing we do every day. Others come and say, 'Do you wanna smoke?' (Female, smoker, 16 years)

> It's not like if you're cool or not. You smoke or you don't. (Female, smoker, 16 years)

Purchasing cigarettes, smoking daily, choosing a particular brand, carrying tobacco, socialising with other smokers and smoking alone were other hallmarks of being a 'real smoker', as was dependence on nicotine.

Although a few participants who smoked regularly did not regard nicotine dependence as a risk to themselves, the majority of participants cited 'addiction' during teenage years as a key reason for young people continuing to smoke and progressing in their smoking journeys. Some self-identified as 'addicted' smokers. Addiction was largely conceptualised by participants as physiological dependence, characterised by withdrawal symptoms and cravings for nicotine:

> Q. How did you know you were addicted?
>
> Everything was cloudy in the morning until I'd have a cigarette, like a lack of concentration I guess. Even if I did have a really strong coffee I still wasn't focusing enough until I had a cigarette, and that's when I knew, I think my body at that stage was craving it and needed it to function early in the morning. (Male, smoker, 19 years)

Other descriptors that referenced dependency included being 'hungry' and 'stressing out' for cigarettes. Some of the consequences of not satisfying the cravings included robbing people for money to buy cigarettes and looking for discarded butts. Psychological dependence was also reported and was exemplified by one smoker describing his anxiety when he was not carrying tobacco on him. Some participants noted how quickly nicotine dependence could occur [53]. For a few, the realisation that they were addicted emerged unexpectedly when they attempted to quit or could not access tobacco for a period of time and experienced withdrawal symptoms. This loss of autonomy over smoking was met with resentment by those who considered themselves 'addicted' and a few young smokers expressed significant regret about starting to smoke. This was poignantly highlighted by a quote accompanying a photograph taken by a 19-year-old male who started smoking at age 14 (photograph 5).

Smokers and non-smokers, Indigenous and non-Indigenous youths, cited stress as another key determinant of continuing to smoke beyond experimentation. Sources of stress included school and work pressures, family breakdown, bereavement, relationship problems and being in foster care. In these and other stressful situations, young people used smoking to regulate emotions – to 'relax', 'settle down', 'chill out' or take 'time out' from an acutely stressful situation. All of the smokers we interviewed in depth indicated they used smoking to manage their moods and to cope with stress to varying extents. The scale and number of stressors young people reportedly faced during adolescence appeared more significant among the Indigenous group, perhaps reflecting the higher prevalence of social stressors that generally affect this young population [54]. There was a suggestion that smoking to manage stress, and also for weight loss, may be more common for girls than boys.

Photograph 5: 'I took this shot just because sometimes I will just, I don't know why, I'll just glimpse at my cigarette and have a look at it and just be like, "Why am I doing this?" And I'd question myself but I just can't come up with an answer as to why I took it up in the first place, and why I'm so stupid; like I'm damaging my body constantly. I just can't figure out why sometimes, why this thing in my hand is such a big part of my life when it does nothing for me.'

(Male, smoker, 19 years)

DISCUSSION

We have found that, similar to other populations, smoking uptake is not a simple event for Indigenous (and non-Indigenous) youths but, rather, a process that starts with experimentation, which may progress to more regular and/or 'social' smoking and, for some, on to established or daily smoking. In this process, family and peers played a central role in smoking initiation and progression. Although several personal and environmental factors also had some influence on smoking uptake and progression, the findings particularly emphasise the salience of the social stream of influence within the TTI framework on youth smoking behaviour in this context and this is the focus of our discussion.

Within the social stream of influence, Flay et al. [44] identifies the 'ultimate cause' of youth smoking as the social context in which an individual lives. Social context determines the breadth, extent and nature of interpersonal interaction [8]. The ultimate stream flows through to and interacts with the next level of influence at the social–personal nexus, where smoking behaviour is influenced by social bonding to significant others and observed (modelled) behaviours. Family and peer groups have a key role at this level of influence, as this study's findings demonstrate. The experiences and the information youths gain within these social networks inform and shape their understanding of what is normative and acceptable behaviour [51]; social normative beliefs about smoking subsequently contribute to young people's decisions or intentions to smoke [44].

Our study did not yield detailed information about the broader social context in which youths start to smoke. However, our findings that high exposure to smoking role models, as well as to activities that may facilitate tobacco use (e.g. gambling), coupled with perceived poor compliance of smoke-free areas in the remote Indigenous context, may shape the interpretation of social norms related to smoking in different ways to urban youths. Also, high exposure to social stressors (often a function of broader family and community dysfunction) among Indigenous youths generally can impact to influence smoking behaviour [9], as suggested by our results.

At the next level of influence, both general parenting practices and smoking-specific practices influenced the development of young people's social normative beliefs around smoking and subsequent smoking behaviour. With regards to general parenting, a lack of monitoring by parents and lack of, or inconsistent consequences for, unacceptable behaviour (e.g. smoking) was reported by smokers in this study. Similarly, previous research has found that children of parents who have an 'unengaged' or more permissive parenting style are more likely to smoke compared with children whose parents have a more 'authoritative' style of parenting (i.e. set clear limits for behaviour, as well as monitor compliance) [55, 56]. In this study, low levels of parental efficacy in reducing teen tobacco use and lenient household rules about smoking in the home were also reported, despite parents often providing contradictory anti-smoking verbal messages. Focus group and cross-sectional research with a Native American population in the United States suggest that these Indigenous parents may also have more lenient anti-smoking socialisation beliefs compared with other ethnic groups [57, 58]. However, these beliefs were found to vary more by education level of the parent than by ethnicity [58], suggesting that socio-economic and not ethnic status is the more influential determinant of such beliefs.

Related to the theme of parenting, smoking-specific practices within families, including role modelling smoking, facilitating access to tobacco and socialisation into smoking, were also influential in smoking uptake among youths. Notably, modelling smoking behaviour was central

to how young people 'learned' to smoke, consistent with the well-established research finding that parent and sibling smoking is a strong and significant predictor of the risk of smoking uptake by children and young people [5]. Family as both a direct and indirect source of tobacco was also a significant finding in our study, as previously reported among minority and Indigenous ethnic groups in the United States [4]. Socialisation of youths to smoking by other family members included the active initiation of young people to smoking and sharing in the act of smoking. In the Indigenous context particularly, the role of older siblings and cousins in this socialisation process cannot be overlooked. They were frequently the source of tobacco and the instigator of smoking experimentation for young people in the family environment; this has also been reported in other minority and Indigenous ethnic groups [34, 59]. Although role modelling and access to tobacco were also influential for non-Indigenous youths, they did not report the same degree of active socialisation to smoking as did Indigenous participants.

In contrast to the above, families who engaged in anti-smoking socialisation were reportedly successful in establishing norms around non-smoking and subsequently protecting youths against smoking uptake. Henriksen and Jackson [60, p.87] define anti-smoking socialisation as 'the transmission of knowledge, attitudes and skills that prepare children to resist smoking'. This can take several forms: establishing household smoking bans, monitoring children's behaviour and establishing clear expectations of negative consequences for smoking, as well as expressing anti-smoking messages [6]. In this study, young children who were raised in households with fewer smokers and/or whose family members provided strong anti-smoking socialisation generally reported less inclination to try smoking and, if they did try, to progress beyond experimentation. This was particularly the case if parents were non-smokers but appeared to hold even if parents smoked. Several robust epidemiological studies have upheld the hypothesis that anti-smoking socialisation is protective against youths smoking [6, 61, 62]. Further, in this study the effect of these parenting practices appeared to be influenced by the strength of family ties, suggesting an interaction between general and smoking-specific parenting practices and highlighting the role of social bonding in influencing normative beliefs about smoking.

The other significant influence on social norms around smoking in this study was the peer group. There is no clear consensus in the literature as to the relative importance of family and peer influence on adolescent smoking at different stages of smoking. Some reports suggest that the effect of family smoking is particularly relevant for younger children [63, 64], whereas peer group behaviours are more important in influencing smoking during teenage years [1, 65]. More recent longitudinal research suggests parental influences are important for initiation and escalation of smoking [66, 67]. Peer behaviour, too, has been found to affect initiation, progression and trajectories [8].

Our qualitative design was not able to 'unpack' the relative contribution of family and peers on smoking at different stages in this context. However, the data suggest that family influences were particularly salient for smoking initiation and experimentation but also appeared to set the foundation for some youths to progress to more regular smoking during their teenage years, or conversely not to continue beyond experimentation. Peers appeared more influential during adolescence, a critical time of transition to physical and emotional maturity and to a coherent sense of self [7].

Regarding peer influences, we found evidence for both peer socialisation and peer selection and both significantly influenced social norms around smoking. These processes not only affected smoking initiation but also continued to reinforce smoking beyond initiation. Similar to the two qualitative studies published on smoking initiation among Australian Indigenous populations [9, 10], we found that peer socialisation is more a normative process and less one of overt pressure to smoke [8]. Smoking to 'fit in' with peers highlights that group membership in adolescence confers significant benefits of acceptance and friendship, but can also require conformity in both attitudes and behaviours, which may be detrimental to health [68]. A related theme is the role that smoking plays in the creation or experimentation of different social identities [69, 70] during this developmental stage. In this study smoking was used by Indigenous and non-Indigenous participants to reflect a range of social identities from rebelliousness to 'grown up', identities that conferred symbolic capital within their various social contexts [51]. Although smoking was used

as a 'style tool' by some youths to communicate identity and status, it was regarded by others as a 'stigmatising liability' [51, p.77], influencing normative beliefs against smoking. This finding was more pronounced among non-Indigenous participants.

Our study also found that there is substantial peer group homogeneity in respect to adolescent smoking [11]; young smokers were more likely to report being close friends with other smokers and the reverse was true for non-smokers. This further emphasises that smoking, contrary to being an 'individual' lifestyle choice, is instead enmeshed in collective patterns of consumption and selected from among what is 'socially feasible' so as to construct and maintain a social identity that expresses difference both among and between social groups [71, p.61]. What this study also highlights is that in a context of falling smoking prevalence, peer influence can also be protective [12]. This was particularly the case for non-Indigenous participants who were non-smokers but there is evidence of changing social norms among Indigenous youths as well. As smoking is increasingly denormalised, youths who smoke may be increasingly forced to 'select' peers from a smaller pool with similar attitudes towards and interests in smoking, as demonstrated in our findings.

Although this study highlighted the importance of social norms and social influences on smoking uptake among Indigenous youths, other personal and environmental factors also played a role. There were few marked differences in the perceptions and reported experiences of smoking by gender, but the findings suggest that female participants were more strongly influenced by peer smoking than boys and more likely to smoke to relieve stress, similar to previous reports [8]. Other reported personal factors that influenced youth smoking included alcohol use, stress and nicotine dependence, factors that have previously been associated with adolescent tobacco use [72]. Environmental factors, such as smoke-free areas, social marketing and education, were also reported to influence tobacco use. Those youths whose immediate social networks established strong social norms against smoking perceived that these initiatives denormalised smoking and could make an impact on youth smoking. Conversely, youths whose social networks were dominated by smokers and for whom smoking was normative rated these initiatives as less effective. This differential finding draws attention to the interaction between social and environmental streams of influence in shaping social normative beliefs about smoking [44].

There are limitations to this study. We only included a relatively small sample of non-Indigenous participants, and within this subgroup we were only able to recruit a small number of smokers. This means that we were not able to provide a more nuanced comparison across ethnic groups but instead have focused our analysis on the major themes arising for Indigenous youths and the significant similarities and differences between the two ethnic groups. Additionally, if we had been able to conduct separate group interviews for females and males, we may well have uncovered more subtle gender differences in smoking behaviours, as has been reported elsewhere in the literature [73]. Finally, our findings are more representative of the perspectives of youths in school or employment, which restricted our ability to explore in-depth differences across socio-economic status and therefore limit the generalisability of the findings. The qualitative nature of the study means we must caution against inferring causality between suggested determinants and smoking behaviour of participating youths. Social desirability may have biased participants' responses and led them to self-censor their actual views. In addition, participants were volunteers who may have different smoking-related attitudes and experiences than Indigenous and non-Indigenous youths in the community.

Despite the limitations, this study is one of the first in Australia to provide in-depth data on the qualitative determinants of smoking among contemporary Indigenous young people. We found that family and peer social influences are particularly salient in smoking uptake among Indigenous youths, emphasising the importance of the social stream of influence within the TTI in this context. Our findings also suggest that the types of social influences to smoke were similar between Indigenous and non-Indigenous youths but that these influences were more pervasive (especially in the family domain) among Indigenous youths. This reflects the fact that Indigenous smoking prevalence is double non-Indigenous prevalence and smoking in many Indigenous families and communities remains a normative social practice [10, 13]. The conclusion we draw is that higher rates of smoking uptake among Indigenous Australians are likely attributable to known causes of smoking initiation [14].

CONCLUSIONS

Our findings have implications for both future research and practice. One important avenue for research is to explore the range of responses and beliefs regarding youth smoking from the perspectives of Indigenous parents of children and adolescents, as they were excluded from our recent study and we relied solely on young people's reports. This is important given the role of general parenting and smoking-specific practices on youth smoking uptake. Longitudinal research with Indigenous youths to explore both the generalisability of these findings and the differential contribution of family and peer influences on smoking at different stages would be valuable; this may have implications for preventative interventions at different stages of smoking.

Regarding interventions for preventing youth smoking in this context, future activities need to focus on changing social normative beliefs around smoking, both at a population level (through smoke-free policies and laws and social marketing campaigns) and within young people's immediate social environments. Such activities would complement other effective initiatives to prevent youth smoking, such as increasing the price of cigarettes [74]. Currently, all Australian States and Territories have banned smoking in enclosed public places, particularly workplaces and restaurants. The Northern Territory has traditionally lagged behind other jurisdictions in implementing smoke-free areas. For example, if a majority of staff at a Northern Territory school campus agree, the school can designate a discrete outdoor area for smoking if it is not in the line of sight of children. This is in contrast to all other States and Territories in Australia, which ban smoking on all government school grounds. The Northern Territory Department of Education and Training should consider following other jurisdictions in making the whole of school campuses smoke free. The Northern Territory Tobacco Control Regulations should also be amended to remove this exemption relating to Northern Territory schools.

Another avenue through which schools might intervene to reduce youth smoking is to further explore interventions designed to alter social norms within established peer groups and harness the power of positive peer influences to reduce youth smoking. This has been successfully trialled in the United Kingdom. Drawing on 'diffusion of innovation' theory, the Stop Smoking in Schools Trial utilised trained influential school students to act as positive peer supporters during informal (out-of-classroom) interactions to encourage young people not to smoke [75]. The study found a 22 per cent reduction in the odds of being a regular smoker in intervention, compared to control schools for two years after its delivery [15], making it one of the most successful recent examples of school-based programs to reduce smoking among youths. Another obvious area for attention is the family unit, where interventions could be targeted to encourage positive parenting practices, both general and smoking-specific practices [8]. A review of the effectiveness of interventions to help family members strengthen non-smoking attitudes and promote non-smoking by children or adolescents found that although the evidence base is limited, some well-executed randomised controlled trials show family interventions may prevent adolescent smoking [16].

In conclusion, it is encouraging that this study provides some evidence for changing social norms relating to smoking among young Indigenous Australians. Measures to continue to denormalise smoking and to support families to socialise their children against smoking should contribute to reducing smoking uptake in this population and make significant inroads into reducing the disease and death caused by smoking in Indigenous communities.

REFERENCES

1. Sargent JD, DiFranza JR. Tobacco control for clinicians who treat adolescents. *CA Cancer J Clin* 2003, **53**:102–23.
2. Australian Bureau of Statistics. National Aboriginal and Torres Strait Islander Social Survey 2008. Canberra: ABS, 2009.
3. Flay BR, Petraitus J. The theory of triadic influence: a new theory of health behavior with implications for preventive interventions, in Albrect GS (ed.) Advances in medical sociology: a reconsideration of models of health behavior change (volume 4). Greenwich, CT: JAI Press, 1994.
4. Mermelstein R. Explanations of ethnic and gender differences in youth smoking: a multi-site, qualitative investigation. *Nicotine Tob Res* 1999, **1**:S91–S98.
5. Leonardi-Bee J, Jere ML, Britton J. Exposure to parental and sibling smoking and the risk of smoking uptake in childhood and adolescence: a systematic review and meta-analysis. *Thorax* 2011, **66**:847–55.
6. Jackson C, Henriksen L. Do as I say: parent smoking, antismoking socialization, and smoking onset among children. *Addict Behav* 1997, **22**:107–14.
7. Sawyer SM, Afifi RA, Bearinger LH, Blakemore S-J, Dick B, Ezeh AC, Patton GC. Adolescence: a foundation for future health. *Lancet* 2012, **379**:1630–40.
8. Simons-Morton B, Farhat T. Recent findings on peer group influences on adolescent smoking. *J Primary Prevention* 2010, **31**:191–208.
9. Leavy J, Wood L, Phillips F, Rosenberg M. Try and try again: qualitative insights into adolescent smoking experimentation and notions of addiction. *Health Promot J* Aust 2010, **21**:208–14.
10. Passey ME, Gale JT, Sanson-Fisher RW. 'It's almost expected': rural Australian Aboriginal women's reflections on smoking initiation and maintenance: a qualitative study. *BMC Womens Health* 2011, **11**:55.
11. McPherson M, Smith-Lovin L, Cook JM. Birds of a feather: homophily in social networks. *Annu Rev Sociol* 2001, **27**:415–44.
12. Maxwell KA. Friends: the role of peer influence across adolescent risk behaviors. *J Youth Adolescence* 2002, **31**:267–77.
13. Johnston V, Thomas DP. Smoking behaviours in a remote Australian Indigenous community: the influence of family and other factors. *Soc Sci Med* 2008, **67**:1708–16.
14. Griesler PC, Kandel DB, Davies M. Ethnic differences in predictors of initiation and persistence of adolescent cigarette smoking in the National Longitudinal Survey of Youth. *Nicotine Tob Res* 2002, **4**:79–93.
15. Campbell R, Starkey F, Holliday J, Audrey S, Bloor M, Parry-Langdon N, Hughes R, Moore L. An informal school-based peer-led intervention for smoking prevention in adolescence (ASSIST): a cluster randomised trial. *Lancet* 2008, **371**:1595–602.
16. Thomas RE, Baker P, Lorenzetti D. Family-based programmes for preventing smoking by children and adolescents. *Cochrane Database Syst Rev* 2007, Issue 1, Art. No. CD004493. DOI: 004410.001002/14651858.CD14004493.pub14651852.

17. Burgess P. Maningrida adult health check community report and recommendations. Maningrida, NT: Malabam Health Board, 2007.

18. Vos T, Barker B, Stanley L, Lopez AD. The burden of disease and injury in Aboriginal and Torres Strait Islander peoples 2003. Brisbane: School of Population Health, The University of Queensland, 2007.

19. Mayhew KP, Flay BR, Mott JA. Stages in the development of adolescent smoking. *Drug and Alcohol Depend* 2000, **59**:S61–S81.

20. Breslau N, Peterson EL. Smoking cessation in young adults: age at initiation of cigarette smoking and other suspected influences. *Am J Public Health* 1996, **86**:214–20.

21. Australian Bureau of Statistics. Tobacco smoking—Aboriginal and Torres Strait Islander people: a snapshot, 2004–05. Canberra: ABS, 2007.

22. Tyas SL, Pederson LL. Psychosocial factors related to adolescent smoking: a critical review of the literature. *Tob Control* 1998, **7**:409–20.

23. Turner L, Mermelstein R, Flay B. Individual and contextual influences on adolescent smoking. *Ann NY Acad Sci* 2004, **1021**:175–97.

24. O'Loughlin J, Karp I, Koulis T, Paradis G, DiFranza J. Determinants of first puff and daily cigarette smoking in adolescents. *Am J Epidemiol* 2009, **170**:585–97.

25. Park S, Weaver TE, Romer D. Predictors of the transition from experimental to daily smoking in late adolescence and young adulthood. *J Drug Educ* 2010, **40**:125–41.

26. Scherrer JF, Xian H, Pan H, Pergadia ML, Madden PAF, Grant JD, Sartor CE, Haber JR, Jacob T, Bucholz KK. Parent, sibling and peer influences on smoking initiation, regular smoking and nicotine dependence. Results from a genetically informative design. *Addict Behav* 2012, **37**:240–7.

27. Wilkinson A, Shete S, Prokhorov A. The moderating role of parental smoking on their children's attitudes toward smoking among a predominantly minority sample: a cross-sectional analysis. *Subst Abuse Treat Prev Policy* 2008, **3**.

28. Tjora T, Hetland J, Aaro LE, Overland S. Distal and proximal family predictors of adolescents' smoking initiation and development: a longitudinal latent curve model analysis. *BMC Public Health* 2011, **11**:911.

29. Wakefield M, Forster J. Growing evidence for new benefit of clean indoor air laws: reduced adolescent smoking. *Tob Control* 2005, **14**:292–3.

30. Emory K, Saquib N, Gilpin EA, Pierce JP. The association between home smoking restrictions and youth smoking behaviour: a review. *Tob Control* 2010, **19**:495–506.

31. Brinn MP, Carson KV, Esterman AJ, Chang AB, Smith BJ. Mass media interventions for preventing smoking in young people. *Cochrane Database Syst Rev* 2010, Issue 11, Art. No. CD001006. DOI: 10.1002/14651858.CD001006.pub2.

32. Green D. Exploring the initiation of smoking among Indigenous youth. Master of Public Health thesis. Melbourne: School of Population Health, The University of Melbourne, 2009.

33. Kegler MC, McCormick L, Crawford M, Allen P, Spigner C, Ureda J. An exploration of family influences on smoking among ethnically diverse adolescents. *Health Educ Behav* 2002, **29**:473–90.

34. Kegler MC, Kingsley B, Malcoe LH, Cleaver V, Reid J, Solomon G. The functional value of smoking and nonsmoking from the perspective of American Indian youth. *Fam Community Health* 1999, **22**:31–42.

35. Pyett P. Working together to reduce health inequalities: reflections on a collaborative participatory approach to health research. *Aust NZ J Public Health* 2002, **26**:332–6.

36. Krueger R, Casey MA. Focus groups: a practical guide for applied research. 3rd edn. Thousand Oaks, CA: Sage, 2000.

37. Rice PL, Ezzy D. Qualitative research methods: a health focus. Melbourne: Oxford University Press, 2004.

38. Jorgenson J, Sullivan T. Accessing children's perspectives through participatory photo interviews. *Forum: Qualitative Social Research* 2010, **11**.

39. Wang CC, Pies CA. Family, maternal and child health through photovoice. *Matern Child Nurs J* 2004, **8**:95–102.

40. Wang CC, Redwood-Jones YA. Photovoice ethics: perspectives from flint photovoice. *Health Educ Behav* 2001, **28**:560–72.

41. Haines RJ, Oliffe JL, Bottorff JL, Poland BD. 'The missing picture': tobacco use through the eyes of smokers. *Tob Control* 2010, **19**:206–12.

42. Drew SE, Duncan RE, Sawyer SM. Visual storytelling: a beneficial but challenging method for health research with young people. *Qual Health Res* 2010, **20**:1677–88.

43. Harper D. Talking about pictures: a case for photo eilicitation. *Visual Studies* 2002, **17**:13–26.

44. Flay BR, Snyder FJ, Petraitis J. The theory of triadic influence, in Diclemente RJ, Crosby RA, Kegler MC (eds) Emerging theories in health promotion and research. San Francisco, CA: Jossey-Bass, 2009:451–510.

45. Kegler M, Cleaver V, Kingsley B. The social context of experimenting with cigarettes: American Indian 'start stories'. *Am J Health Promot* 2000, **15**:89–92.

46. Robinson J, Amos A. A qualitative study of young people's sources of cigarettes and attempts to circumvent underage sales laws. *Addiction* 2010, **105**:1835–43.

47. Stead LF, Lancaster T. Interventions for preventing tobacco sales to minors. *Cochrane Database Syst Rev* 2005, Issue 1, Art. No. CD001497. DOI: 0.1002/14651858.CD001497.pub2.

48. Spein AR, Sexton H, Kvernmo S. Predictors of smoking behaviour among indigenous Sami adolescents and non-indigenous peers in north Norway. *Scand J Public Health* 2004, **32**:118–29.

49. Evans WD, Powers A, Hersey J, Renaud J. The influence of social environment and social image on adolescent smoking. *Health Psychol* 2006, **25**:26–33.

50. Ennett ST, Bauman KE. The contribution of influence and selection to adolescent peer group homogeneity: the case of adolescent cigarette smoking. *J Pers Soc Psychol* 1994, **67**:653–63.

51. Haines RJ, Poland BD, Johnson JL. Becoming a 'real' smoker: cultural capital in young women's accounts of smoking and other substance use. *Sociol Health Illn* 2009, **31**:66–80.

52. Stanton WR, Lowe JB, Gillespie AM. Adolescents' experiences of smoking cessation. *Drug Alcohol Depend* 1996, **43**:63–70.

53. DiFranza JR. Symptoms of tobacco dependence after brief intermittent use: the development and assessment of nicotine dependence in youth-2 study. *Arch Pediatr Adolesc Med* 2007, **161**:704–10.

54. Blair EM. The Western Australian Aboriginal Child Health Survey: findings to date on adolescents. *Med J Aust* 2005, **183**:433.

55. Jackson C, Henriksen L, Foshee VA. The authoritative parenting index: predicting health risk behaviors among children and adolescents. *Health Educ Behav* 1998, **25**:319–37.

56. Radziszewska B, Richardson JL, Dent CW, Flay BR. Parenting style and adolescent depressive symptoms, smoking, and academic achievement: ethnic, gender, and SES differences. *J Behav Med* 1996, **19**:289–305.

57. Kegler MC, Cleaver VL, Yazzie-Valencia M. An exploration of the influence of family on cigarette smoking among American Indian adolescents. *Health Educ Res* 2000, **15**:547–57.

58. Kegler MC, Malcoe LH. Anti-smoking socialization beliefs among rural Native American and White parents of young children. *Health Educ Res* 2005, **20**:175–84.

59. Quintero G, Davis S. Why do teens smoke?—American Indian and Hispanic adolescents' perspectives on functional values and addiction. *Med Anthropol Q* 2002, **16**:439–57.

60. Henriksen L, Jackson C. Anti-smoking socialization: relationship to parent and child smoking status. *Health Communication* 1998, **10**:87.

61. Mahabee-Gittens EM, Xiao Y, Gordon JS, Khoury JC. The role of family influences on adolescent smoking in different racial/ethnic groups. *Nicotine Tob Res* 2012, **14**:264–73.

62. Waa A, Edwards R, Newcombe R, Zhang J, Weerasekera D, Peace J, McDuff I. Parental behaviours, but not parental smoking, influence current smoking and smoking susceptibility among 14 and 15 year-old children. *Aust NZ J Public Health* 2011, **35**:530–6.

63. Jackson C, Henriksen L, Dickinson D, Levine DW. The early use of alcohol and tobacco: its relation to children's competence and parents' behavior. *Am J Public Health* 1997, **87**:359–64.

64. Vitaro F, Wanner B, Brendgen M, Gosselin C, Gendreau PL. Differential contribution of parents and friends to smoking trajectories during adolescence. *Addict Behav 2004*, **29**:831–5.

65. West P, Sweeting H, Ecob R. Family and friends' influences on the uptake of regular smoking from mid-adolescence to early adulthood. *Addiction* 1999, **94**:1397–411.

66. Bricker JB, Peterson AV, Leroux BG, Andersen MR, Bharat Rajan K, Sarason IG. Prospective prediction of children's smoking transitions: role of parents' and older siblings' smoking. *Addiction* 2006, **101**:128–36.

67. Bricker JB, Peterson Jr AV, Sarason IG, Andersen MR, Rajan KB. Changes in the influence of parents' and close friends' smoking on adolescent smoking transitions. *Addict Behav* 2007, **32**:740–57.

68. Flay BR, Hu FB, Siddiqui O, Day LE, Hedeker D, Petraitis J, Richardson J, Sussman S. Differential influence of parental smoking and friends' smoking on adolescent initiation and escalation and smoking. *J Health Soc Behav* 1994, **35**:248–65.

69. Stjerna M-L, Lauritzen SO, Tillgren P. 'Social thinking' and cultural images: teenagers' notions of tobacco use. *Soc Sci Med* 2004, **59**:573–83.

70. Lloyd B, Lucas K, Fernbach M. Adolescent girls' constructions of smoking identities: implications for health promotion. *J Adolesc* 1997, **20**:43–56.

71. Poland B, Frohlich K, Haines RJ, Mykhalovskiy E, Rock M, Sparks R. The social context of smoking: the next frontier in tobacco control? *Tob Control* 2006, **15**:59–63.

72. Flay BR. Understanding environmental, situational and intrapersonal risk and protective factors for youth tobacco use: the theory of triadic influence. *Nicotine Tob Res* 1999, **1**:s111–s114.

73. Amos A, Bostock Y. Young people, smoking and gender—a qualitative exploration. *Health Educ Res* 2007, **22**:770–81.

74. Pierce JP, White VM, Emery SL. What public health strategies are needed to reduce smoking initiation? *Tob Control* 2012, **21**:258–64.

75. Audrey S, Cordall K, Moore L, Cohen D, Campbell R. The development and implementation of a peer-led intervention to prevent smoking among secondary school students using their established social networks. *Health Educ J* 2004, **63**:266–84.

the Lowitja INSTITUTE

Australia's National Institute for Aboriginal and Torres Strait Islander Health Research

The Lowitja Institute
179 Grattan Street, Carlton
Victoria 3053 AUSTRALIA

PO Box 650, Carlton South
Victoria 3053 AUSTRALIA

T: +61 3 8341 5500
F: +61 3 8341 5599
E: communications@lowitja.org.au
W: www.lowitja.org.au