

The facilitators and barriers of physical activity among Aboriginal and Torres Strait Islander regional sport participants

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Disparities in the determinants and perspectives of health and health behaviours between Indigenous and non-Indigenous populations continue to be a major matter of concern in many of the world's well-developed nations. Indigenous populations are largely less healthy and more prone to chronic diseases and an earlier overall mortality than non-Indigenous populations.¹⁻³ Although progressively improving, a significant gap in mortality rates ranging from five to eight years is still prominent between Indigenous and non-Indigenous peoples' life expectancies in countries including New Zealand, Canada and the United States.⁴ In Australia, where Indigenous people are represented by both Australian Aboriginals and Torres Strait Islanders, the gap continues to widen and life expectancy for Indigenous peoples is 10 years lower than their non-Indigenous counterparts.^{5,8} Compared to non-Indigenous Australians, Indigenous Australians are twice as likely to self-report their general health as fair or poor, and about half as likely to assess their health as excellent or very good.^{8,9} There is a higher prevalence of both infectious and chronic health problems such as cardiovascular disease, circulatory diseases, diabetes and musculoskeletal conditions amongst Indigenous people of Australia.^{7,8} For instance, Indigenous Australians are five times more likely to die from type 2 diabetes than non-Indigenous Australians, and nearly twice as likely to die from a cardio-vascular disease.⁸ In addition, Indigenous Australian

Abstract

Background: Disparities in health perspectives between Indigenous and non-Indigenous populations are major concerns in many of the world's well-developed nations. Indigenous populations are largely less healthy, more prone to chronic diseases, and have an earlier overall mortality than non-Indigenous populations. Low levels of physical activity (PA) contribute to the high levels of disease in Indigenous Australians.

Method: Qualitative analysis of structured one-on-one interviews discussing PA in a regional setting. Participants were 12 Indigenous Australian adults, and 12 non-Indigenous Australian adults matched on age, sex, and basketball division.

Results: Most participants reported engaging in regular exercise; however, the Indigenous group reported more barriers to PA. These factors included cost, time management and environmental constraints. The physical facilitators identified by our Indigenous sample included social support, intrinsic motivation and role modelling.

Conclusion: Findings describe individual and external factors that promote or constraint PA as reported by Indigenous Australian adults. Results indicate that Indigenous people face specific barriers to PA when compared to a non-Indigenous sample.

Implications for public health: This study is the first to compare the perspective of Indigenous Australians to a matched group of non-Indigenous Australians and provides useful knowledge to develop public health programs based on culturally sensitive data.

Key words: Indigenous, physical activity, barriers, facilitators, Australia

adults also show higher rates of psychological distress and are significantly more prone to experience symptoms of depression and anxiety than their non-Indigenous counterparts.⁹

Physical inactivity largely amplifies the risk for developing chronic diseases and disorders, and physical activity (PA) is well documented as an essential component of health and wellbeing in all populations. In Indigenous communities, sport is documented as a potentially powerful influence on wellbeing

and has been noted as a key asset in the prevention and control of chronic conditions such as obesity, type 2 diabetes and cardiovascular disease.^{10,13}

In their 2016 report, the Chief Health Officer Queensland reported that adults, in general, are not engaging in enough PA to maximise the health benefits associated with an active lifestyle. Specifically, Queensland adults' prevalence of sufficient PA is 9% lower than national prevalence, and Regional Queensland adults are 10% less likely to be

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sufficiently active than the state average.¹⁴ In the 2015 National Health Survey conducted by the Australian Bureau of Statistics (ABS), more than 60% of Indigenous Australian adults reported being totally inactive or engaging in only low levels of PA. The survey further indicated that Indigenous adults are significantly less likely, compared to non-Indigenous adults, to meet the weekly 150–300 minutes of moderate PA as recommended by the National Physical Activity Guidelines.⁹

Given the overwhelming evidence supporting the health benefits of PA, the promotion of an active lifestyle is a potential lever in improving the health disparities of Indigenous communities.^{12,15} An understanding of the psycho-social correlates of PA in this population will provide important evidence for future intervention work. Factors that influence PA, such as socio-demographic correlates or social interaction, consider both individual and social environment features that contribute to an increased level of PA. For example, some empirical evidence suggests Indigenous Australians are incorporating PA as a part of family community.^{16–18} However, social support and subjective norms (i.e., perceived support from and modelled behaviours of significant others) are not strong predictors of PA in the general adult population.¹⁵

There is building evidence that Indigenous Australians face unique social, cultural and financial barriers to PA engagement.^{19–21} As put forth by Gray et al. in their narrative review addressing PA among Indigenous people, barriers including a lack of availability and sustainability of sporting facilities and initiatives limit opportunities for engagement in PA.²¹ Additionally, in comparison to their non-Indigenous counterparts, Indigenous Australians may not conceptualise PA as a distinct form of behaviour, but as activities incorporated into their overall lifestyle.²² Therefore, to encourage participation PA programs need to be in line with this holistic vision of life and health, otherwise they may be inappropriate for Indigenous people and limit their participation.²¹

Indigenous Australian populations represent a heterogeneous group of individuals, cultural competency and appreciation of social diversity in Indigenous communities is crucial when investigating the unique needs and priorities of Indigenous cultures.^{16,23,25} This nuance can be overlooked when presenting epidemiological data from

a population. Given the diversity in the Indigenous Australian population and the subjective nature of psychosocial correlates of PA, complementary qualitative methods of investigation are required to paint a comprehensive portrait that gives meaning to lived experience of Indigenous peoples of Australia.^{4,11,15} Mission Australia found that a geographic location-specific and locally-developed strategy is recommended to best address the heterogeneity of Indigenous communities and is more likely to be effective than a broad and across-contexts model.³⁴ To this date, however, the majority of research investigating PA among Indigenous peoples attempts to identify an accurate profile drawing from an epidemiological standpoint using solely quantitative data.^{e.g.8,9,33}

Although there has been previous research on perspectives of Aboriginal and Torres Strait Islander Australians regarding PA,^{e.g.18,24,32} never before has the perspective of Indigenous Australians been compared to a matched group of non-Indigenous Australians in a study. This comparative research is important because, without it, conclusions cannot be made as to whether or not there are unique PA facilitators and barriers specific to Indigenous Australians, compared to non-Indigenous Australians. If differences exist, it suggests PA interventions for Indigenous Australians may need to adapt traditional behaviour change theories to better reflect the perspective of this population. The aim of this study is to determine whether regionally-based (i.e. from an area that lie beyond the major capital cities)³⁵ Indigenous Australian adults have unique barriers or facilitators to PA, compared to regionally-based non-Indigenous Australians.

Methods

This study is a qualitative phenomenological analysis of structured one-on-one interviews with 12 Aboriginal and Torres Strait Islander Australian adults and 12 non-Indigenous Australian adults matched on age, sex, and basketball division (i.e., proxy for skill level). The study took place in a regional city in Australia (Rockhampton, Queensland) at a community basketball league stadium (Rockhampton Basketball Inc., Hegvold Stadium). The NHMRC guidelines for ethical research with Indigenous people (2003) were followed throughout this project.³⁶ In addition, senior researchers (AR, SA) had

cross-cultural training and assisted with planning recruitment, study protocol and interview questions. All study procedures were approved by Central Queensland University human ethics committee (approval number H16/05-116). All participants provided written informed consent.

Participant recruitment

Participants were recruited via fliers on site and via email listserv of previous and potential Rockhampton Basketball Inc members. Participants were self-selected volunteers who expressed interest in the study by contacting the research team. Eligible participants were aged over 18 years and self-identified as either Indigenous or non-Indigenous. All participants were able to read and speak English fluently. Upon completion of the interview, participants were provided with a reduced rate for sports competition registration for one season to the value of \$125.

Interview procedures

Interviews were conducted in a private room on site at Rockhampton Basketball Inc. and lasted approximately 15 minutes. Participants were asked to provide their name and contact information for follow-up purposes. All interviews were audiotaped then fully transcribed as de-identified data (CP). To limit the differences between interviews as much as possible, they were all conducted by one researcher (CP). All interviews consisted of 11 questions with optional prompts based on Nelson's model (2010).¹⁶ The questions asked about motivation for and previous experiences with PA and organised recreational sport. Topics included current and past participation, motivation to quit/pursue past and present PA and impact of available resources on PA. We conducted a follow-up by phone or email with each participant one week following their interview, to ask if anything else had occurred to them in relation to the questions we asked or the study in general. Any follow-up information was included with the participant's de-identified interview data.

Data analysis

Thematic analysis was used to examine the data. First, broad topic area nodes were defined based on the initial review of literature and prior knowledge of the subject matter. Then the pre-set nodes were refined with emerging content from analysis of the

interview transcripts. Data were analysed and coded with the NVivo computer software package.²⁶ To ensure validity of the findings, the transcripts were thematically analysed and coded by two independent researchers and an additional Indigenous researcher (TD) ensured that the true meaning of responses was preserved through data analysis and interpretation.

Results

Sample characteristics

Of the 24 participants, 10 were men and 14 were women (evenly split between Indigenous and non-Indigenous). We asked for participants' sport division as a proxy for skill level. Most (12) participants reported playing in division 3 (lowest skill level), 11 reported playing in division 2 (intermediate skill level) and one participant reported playing in division 1 (highest level). Mean age was 33.71 years ($SD=9.75$). Seven were between the ages of 18-25 years, five were between the ages of 26-35 years, nine were 36-45 years, and three were 46-55 years.

Perceptions of facilitators to engage in physical activity

The facilitating factors that were identified are displayed in Supplementary Table 1. Most Indigenous participants reported family as a motivating factor to engage in PA at a young age. In that respect, some Indigenous participants described how they were first introduced to PA through their siblings while growing up, and some also identified other members of their extended family (e.g., cousin or uncle) as exercise companions not only from their childhood, but also throughout later stages in life. Playing sports with relatives or training with the children emerged as a common theme among this group:

My family have always been in sports. Not only like my children, but my brothers and sisters have always played football, they've always played basketball, that's where I learnt to play basketball. We've always been in sports. And then when I had my children, and when they were big enough, they either played football or basketball or netball. Sports is a big part, was a big part of my, my upbringing, then my children's upbringing, and we're trying to continue it on with the grandchildren. (Indigenous woman aged 49 years)

Although both groups identified family encouragement and support as a central

facilitator to regular PA, a significant nuance was observed among the Indigenous group where a few participants stated financial support from the family as essential component to their participation in sports. One Indigenous female (aged 36 years) talked about how she was supported by her close family: "[They] just encourage me and well my husband's looking after the kids so he's obviously supporting me that way. Mom asked if she could get me some shoes so I guess that's a way of support." Further, an Indigenous male (aged 19 years) declared: "My cousin would help me and stuff. He helped me pay the fees of footy, and yeah. 'Cos they would probably be like 80, 80, a hundred dollars".

Being a role model for the children also appears to be an important facilitator for the Indigenous people: "My baby is 8 years old. I want him to see that if we're physical... you've got to teach the kids from a young age to be physical. So if I can show him... be a role model, he'll do the same thing." (Indigenous woman, aged 48 years). Interestingly, participants from both groups highlighted the importance of self-motivation in maintaining PA by stressing how factors like enjoyment of the game or desire to keep physically active acted as facilitators. In the same respect, a common trend emerged from the non-Indigenous group where participants explained how they did not face any external obstacles when it comes to being physically active. When asked if resources (e.g., accessibility, transport) are barriers to PA, the Indigenous participants in our sample also commonly reported facing no environmental barriers to PA. On the contrary, many stated how personal motivation is the key determinant in the decision to engage in PA or not:

Participant: I don't reckon it would at all because you don't need money to be fit. There's a lot of things you can do that doesn't cost money.

Interviewer: Such as...?

P: Running, walking, a lot of body weight exercises. There's plenty of stairs around here, intense hills you know what I mean so it doesn't cost money to be fit.

I: And how about transport?

P: Transport can be a factor but again you can buy a bike, you can bike there... there's nothing that can stop me from doing it

(Indigenous man, aged 24 years)

Five Indigenous participants reported engaging in PA to maintain individual health

and wellbeing. One Indigenous woman (aged 48 years) mentioned: "Cause I have to keep fit myself... Yeah I need to take care of myself first." While another one mentioned weight loss as a motivator to exercise: "I'd love to walk. To lose weight. Because I'd like to get fitter than I am" (Indigenous woman, aged 48 years). In the same respect, team motivation played a part in encouraging activity for a higher number of non-Indigenous participants, with many undertaking activity because they enjoyed the company and social aspect of sport: "Team sports are probably the most motivating because you have to show up" (non-Indigenous woman, aged 36 years). Nevertheless, the importance of social aspects was also voiced by Indigenous participants, comments included: "Social side of sports or PA is why I do it for and what motivates me a lot more than the compe... I'm competitive but it's much more that social side" and "If I have a team sport, I'm kind of a bit more committed to it so I know I have to go for the team so that's kind of like why I tend to join more group activities" (Indigenous woman, aged 25 years). Other factors identified by both groups as facilitators included easy access to outdoor gym equipment and activities that are free of charge, such as walking and running. Activities that are easily accessible (i.e. in the community or within short driving distance) also appear to facilitate participation for both groups in our sample.

Perceptions of the barriers to engage in physical activity

The factors that were identified as barriers are synthesised and displayed in Supplementary Table 2. The most significant barrier to PA identified by the Indigenous participants related to money. Notably, all but two participants expressed how fees and equipment costs have a significant impact on their decision to participate in PA or not and how they would engage in more activities if the fees were lower. For instance, an Indigenous woman (aged 43 years) stated: "I find registration fees are expensive this has, and does make it difficult for me, my family, extended family and friends, to participate in a sport we really do enjoy, at a club level in our community." Economic constraints were also identified by most non-Indigenous participants, but seemed to be embedded in a series of determining factors rather than representing an independent obstacle to PA: "Money is a factor to a certain degree. [...]"

I earn enough so I can pay for basketball fairly comfortably and I can pay for gym membership it's not a struggle I guess to pay so it's not a big barrier for me personally, but having said that if I was looking to sign up at different sports I think I'd feel a bit... I don't want to pay registration for 3 different sports 'cause it just gets a bit much" (non-Indigenous woman, aged 26 years).

A lack of time was the second most identified barrier to involvement: participants from both groups tied this constraint mostly to family, work or school commitments. A common theme that emerged amongst women from both groups related to how PA was less of a priority now that they have children and more responsibilities: "I'm usually on the go 24/7, I don't get time to sit down I don't get time to sort of do things that I want to do like time for myself, that's usually always about the kids, running around after them" (non-Indigenous woman, aged 35 years). Also related to lack of time, four Indigenous participants mentioned having their hands full with family commitments, such as ill relatives: "...have a mother who has dementia... I've got to look after her. And my brother he has cancer. So between those two, I barely have time besides my own work and my children do to physical stuff" (Indigenous woman, aged 48 years).

Indigenous participants (mostly women) also identified the neighbourhood where they live as a barrier to PA and used descriptive terms like "not friendly" and "uncomfortable". Some of them expressed how they felt reluctant to walk in their neighbourhood: "My neighbourhood where I live it's probably not the best area to get walking through [...] I know that there are people who use drugs and whatnot in that area" (Indigenous woman, aged 52 years). Some participants also tied these barriers to a lack of safety, no walking paths and a lack of transportation. When asked what personally limited them to be active, reactions were similar across the Indigenous and non-Indigenous people. A few participants reported personal characteristics as obstacles to PA. Female participants from both groups were more likely than male participants to indicate individual factors, such as their gender, fitness level and fear of judgment:

I think probably the only thing that makes it difficult for me to be active [...], is sometimes I can be a little bit shy with new people, especially with groups of people. I don't really feel comfortable going to a group thing on my own. (non-Indigenous woman, aged 26 years)

A lack of personal drive was a common theme that emerged from both groups of participants as a barrier to engage in and maintain an active lifestyle. A lack of self-motivation was often identified and described as being "lazy" or "too tired" by both Indigenous and non-Indigenous participants: «I should be a lot more active than I am so, but yeah I think it's just my motivation» (Indigenous woman, aged 25 years). This statement was common across the non-Indigenous group as well; five participants cited a lack of motivation as the main barrier to being more physically active. Indeed, a number of participants acknowledged their personal motivation as an underlying cause of often identified external barriers such as age and distance: "I just got a bit lazy as I got older. So I guess I used that as an excuse for a little while." (non-Indigenous man, aged 40 years) or "I'll be like I can't be bothered to go all the way there but I think that's probably more of an excuse... I think it's probably a way to talk myself out of it... you're like "ah, I should go to the gym but I'm just here sitting and it's so far away" when really it's like 15 minutes or something" (non-Indigenous woman, aged 26 years).

One Indigenous participant mentioned that a non-Indigenous friendly atmosphere was a barrier to PA for them: "I think sometimes depending on where and what, the atmosphere of the place you may don't want to go to... you can feel you just don't... you don't get looked at the same". She further expressed how this unwelcoming feeling has had a negative impact on her sporting life in the past: "and over the years... (NAME MASKED) and I and other mates have stopped playing because of it all... it's only because I love the game so much that I came back" (Indigenous woman, aged 52 years).

Discussion

The aim of this study was to describe the factors that promote or inhibit PA in Indigenous and non-Indigenous, regionally-based Australian adults. The PA barriers identified in this study are similar to those reported in the Indigenous literature,^{16,27,28} which can be grouped into three common themes: (1) cost, (2) time management, and (3) environmental factors. Most participants reported engaging in regular PA; however, compared to their non-Indigenous counterparts, the Indigenous people typically reported more barriers to PA. Indigenous people reported the barriers of transport,

fear of judgment and shyness; whereas non-Indigenous people reported the barriers of life transitions and a change of interests. Common to both groups were the barriers of fees, family and work commitments, motivation, and physical limitations. Some similarities and differences were also noted in the factors that promote PA as reported by our participants, such as: (1) social support, (2) intrinsic motivation and (3) role modelling.

According to our findings, both Indigenous and non-Indigenous people indicated they would engage in more PA if it were more affordable. However budgetary constraints seemed to be more of a barrier for Indigenous people. Expenses associated with sports participation (including registration fees, equipment and gear costs) were cited by Indigenous people as one of the main reasons to stop being physically active and also an inhibitive factor in initiating being more physically active. Qualitative data collected by Hunt and colleagues indicated that perceived affordability is a common reason for not participating in PA among Indigenous people from various backgrounds.²⁷ Another study by Stronach et al. drew similar findings from a sample of Indigenous women who identified their socio-economic situations as a primary barrier to participation.²⁸ Along with time constraints, family responsibilities and concerns regarding childcare were among the most cited reasons inhibiting PA adherence and motivation amongst both Indigenous and non-Indigenous people in our study. Our findings are consistent with the social ecological model,²⁹ which suggest that family commitments and responsibilities are key barriers to adopting health related behaviours. Interpersonal factors such as relationships with significant others and acquaintances seem to be particularly relevant to Indigenous people and is now well documented in mainstream literature.³⁰ As competing time demands seem to have a negative impact on participation of both women and men in our study, activities that fit into the context of their daily lives and have flexible participation times may help in overcoming this barrier. It has further been suggested that interventions that include the entire family or consider familial responsibilities may be more sustainable and effective in encouraging PA.²⁸ Based on our findings, this is particularly important for Indigenous-tailored interventions given the prepotent influence of family and friends in this population.

Environmental concerns, such as not having a safe place to walk or a lack of transport were also mentioned as influential factors on PA. Participants mentioned how, organised and indoor settings although safe, were often too expensive which restrained them from being more physically active. Inaccessibility due to safety or transportation is an established barrier in the general population;³⁰ however, the findings of the present study suggest that these factors affect Indigenous people to a greater extent, and need to be considered in intervention planning. Improving the safety and convenience of the environment for being active and adding easily accessible opportunities could be potential levers to encourage participation and adherence among Indigenous people. Although previous evidence has established the need to increase PA through changes to both individual factors and the environment in both the general population and the Indigenous population,^{16,29} previous studies have concentrated on increasing PA by changing individual behaviour or motivation. According to the findings provided by this study, the social and environmental correlates of PA seem even more pertinent for Indigenous Australian adults which extends support for policies based on such determinants of health.^{16,31} Accordingly, a literature review by Nelson et al. found that environmental factors, when identified by Indigenous people as barriers to PA, are key levers to be targeted by health initiatives.¹⁶ Determinants such as feeling safe or eased transport showed promising results in enhancing physical engagement and should be integrated into intervention programs. Strategies that seek to overcome barriers to PA should, therefore, incorporate a range of resources that reflect the complexity of cultural appropriateness as revealed by these findings.³¹ Many of the facilitators to PA that surfaced in our Indigenous group were similar to those reported elsewhere, including support and encouragement from the close and extended family as a main source of motivation. Although studies of subjective norms suggest the social network does not have a major impact on the general population,¹⁵ this study indicated that social support was instrumental to their PA, and both Indigenous and non-Indigenous people reported that without social support, they would be much less active or even completely inactive. Consistent with previous findings from Hunt and colleagues,²⁷ data from this study suggest that interventions

aimed at increasing PA levels should shift from an individual to an interpersonal focus and facilitate family engagement. Group-based intervention programs that include a dimension of social reinforcement were also found to be more effective in a systematic review on the effectiveness of exercise programs designed for Indigenous adults.³³ Intrinsic motivation was the second most cited PA facilitator by our participants. Although this factor was reported to be important for both Indigenous and non-Indigenous regionally-based Australians, results suggest that there may be some differences in this regard between cultures. Notably, non-Indigenous people seem to be motivated more by a need of personal achievement and confidence in their capability; whereas Indigenous people seem to be more motivated to be active for health benefits and to be a role model for family members and the community. Indigenous Australian adults tend to view PA as an aspect of a holistic perspective on physical and psychological health and wellbeing. Amongst this population, PA seems to be motivated by social cohesion, family tradition and overall health management. Health benefits of sports and exercise were portrayed by our Indigenous sample as a way to maintain strong relationships with others and strengthen connections between generations. Indeed, maintaining good health through PA was put forth as an effort to ensure longevity for the benefit of others. A study by Thompson et al. found a holistic sense of connection to family and community to be significant to Indigenous people's health; this was reflected by a number of participants who discussed how being a role model to their children was an inspiration to maintain an active lifestyle.¹⁷ The results of this study suggest that this motivational factor was two-fold among the participants and serve two interrelated purposes. Inspiring the next generation, encouraging them to be physically active and preaching by example was mostly identified by male participants wishing to foster familial health and well being through their own engagement in PA. Although female participants also linked this motivational factor to a desire to provide and promote an active lifestyle for their children, a slight nuance emerged from their discourse. For these women, being a role model also includes a sense of responsibility in ensuring they are providing a good example for others by engaging in PA and maintaining a

healthy lifestyle. Many expressed how they participate in PA to ensure a healthy future for both themselves and their children. Taking care of other people was put forth as a primary motivation to keep active, along with the importance of living a long life to look after for their loved ones.

In Indigenous communities, performing PA exclusively for the benefit of the individual is likely to be considered as egocentric and shameful behaviour.^{16,17,20} In contrast, PA performed for the benefit of the family and whole community is highly valued. Participation in team or individual sports that encourage social connections is positively supported amongst Indigenous peoples.^{16,25} Accordingly, though some Indigenous participants in this study reported participating in individual activities, they aimed at treating or preventing illness to maintain family and community connections. Therefore, health promotion efforts should prioritise physical interventions that are in line with this perspective where taking care of family relationships is of higher importance than the physical health of any one individual.¹⁷ Social connections have been established previously as primary influences on Indigenous people's PA participation and described as a valuable intervention point.^{16,17,27} These themes are also reflected in the types of PAs practiced by the participants, such as being involved in team sports and turning to leading (i.e. coaching) more often, which ties into being a role model and the importance of social aspects. Compared to those of the Indigenous participants, the types of PAs reported by non-Indigenous participants were more focussed on self-improving activities, such as running, weight lifting and personal training. This reinforces the need to develop culturally sensitive programs that promote group cohesion and cooperation.

Limitations

The sample of this study included Aboriginal and Torres Strait Islander adults based in a regional Australian city. As such, these findings should not be generalised to Indigenous Australians in rural and remote Australia, to youth or older adults. There may have been sample bias reflecting participants with higher levels of PA than the general population, as participants were recruited from a sporting facility (i.e. most participants reported being active on a daily basis). For that reason, our sample of participants

may not be representative of views of the whole Indigenous population, validity and interpretation of the data is thus limited to the reported experience of a specific group. Whilst the one-on-one interviews provided rich and in-depth qualitative data, this method can be prone to social desirability biases and may have led participants to portray themselves in keeping with perceived cultural norms.³⁷ Future research following up on these issues with other data collection strategies is important, data from this research should be used in conjunction with larger quantitative and epistemological studies to inform policy and program development.

Conclusion

Results from this study show that Regional Indigenous people face specific barriers to PA, such as financial limitations, time constraints due to family engagements and environmental restraints. Factors such as social support, intrinsic drive and role modelling appeared to be strong motivators to increase activity levels in our Indigenous sample. Consequently, research addressing PA needs to adopt a community-specific and self-identified approach with consideration to the social and cultural context of health in Indigenous people.²⁵

Implications for public health

A substantial challenge for health promotion is how to develop and implement effective, meaningful and sustainable initiatives for Indigenous peoples.³² The findings of this study provide valuable insights into the perspectives of PA of Indigenous, regionally-based Australian adults, and the unique barriers and facilitators of this population. Our results indicate that interventions aimed at encouraging physical engagement should preserve family connections and offer activities that are socially oriented. Results further suggest that providing a safe and convenient setting may be fundamental in order to overcome barriers to PA, as well as having activities with affordable fees. Culturally sensitive initiatives that are tailored to the needs identified by Indigenous participants should also combine programs that are group-based (i.e., team sports), flexible and more suited to the everyday life. The results provide direction for further development of sustainable sports initiatives and culturally tailored programs to promote facilitators and decrease barriers to individuals' engagement in PA.

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Supporting Information

Additional supporting information may be found in the online version of this article:

Supplementary Table 1: Prevailing Themes of Physical Activity Facilitators for Indigenous and Non-Indigenous, Regionally-Based Australian Adults.

Supplementary Table 2: Prevailing Themes of Physical Activity Barriers for Indigenous and Non-Indigenous, Regionally-Based Australian Adults.