

## ORIGINAL ARTICLE

# Safety attitudes and beliefs of junior Australian football players

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**Objectives:** To describe the safety attitudes and beliefs of junior (aged 16–18 years) Australian football players.

**Setting:** Six Victorian Football League Under 18 (VFL U18) clubs in Victoria, Australia.

**Methods:** Cross sectional survey. Altogether 103 players completed a self report questionnaire about their safety beliefs and perceptions of support when injured, across three contexts in which they played: VFL U18 club, local club, and school.

**Results:** Although only 6% believed it was safe to play with injuries, 58% were willing to risk doing so. This increased to almost 80% when players perceived that their chances of being selected to play for a senior elite team would be adversely affected if they did not play. There were significant differences in the perceived level of support for injured players and in the ranking of safety as a high priority across the three settings. In general, the VFL U18 clubs were perceived as providing good support for injured players and giving a high priority to safety issues, but local clubs and particularly schools were perceived to address these issues less well.

**Conclusions:** Junior Australian football players have certain beliefs and perceptions in relation to injury risk that have the potential to increase injuries. These negative beliefs need to be addressed in any comprehensive injury prevention strategy aimed at these players.

Australian football is one of a large family of contact ball games played around the world that involve running and physical contact. As with most football variations (for example soccer, rugby, American football, Gaelic football) the complexity, speed, and physical nature of the game place great demands on its players and contribute to a risk of injury. A number of international studies have reported high injury rates associated with football,<sup>1–5</sup> yet little is known about the relative importance of risk factors or preventive interventions.

In Australia, Australian football is ranked as the 15th most popular sport and recreation activity among males.<sup>6</sup> It is also ranked as the third most popular team sport (with basketball) among males.<sup>6</sup> While Australian football is not the most popular sport, it is consistently associated with the highest number of medically treated sports injuries, accounting for more than 20% of all such injuries.<sup>7–9</sup>

Despite the excess risk of injury, few Australian football injury studies have been conducted.<sup>10</sup> The literature is further limited because the majority of the published studies relate to only elite Australian Football League (AFL) players (all 18 or older).<sup>11</sup> One group of non-AFL players with a high injury risk are the top junior players (that is, players 16–18 years who are being groomed for AFL teams after they turn 18). During a single season, these players participate in three different contexts because of the large demand for their high level of skill. One is a local community based football club. A second is an elite junior football team comprising players 16–18 years officially aligned with the national football league (the AFL). Third, because many top juniors are still in school, they would also be required to play for school teams. Support services differ in these three settings and may influence risks for injury.

In the only study to describe injuries to top junior players, the incidence rate, 797.8 injuries/10 000 playing hours, was significantly higher than that for AFL players (657.8 injuries/10 000 playing hours,  $p < 0.01$ ).<sup>12</sup> Junior players were significantly more likely to sustain concussions and stress fractures than AFL players.

Top junior players are at particular risk of injury due to a combination of three factors. First, they are highly motivated to play and establish a career in football. Second, like other adolescents of the same age, their perception of their susceptibility to injury is probably less than that of adults.<sup>13,14</sup> Adolescents frequently place themselves at heightened risk by failing to observe appropriate precautions.<sup>13,15</sup> Finally, these players have high levels of exposure to injury risk, by virtue of the amount of time they spend playing and the different contexts in which they play.

Before effective sports injury prevention strategies can be developed it is important to understand the safety attitudes and beliefs of players.<sup>16</sup> These help define the context in which injury prevention programs will need to operate, so knowing more about them should help shape any such program and how it is delivered. Attitudinal data also provide information about potential barriers towards safety implementation.

This paper describes the self reported safety attitudes and beliefs of top junior Australian football players to help shape injury prevention programs for these players. We expected that attitudes towards safety would be influenced by factors such as being selected for elite senior competition, perceived injury risk (for example the “tough” and “masculine invincibility” image perpetuated in the popular press) and social support mechanisms. Because of the different levels of organisation and infrastructure support across the three settings, it was also considered that the perceived level of safety and social support in the sporting context would differ across these settings.

## METHODS

The Victorian Football League (VFL), the controlling body for the elite junior (that is VFL Under 18 (VFL U18)) competition,

**Abbreviations:** AFL, Australian Football League; VFL U18, Victorian Football League Under 18

**Table 1** Proportion of top junior Australian footballers agreeing with attitudes and beliefs with regard to injuries (n=103)

Attitudes/beliefs*	%
I believe that it is safe to play with injuries	5.8
I am willing to play with injuries	58.3
I would risk playing with an injury if I thought my chances of being selected for the AFL draft would be affected if I didn't play	76.6
Players who continue to play with injuries are likely to suffer problems later in life	64.0
I believe that players should be fully rehabilitated before playing football again after they have suffered an injury	69.9
I admire AFL players who continue to play when they are injured	40.7
The media (television, newspapers, radio) glorify AFL players when they continue to play when they are injured	50.5

\*Wording is as specified in the questionnaire.

was approached to support this project and to act as a link with the participating clubs. This study was restricted to Victorian based clubs for logistical reasons. A convenience sample of four metropolitan clubs and two country clubs (that is, a 50% sample) was selected to provide a broad representation of VFL U18 players.

All players from the selected clubs were invited to participate. Each was provided with informed consent forms a week before the survey to be returned before completing the questionnaire. As the majority of the participants were under 18 years, informed consent was also sought from parents or guardians. Ethics approval was obtained from the Deakin University Ethics Committee.

A questionnaire based on the principles of the "theory of reasoned action"<sup>17</sup> was developed, which included mostly closed and some open questions about the following:

- Basic demographics (for example, age last birthday).
- Attitudes towards safety behaviours and perceived outcomes of these behaviours (on a five point Likert scale: always, often, sometimes, rarely, never) (see table 1).
- Subjective norms and perceived behavioural control factors relating to the level of support received, or expected to be received, if the player had been injured or were to be injured (five point Likert scale). Data were collected for each of the three football settings separately (see tables 2 and 3).

The survey was conducted at the start of the 1999 playing season and was administered after a club training session. No attempt was made to include players who did not attend the training sessions at the time of the survey. Reasons for non-attendance and non-response were not obtained.

After coding, data were double entered and cleaned before being transferred to SPSS 8.0 for analysis. The percentage of players agreeing with each statement was computed by combining "always" and "often" categories from the Likert scale variables. Because the players played in three different contexts, Cochran's Q test was used to compare dependent proportions across each of these settings.

## RESULTS

Altogether 103 players completed questionnaires. While all players at the six selected clubs were invited to participate, the number available depended on how many were at training during the survey session. This ranged from 23–35 players at each club. It was estimated that 156 players were available to participate giving a response rate of 66%. All questionnaires were well completed, with less than 1% of the data missing.

The players' attitudes and beliefs with regard to injuries are shown in table 1. Although only 6% believed it was safe to play with injuries, 58% reported being willing to do so. An even higher proportion of players (80%) said that they were willing

to risk playing with an injury if they thought that their chances of being selected in the AFL draft would be affected if they did not play. Almost two thirds believed injured players would be likely to suffer later problems if they continued to play with injuries.

Table 2 shows the players' perceptions of the support they received when injured from their coaches, administrators, and teammates in each setting. Local club coaches were perceived to provide significantly more support to injured players than VFL U18 coaches or school coaches. Conversely, administrators at VFL U18 clubs were perceived to be more supportive than local club and school administrators. Support from injured players' teammates was reportedly significantly lower at school compared to VFL U18 clubs and local clubs. The level of support from families was perceived to be high across all settings.

Information was also collected about players feeling pressured to play when injured. The players perceived that this occurred more from school teammates, compared to local club or VFL U18 teammates (Cochran's Q = 8.578,  $p < 0.05$ ). There was a significant difference in the perceptions of pressure to play across settings: 22% VFL U18 club, 28% local club, and 35% school (Cochran's Q = 6.391,  $p < 0.05$ ).

Almost 90% believed that their VFL U18 club ranked game safety highly compared to 73% of local clubs and 53% of schools (Cochran's Q = 35.639,  $p < 0.001$ ). There was also a significant difference between the players' perceptions of how safety was ranked at training: 85% VFL U18, 61% local club, and 43% school (Cochran's Q = 42.212,  $p < 0.001$ ). Safety during games was perceived by the players to rank more highly than safety at training in all three contexts.

Table 3 shows the players' perceptions of the provision of first aid, medical, and rehabilitation support. There were significant differences across the settings.

Feelings of isolation when injured were commonly associated with VFL U18 clubs (30% of players), compared with 19% for schools and 17% at local clubs (Cochran's Q = 8.150,  $p < 0.05$ ). Fewer than 49% believed their clubs in any setting involved players in normal club activities when they were injured.

## DISCUSSION

There is a lack of published studies relating to safety attitudes of sports participants. When such studies have been reported, they have typically focussed on attitudes towards protective equipment such as face guards in ice hockey<sup>18</sup> or baseball,<sup>19</sup> eye guards for squash players,<sup>20</sup> helmets for cyclists<sup>21,22</sup> or rugby players,<sup>23</sup> or protective equipment for in-line skaters.<sup>24</sup> Our study is the first to describe safety attitudes and beliefs of junior football players. Because these attitudes and beliefs can influence risk taking behaviour, it is necessary to understand these beliefs and how they influence risk factors before injury prevention strategies can be developed.

Notwithstanding its limitations, this study highlights a number of adverse attitudes and beliefs towards safety. There was a reverse trend between what players believed about injuries and what they were actually prepared to do when they were injured. While the majority of players indicated that they were willing to risk playing with an injury, very few thought that it was safe to do so. The proportion who were willing to risk playing with an injury increased if they thought their chances of being selected for elite senior level would be adversely affected. Players' desire to play AFL football may be so attractive that many are willing to take risks that could lead to injury.

Despite a large number being willing to risk playing with an injury, the majority thought that they should be fully rehabilitated before playing again. Nevertheless, many were prepared to ignore the risk of long term consequences if playing enhanced their chance of AFL draft selection. As previous

**Table 2** Players' perceptions of support when injured by setting (n=103)

Source of support*	Setting	% Players	Comparison across settings Cochran's Q (p value)
The <i>coach</i> supports me when I am injured	VFL U18	79.6	27.882 (<0.001)
	Local club	88.4	
	School	59.2	
The <i>administration</i> of the club supports me when I am injured	VFL U18	85.4	48.633 (<0.001)
	Local club	72.8	
	School	43.7	
My <i>teammates</i> support me when I am injured	VFL U18	80.6	22.136 (<0.01)
	Local club	78.7	
	School	58.3	
My <i>family</i> supports me when I am injured	VFL U18	97.1	Not significant
	Local club	92.1	
	School	91.3	

\*Wording is as specified in the questionnaire.

**Table 3** Players' perceptions of the provision of first aid, medical, and rehabilitation support by setting (n=103)

Type of support*	Setting	%	Comparison across settings Cochran's Q (p value)
My club provides me with <i>first aid</i> support when I am injured	VFL U18	95.2	78.000 (<0.001)
	Local club	67.7	
	School	37.8	
My club provides me with <i>medical</i> support when I am injured	VFL U18	96.2	89.324 (<0.001)
	Local club	66.1	
	School	33.0	
The club assists me with my <i>rehabilitation</i> when I am injured	VFL U18	97.1	113.247 (<0.001)
	Local club	47.6	
	School	20.4	

\*Wording is as specified in the questionnaire.

injury is a strong predictor of future injury,<sup>25</sup> players risk missing additional games if they continue to play with injuries and are not fully rehabilitated before they return to competition.

More than half perceived that the media glorified elite players for continuing to play with injuries, and a large proportion admired this trait. Since the elite AFL players are role models for most young Australian football players, this suggests that irresponsible media coverage has the potential to influence many of these young players' attitudes. This media coverage may minimize the perceived consequences of high risk behaviour. According to the "theory of reasoned action", any reduction in the perceived severity of the consequences of injury would result in increased greater risk taking behaviour.<sup>17</sup>

Support for injured players assists in both the physical and the psychological rehabilitation of players.<sup>26</sup> Local club coaches were perceived by a higher proportion of players to be more supportive of injured players than VFL U18 coaches or school coaches. Because the VFL U18 is an elite competition, some coaches may focus more on players that are available to play than do their local club counterparts. Conversely, a higher proportion of players believed that VFL U18 club administrators gave more support to injured players than local club or school administrators. This may be a reflection of the fact that all VFL U18 clubs have some full time administrative staff while local clubs depend on honorary personnel and the majority of schools do not have full time sports administrators.

Although many believed that their VFL U18 club coaches and administrators supported injured players, others said that they felt isolated by their club when they were injured. Thus, some risk playing with an injury.

Safety during training or games was perceived by a high proportion of the players to be ranked more highly at VFL U18 clubs than at local clubs or schools. Almost all reported VFL U18 clubs provided first aid support, but considerably fewer players said the same of local clubs and schools. Most players believed their VFL U18 clubs provided rehabilitation following injury, but few reported that local clubs or schools did so. Rehabilitation helps ensure that injured players recover physically and psychologically<sup>26</sup> and prepares them for return to play. It may also be an opportunity to educate players about future injury prevention.

#### Limitations

The questionnaire was administered at a single training session at each of the participating clubs. As not all players attend every training session, a higher response rate may have been achieved if the questionnaire was administered at several training sessions or games. No information was collected about the reasons for non-response. Being a cross sectional study, the results only describe attitudes and beliefs at the time of the survey and cannot be linked in a causal manner. These attitudes and beliefs may have changed during the course of the 1999 season or as a result of an injury. In addition, some bias may have been possible because the data were self reported. The perceived support for injured players provided in the various club settings needs to be further validated before these statements can be taken to represent the true situation.

#### IMPLICATIONS FOR PREVENTION

Safety should be made a priority in all football games and training sessions, irrespective of the setting. Indeed, everyone

who is officially involved in a football club has a legal duty of care to the players. Negative attitudes and beliefs need to be addressed in any comprehensive injury prevention strategy aimed at these players. Whether similar beliefs are common to other junior footballers needs to be determined.

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