**Abstract**

*Objectives:* To understand the attributes youth coaches and talent scouts perceive as important when identifying skilled youth basketball players.

*Method:* Youth coaches and talent scouts ($n$ = 40) from Australia, Canada, the United Kingdom, and United States with an average of 14.09 (± 9.77) years of experience completed an online questionnaire. The questionnaire asked participants to rank and justify attributes for identifying potentially talented youth basketball players according to their perceived importance. In addition, five youth coaches and talent scouts completed a semi-structured interview that elaborated on how they identify these attributes in national level youth players.

*Results:* Results from the questionnaire indicate a hierarchy of attributes coaches/scouts perceive as important for youth basketball performance, including tactical (i.e., decision-making ability), technical (i.e., lay-up, shooting in the paint, jump shot, rebounding), and psychological attributes (i.e., composure, concentration, adaptability). In addition, the results from the interviews provided more detailed justification for the importance of these attributes within the talent identification process.

*Conclusions:* It is believed talent scouts apply a holistic multidisciplinary approach to talent identification, with the current findings potentially providing evidence to suggest coaches/scouts consider a wide range of tactical, technical, psychological, and physical attributes when identifying youth players.

**Keywords:** Talent selection, sport development, coaching, adolescent, performance

# Talent identification in youth basketball: Talent scouts' perceptions of the key attributes for athlete development

## Introduction

Talent identification processes are commonly employed in the sporting domain with the aim of developing future elite level performers. However, the process is complex with coaches and talent scouts using a variety of physiological, technical, tactical, psychological, and performance assessments to identify future elite players (Arede et al., 2022; Carvalho, Gonçalves, Collins, & Paes, 2018; Larkin, Marchant, Syder, & Farrow, 2020; Wiseman, Bracken, Horton, & Weir, 2014). These assessments provide the foundation for high performance youth coaches and talent scouts to make informed decisions regarding the next generation of elite performers (Larkin & O'Connor, 2017).

The general function of talent identification is to make suggestions on athletes who demonstrate the potential to excel at an elite level and recommend they are entered into, or retained within talent development programs (Baker, Schorer, & Wattie, 2017; Larkin & O'Connor, 2017; Larkin & Reeves, 2018). From a practical perspective, talent identification decisions are traditionally based on observing and subjectively assessing athletes during a game or training session (Gál-Pottyondy, Petró, Czétényi, Négyesi, Nagatomi, & Kiss, 2021). A limitation of this approach is its subjectivity and the influence of biases related to the coaches'/scouts' preconceived notion of what constitutes a talented player, which may result in repetitive misjudgements and reduced reliability (Larkin et al., 2020; Meylan, Cronin, Oliver, & Hughes, 2010; Williams, Ford, & Drust, 2020; Williams & Reilly, 2000). Therefore, to better understand the decision-making process during talent identification, it is important to understand the attributes that coaches and talent scouts consider most important for their sport (Larkin & O'Connor, 2017).

There has been an increased interest in the processes and practices of scouts and coaches undertaking talent identification. For example, in soccer there have been a number of studies that have sought to understand the process and function of talent identification (Reeves et al., 2018), the attributes that are used to identify potential talent (i.e., decision-making; technical skills; psychological skills) (Larkin and O'Connor, 2017; Roberts et al., 2019), and the cognitive processes, such as focusing on the individual or the team, that underpin talent scouts' decisions (Reeves et al., 2019). Whilst these studies have been useful in advancing soccer-specific understanding of talent identification, further research is required to examine talent identification in other sports. One sport that has received less attention within the talent identification literature is basketball.

As a dynamic and complex technical game, basketball combines explosive movements such as short accelerations, abrupt stops, fast change of directions, and vertical jumps (Erčulj, Blas, & Bračič, 2010; Rösch, Ströbele, Leyhr, Ibáñez, & Höner, 2022; Scanlan, Humphries, Tucker & Dalbo, 2014). To understand the impact of these physical game performance attributes, researchers have investigated how physical capabilities may differentiate talented and less-talented basketballers (Hoare, 2000; Rogers, Crozier, Schranz, Eston, & Tomkinson, 2021). Additionally, recent research has focused on maturation highlighting that youth basketball players who are more biologically mature have a greater chance to be selected for a national team and display greater technical, tactical and physical performance (Arede, Ferreria, Gonzalo-Skok, & Leite, 2019; Arede, Fernades, Moran, Norris, & Leite, 2021). Moreover, individual and team success in basketball at youth and senior levels of competition has been shown to be related to anthropometric and fitness attributes (Angyan et al., 2003; Arede, Oliveira, Gomez, Leite, 2021; Groves & Gayle, 1993; Hoare, 2000). For example, the best teams at national and international tournaments generally have taller players (Carter, Ackland, Kerr, & Stapff, 2005; Garcia-Gil, Torres-Unda, Esain, Duñabeitia, Gil, Gil, & Irazusta, 2017;

Torres-Unda, et al., 2013; Zarić, Kukić, Jovićević, Zarić, Marković, Toskić, & Dopsaj, 2020), with this attribute being significantly related to scoring and rebounding performance (Garcia-Gil, Torres-Unda, Esain, Duñabeitia, Gil, Gil, & Irazusta, 2017; Torres-Unda, et al., 2013; Zhang et al., 2018). These findings are also supported by tacit and craft knowledge from within the basketball coaching community (Drinkwater et al., 2008), whereby there is potential for coaches/scouts to overlook smaller individuals for taller and heavier players (Carvalho et al., 2011; 2012). While this may suggest there is a bias toward identifying and selecting these individuals (see Torres-Unda et al., 2013), there is still limited understanding related to coaches' and scouts' knowledge, understanding, and perceptions of the importance of anthropometric and fitness attributes when identifying youth athletes.

While previous investigations in basketball have assessed factors that differentiate skilled performance (Carter et al., 2005; Carvalho et al., 2011; Garcia-Gil et al., 2017; Guimarães, et al., 2019; Scanlan et al. 2015; Spiteri et al. 2019; Torres-Unda et al., 2013) and age and maturational-related differences (Arede et al., 2021; Guimarães, Baxter-Jones, Williams, Tavares, Janeira, & Maia, 2021); there is limited understanding of the perceptions of youth basketball coaches relating to identifying and selecting talented athletes (Rogers et al., 2021). This gap was highlighted in soccer by Larkin and Reeves (2018) who called for a shift in perspective when conducting talent identification research towards understanding the processes, observations, and perceptions of coaches/scouts when making talent identification decisions. A recent study by Rogers and colleagues (2021) addressed this by highlighting that youth level basketball coaches considered several psychological constructs (i.e., competitiveness, work ethic, attitude, resilience, coachability) as extremely important for identifying talented basketball players. In addition, physical attributes (i.e., agility; reaction time) and game intelligence (i.e., basketball intelligence, decision-making) were rated as very important by the coaches. These findings, while specific to basketball, corroborate with other

invasion sport studies which emphasise the importance of psychological and tactical (i.e., game intelligence) attributes for identifying talented youth athletes (Larkin & O'Connor, 2017; Roberts et al., 2019).

In basketball, youth coaches are continually evaluating the attributes and qualities that may predispose individuals to a successful career (Arede et al., 2022; Figueiredo et al., 2009; Huijgen, Elferink-Gemser, Post, & Visscher, 2009). Holistic and multidisciplinary approaches to talent identification have been advocated (Hoare & Warr, 2000; Unnithan et al., 2012), though there remains limited understanding of how youth coaches/scouts identify future talent (Larkin & O'Connor, 2017; Larkin & Reeves, 2018). One means of improving this understanding is by conducting mixed methods research to generate data that offer greater depth and richness in helping to explain the underlying reasons used by coaches when identifying talent (for an overview of mixed methods, see Kelle, 2006). Therefore, this study used a mixed methodology to understand youth basketball coaches' perceptions of talent with a focus on the attributes they perceive as important when identifying potentially talented young basketballers.

## Methodology

### Design

This was an observational, cross-sectional study, with data collected using two data collection methods including surveys and semi-structured interviews. The study protocol was approved by a university human research ethics committee (Ref: HRE20-077). Written informed consent was obtained from all participants, and the research was conducted in accordance with the Declaration of Helsinki.

### Setting

This study was conducted across four basketball playing countries: Australia (International Basketball Federation [FIBA] ranking; men = 3; women = 3); Canada (FIBA ranking men =

18; women = 4); Great Britain (FIBA ranking men = 45; women = 21); and the United States of America (FIBA ranking men = 1; women = 1). For each nation, data were collected at the start of the 2021 competitive regular season.

**Participants**

Participants were recruited using the following inclusion criteria: (1) adults aged 18 or over; (2) at least two years' experience working in high performance youth basketball, and currently working in a role that identifies talented basketball players; (3) current coaching director, head coach, or assistant coach; and (4) capacity to consent and communicate in English.

**Sampling**

Participants were sampled using two approaches: snowball (Parker, Scott & Geddes, 2019) and probability-based via social media (Berzofsky et al., 2018). Snowball sampling was achieved through initial contact being made with individuals known to the research team. Those contacts were also asked to recommend others from within their own networks who might be interested in participating in the study, forwarding them the invite to participate and requesting that they contact the study authors if they were interested (Parker, Scott, & Geddes, 2018). Probability-based sampling via social media was achieved through distribution of the invitation to participate via the social media platform Twitter, targeting specific users or organisations. Use of the retweet function between research team members was also adopted to boost visibility of the tweets amongst and across multiple users.

All individuals who expressed an interest in the study and met the participant inclusion criteria were included in the sample. In total, 40 youth basketball coaches (age 42.8 ± 12.1 years; min = 22 years, max = 63 years) and talent scouts were sampled from Australia (n = 23), Canada (n = 8), Great Britain (n= 4), and the United States (n = 5). In terms of coaching qualifications, as the participants came from a range of countries, with differing qualification requirements, we have aggregated the qualification into three levels, with Level III being the

highest youth basketball qualification. Overall, 11 participants held a Level I qualification, 15 held a Level II qualification and seven participants were Level III qualified. It should be noted, seven participants did not report their formal level of accreditation; however, five of these participants were from the United States, where coach accreditation is available through USA Basketball, but is often not a requirement for coaching at a high school or collegiate level, where these participants were sampled. On average, the participants had been in a position involved in the identification and development of youth basketballers for 14.1 (± 9.7; minimum = 2; maximum = 43) years.

**Procedure**

The research team approached potential participants about the study via email or social media as outlined above. The invitation outlined the two-stage data collection process and potential participants were informed that their invitation might potentially include involvement in either one or two phases of data collection.

All participants who consented to be involved in the study completed stage one of the data collection procedures that included completing a survey about the attributes of talented youth basketballers. The survey was adapted from previous studies of player attributes in invasion sports (Larkin & O'Connor, 2016; Reeves et al., 2019), further refined through a scoping of the extant basketball talent literature. The survey was also informally pilot tested and extensively discussed with three high-performance youth basketball coaches in Australia, who currently coach at the club representative level and have been in their role for greater than 1 year. Those three coaches were not involved in the final data collection procedure.

The survey included a list of 48 attributes across technical (e.g., lay-up, jump shot, rebounding; n = 19), tactical (e.g., decision-making, game awareness, anticipation; n = 6), physical (e.g., agility, acceleration, core strength; n = 12), psychological (e.g., determination, leadership, aggression; n = 8), and miscellaneous (e.g., consistency, versatility, adaptability; n

= 3) domains. Participants were asked to consider each attribute and their perceived importance of the attribute when identifying talented youth basketballers (i.e., 16 – 18 years of age). Participants provided a rating of the attribute according to Miller's Scale Battery of International Patterns and Norms (Miller, 1972), which provides an indication of degree of importance on a scale from 0 to 9. The scale uses three anchor points of reference with a bandwidth of three points between each anchor including least important (i.e., 1-3 points), moderately important (i.e., 4-6 points), and most important (i.e., 7-9 points). Any attribute the participant believed did not have any importance in identifying talented youth basketball players was given a score of zero.

At the conclusion of the survey, participants had an option to select whether they would be interested in participating in stage two of the study, a semi-structured interview. Seven participants indicated they were interested in the interview stage of the project, with five agreeing/consenting to participate following subsequent contact. The purpose of this stage was to further explore the importance of each attribute in terms of its role in skilled youth performance and talent identification. Inductive semi-structured interviews were conducted as this approach allows participants more scope to develop a rationale for their opinions and to provide greater detail in an open conversation to explain why they valued a given attribute and how they assessed that attribute (Cupples & O'Connor, 2011; Larkin & O'Connor, 2016).

Open-ended questions within a semi-structured framework were adopted to promote discussion in order to identify the key attributes participants valued when identifying talented youth basketballers, including technical, physiological, physical, psychological, and tactical attributes (e.g., what are some of the qualities you look for when you are identifying youth talent?). Probing questions were used to understand why the participant thought the attribute was important (e.g., why is this attribute important when identifying players? How do you identify this in a player?). Interviews ranged from 30 to 45 minutes (M= 41.15; ± 2.53) and

were conducted, by the second and third author's, via video-based conferencing (Zoom Video Communication, San Jose, USA). All interviews were recorded by the interviewer and transcribed verbatim, by a professional transcription service.

**Data Analysis**

Quantitative data were downloaded from the online portal (onlinesurveys.ac.uk) in a Microsoft Excel spreadsheet for descriptive analysis of the rating for each attribute. The mean (± SD) was determined for each of the 48 attributes. Attributes with a mean rating of ≥ 6.0 (very important or above) were retained for discussion (Larkin & O'Connor, 2017).

All interviews were digitally recorded and transcribed verbatim. Participants were assigned pseudonyms during transcription. Open coding was conducted to identify meaning units (i.e., sentences or ideas that described a specific attribute) from the data (Creswell, 2007). The four pillars of trustworthiness proposed by Guba (1981) including credibility, transferability, confirmability, and dependability were applied. To establish credibility, we used prolonged engagement in the field, internal peer debriefing, and member checking. Engagement in the field translates to researchers spending time in the field of inquiry (Bitsch, 2005). The research team has engaged intensively within the basketball industry. In particular, three of the team (MS, ST, ADG) have been professionally immersed into the basketball talent devleopment pathway for a combined total of 45 years. We contend that this sustained involvement with basketball coaches and players has been central to establishing a deep understanding of the participants' culture, context, and core issues in basketball talent identification. Furthermore, we utilised peer debriefing and reflexive conversations as an internal loop to discuss and modify all aspects of the study. Member checking involved all participants receiving copies of their transcripts and providing feedback on the accuracy of the data; though offered this opportunity, no participants offered any changes, expansions, or clarifications to the data provided.

To establish transferability, we used purposive sampling to recruit national basketball talent scouts as a discrete group of informants because of their likely capacity to provide in-depth information on all aspects of the basketball talent pathway. We then adopted stepwise replication and peer examination to determine dependibility. Here, each author independently analysed the data and compared their interpretations to determine (in)consistencies in thematic structure, coding, and representative quotations selected. Finally, we have attempted to establish confirmability by cross-referencing our reuslts and findings with similar studies. For data reporting purposes, all participants have been provided a pseudonym.

**Results and Discussion**

The purpose of this study was to understand the attributes that basketball coaches perceive as important when identifying skilled players. Survey and interview data collected from coaches who had experience in identifying and/or developing young basketball players provided valuable information to guide the ways in which key stakeholders might prepare young players for higher levels of competition. Overall, the survey data showed that coaches rated 15 of the attributes as very important or higher. In particular, decision-making received the highest rating with a mean score of 6.58 (± 0.68). Of the 15 attributes rated very important and above, five were categorised as technical (ay up; shooting (in the paint, 2 points); rebounds; jump shot; dribbling); five as psychological (adaptability; composure; consistency; concentration; determination); three as tactical (decision-making game awareness; teamwork); and two as physical (balance; work rate). Table 1 presents the top 15 attributes and their associated categories as indicated by the responding coaches to the survey.

***(Insert Table 1. About Here)***

It can be seen that coaches rated both psychological and technical qualities highly, with this category of attributes accounting for over 65% of the top 15 attributes; suggesting that coaches prioritise inter-personal and technical skill capabilities when identifying talented

basketball players, and those attributes are perceived to be more important than physical and anthropometric traits. While basketball researchers have explored the influence of anthropometric attributes on performance (Abdelkrim, Chaouachi, Chamari, Chtara, & Castagna, 2010; Hoare, 2000; Joseph, McIntyre, Joyce, Scanlan, & Cripps, 2021; Ramos, Volossovitch, Ferreira, Fragoso, & Massuça, 2019), the current study found the participants did not consider, or highly rate, anthropometric attributes when considering potential basketball talent. Previous studies corroborate these findings, as coaches believe they can improve abilities such as strength and speed once a player is within a talent development system and is therefore not a pre-requisite for entry (Larkin & O'Connor, 2017). Thus, as the results of the survey indicate, whilst physical ability may still be perceived as valuable, these abilities, in isolation, do not appear to be a priority when identifying talented basketball players which aligns with research in other sports (see Gucciardi, Gordon, & Dimmock, 2008; Larkin & O'Connor, 2017).

*Technical Attributes*

Technical attributes was one of the most highly rated categories, with five attributes found to be highly important for youth basketball talent identification purposes. The five technical abilities considered important by participants included lay-ups, rebounds, jump shots, dribbling, and shooting (two points in the paint). These are, except for rebounding, purely offensive skills, potentially highlighting a bias in the selection process, with participants more interested in identifying players who are better offensively than defensively. Given the objective of the game is to score more points than the opposition, it seems logical that coaches might be more focused on offensive abilities (see also Arede, Fernandes, Moran, Norris, & Leite, 2021). This is highlighted through the quantitative results, with shooting ability being rated the number one technical attribute, and supported by the qualitative results, with one of the coaches indicating, *"So not only for the fact to be able to make shots but also being able to*

*engage the defender to open up the floor for dribble penetration makes shooting, one of the most invaluable things players can offer. Straight away we're looking at that and that really is the master skill, we could very quickly, potentially overlook a lot of other issues if a player can shoot the ball, especially well, consistently and under pressure"* ***Stephen, National Junior Head Coach, Australia.*** Therefore, it is possible that players who are offensively minded, may be able to compensate for other limitations in their performance, if they are effective at the offensive end of the court.

In relation to the type of shot a player can make, participants indicated that they look more for players who can shoot effective two-point shots, over players who can make three point shots; *"I still believe the mid-range jump shot has value, I'd rather have a guy who's going to shoot 50% from mid-range than 28% from three"* ***Simon, Collegiate Head Coach, Canada.*** Additionally, dribbling ability was a highly valued technical attribute: *"You've got to be able to dribble in traffic, you've got to be able to dribble under pressure, you've got to be able to change pace, change direction very well to be able to do all those things and to create space, to create advantage, to create good open looks,"* ***Simon, Collegiate Head Coach, Canada.*** In addition to offensive actions, coaches also highlighted the ability of players to effectively rebound the ball, especially in an offensive manner, *"It's an aggressive, crazy game, but getting yourself into positions to be able to rebound and finish at the basket off of a good shot, I mean, you're gonna get a lot of points that way too."* ***Mark – High School Coach, USA.*** Indeed, the literature has shown that offensive skills such as dribbling and shooting ability are skills that differentiate between selected and non-selected regional level junior basketball players (Guimaraes et al., 2019) and, therefore, with an understanding of the game, coaches may emphasise the selection of players who demonstrate excellence in these skills. As a result, is seems from the data that offensive technical abilities are considered important by coaches and scouts.

*Psychological Attributes*

The psychological attributes including composure, adaptability, determination, consistency, and concentration accounted for five of the top 15 attributes overall. These findings align with previous studies that have identified psychological characteristics such as concentration, resilience, handling pressure, positive attitude, determination, and commitment as important attributes in other sports (e.g., Gucciardi, Gordon & Dimmock, 2008). Indeed, talent scouts and recruiters in soccer and Australian Football have previously highlighted the importance of understanding athletes' psychological attributes when making talent identification decisions and, in some cases, this is one of the critical determinants for an athlete being selected into a talent development program (Larkin & O'Connor, 2016; Larkin, Marchant, Syder, & Farrow, 2021).

The importance of an athlete's psychological attributes was further expressed in the qualitative data, with participants highlighting the importance of athletes' composure, and being able to cope under game pressures; *"Players are guarded (in the game), players are under pressure, and that now comes back to our TID in how are these players (performing) under pressure, how are they in game situations?"* ***Stephen, National Junior Head Coach, Australia.*** With basketball being a dynamic game where players are required to perform a range of skills in pressured open and closed skill contexts, there is the possibility for athletes to choke or not perform to their maximum ability during the game (Gomez et al., 2015).

Adaptability was also a key attribute that was further extolled in the qualitative data. It was presented as the players' ability to adjust to changing game dynamics, but also being able to adapt to different roles within the game. For example, ***Stephen, National Junior Head Coach, Australia,*** stated, *"Importantly, how are they, in terms of their decision making, once the defence is on the floor and their ability to adapt?"* This highlighted the ability of the players to adjust to changing game situations. In relation to positional adaptability, **John, a collegiate**

**head coach from Canada**, stated, *"I like players that can play multiple positions".* Findings emphasise that players must have developed sufficiently robust skills to ensure they can adapt to the changing game context, but also demonstrate a range of skills, which may make them an asset to their team by being adaptable to different game situations.

Concentration, determination, and consistency were the other psychological traits that were valued highly by participants during the talent identification process. This was supported by **Stephen, a National Junior Head Coach from Australia** who reinforced the value placed on an athlete's determination; *"Is this kid going to get up at 5:30 in the morning, if that's what it takes? Instead of playing video games are they going to shoot a thousand shots because we know without that intrinsic motivation, without that deep-seated passion they will never be good enough to get to the level that they are talking about."* This highlights the importance of the athlete's determination to consistently improve (see also Gonçalves, Coelho e Silva, Carvalho, & Gonçalves, 2011); promoting notions, to coaches and others, that athletes often make sacrifices within their daily routines, which is supported by previous literature that has emphasised that elite sporting performance typically involves significant sacrifice and dedication (Carless, & Douglas, 2013; Warriner & Lavallee, 2008).

Qualitative data highlighted the interaction between the psychological attributes and how they might contribute to athlete identification. Indeed, this interaction has been identified within the literature as "coachability", whereby a positive attitude and matching personality traits, coupled with a desire to learn new skills, is seen as desirable for talent scouts (Larkin & O'Connor, 2017). In the current study, participants indicated that athletes who are adaptable to change, composed during criticism, determined to be the best, consistent in their training, and focused on the game and the team, are seen as possessing desirable traits that coaches look to identify when making talent identification decisions.

*Tactical Attributes*

The tactical attributes identified by participants as important for talent identification included teamwork, game awareness, and decision-making; with decision-making being the number one rated quality. This finding supports other talent identification research in other sports, with decision-making being a skill which can differentiate skilled performance (Sherwood, Smith & Masters, 2019) and acknowledged by scouts/recruiters as being an important attribute for athletes (Larkin & O'Connor, 2017). The perceived importance of decision-making for basketball talent was further described in the interview data, with all coaches highlighting its importance within the talent identification process. Whilst it is acknowledged in the current study that on-court decision-making is of importance, several coaches also highlighted the significance of off-court decision-making, *"If you're talking about decision-making, like having a really high IQ that will not only help them on the court in terms of the right decision at the right time, but will genuinely translate to great decisions off it, 'I'm going to eat right, I'm going to sleep right, I'm going to take care of my body'"* ***Stephen, National Junior Head Coach, Australia***. This finding goes beyond current discussions around decision-making and talent identification, with the coaches acknowledging that the lifestyle choices an athlete makes may assist in the decision-making process. However, it should be noted that promotion of personal engagement should be a priority in youth basketball and players should be provided with opportunities to develop on and off the court through their participation (DiFiori, Güllich, Brenner, Côté, Hainline, Ryan, & Malina, 2018).

In addition to decision-making ability, game awareness was also a highly-rated attribute amongst participants. This supports previous empirical research exploring expert athlete's ability to read and understand game play situations (Lex et al., 2015). This was supported by the interview data where basketball "IQ" was described by the coaches when referring to the interaction between decision-making and game awareness and their combined influence on in-game performance. *"If you have the decision making and the basketball IQ we can work to fill*

*in around it because I think that can overcome a lot of the other deficiencies that might exist in your game."* ***Simon, Collegiate Head Coach, Canada.*** Game awareness was acknowledged by the coaches who indicated it is important for players to be aware of the surroundings and the game situation.

Overall, the third highest ranked attribute was teamwork. Teamwork is recognised as a dynamic process where team members make a shared effort to effectively undertake the independent and interdependent behaviours required to maximize team success (McEwan & Beauchamp, 2014). As basketball is a team sport, it is essential all team members are working together to ensure the maximum success of the team, within the game or across the competitive season. The importance of teamwork is reinforced with a quote from **Laura, National Junior Development Coach, Canada** *"Why'd you choose this kid? She runs weird. But she just has this amazing team bonding thing where she just brought everybody together. She got ran on the court probably like three times, but she was all smiles. And she was that glue off the court for the girls. If they were in tears or something happened, she was always that teammate. So, I chose her for that reason and it was different, but she was definitely needed to help us as a team."* Participants also highlighted that overly selfish athletes would be unlikely to help create a positive team environment and culture, and are less likely to be recruited, especially at the elite level. "*You can be as talented as you are, but if you can't help your teammates and put them in positions to help the team then you're useless.*"

In addition to the on-court interactions between teammates, participants also referenced the importance of the off-court social interactions amongst teammates. The team's social dynamic was perceived to benefit team performance and comradery between the players, with participants indicating; *"Being a team player fits in to the social, emotional aspect. Back in the day when I was coaching I'd put very, very little importance on the social aspect of sport, but I have since found out, through a few grey hairs that it is so incredibly important for kids, a lot*

396 *of them are there for the social aspect, we have to see that and recognise and support that."*
397 ***Cameron, National Junior Development Coach, Canada.*** This emphasised that teamwork not
398 only influences the in-game team dynamic, but also the added social elements of sport, and
399 being able to integrate with teammates outside of the court (Burns, Weissensteiner, & Cohen,
400 2019).

401 *Physical Attributes*

402 An interesting aspect from the results was the limited acknowledgement, in both the
403 survey and interview data, of physical attributes for identifying talented youth basketball
404 players. This finding is in contrast to the majority of the youth basketball literature, which
405 highlights physical attributes, such as height, limb-length, flexibility, agility, and sprint
406 performance, as important determinants of success in basketball (Garcia-Gil et al., 2018;
407 Hoare, 2000; Pino-Ortega, Rojas-Valverde, Gómez-Carmona, & Rico-González, 2021; Rogers
408 et al., 2021). However, the finding does support research in other sports, investigating talent
409 scouts' perspectives of factors important for talent identification (e.g., Larkin & O'Connor,
410 2017). For example, Larkin and O'Connor (2017) found youth soccer coaches put greater value
411 on other attributes, as there was the perception that physical attributes can be developed once
412 the player was in the talent development program. Furthermore, the finding highlights the
413 disconnect between research and practice, where anthropometrics and physical attributes may
414 demonstrate discriminative capabilities in quantitative research (Abdelkrim, Chaouachi,
415 Chamari, Chtara, & Castagna, 2010; Hoare, 2000; Joseph, McIntyre, Joyce, Scanlan, & Cripps,
416 2021; Ramos, Volossovitch, Ferreira, Fragoso, & Massuça, 2019), but are not what coaches
417 actually consider to be important.

418 The physical attributes that were deemed important for talent identification were work-
419 rate and balance. In terms of work-rate, participants explained this as the player's ability to
420 repeatedly complete the physical requirements of the game at a high intensity. From the

interviews, coaches indicated that they look for players who have well-developed endurance capabilities, as ***John, a Collegiate Head Coach from Canada*** explained *"The last thing I really want to see is a kid hunched over with hands on the knees, or in the superman pose on the hips. Being exhausted after running up and down a couple of times, that would be concerning to me."* ***Simon, Collegiate Head Coach, Canada*** reinforced the importance of endurance for the players he coaches with this statement *"We look at conditioning as a factor, in regards to if we have to I don't want to say weed out, but individuals who are not able to compete or stay at that level of conditioning*." This finding aligns with current literature at a senior elite performance level, as elite male players have been shown to produce higher work rates than sub-elite players when jogging or running during game play (Scanlan et al., 2011).

Balance, as related to a player's ability to remain upright and steady, has been discussed in the literature in terms of its importance for injury prevention (McGuine et al., 2000) and performance (Spiteri et al., 2019). Specifically, balance has been shown to mitigate the risk of ankle injuries and allow for more effective changes of direction (McGuine et al., 2000; Spiteri et al 2019). Despite participants highlighting the importance of balance in the survey, this was never specifically mentioned during the interviews. A potential reason for this may be the participant's ability to clearly articulate what they look for during the talent identification process in terms of balance. Further, the low number of physical attributes reported in both the qualitative and quantitative data could reflect the coaches using more holistic approaches to talent identification and selection, rather than primarily relying upon isolated physical assessments such as a physical testing combine. Therefore, coaches may place more emphasis on assessing and measuring these aspects within the dynamic game environment, rather than within isolated assessment protocols. This provides a more holistic assessment of performance and may focus on more game like skills and attributes using an integrated approach. This holistic approach may help to reduce the bias described by Torres-Unda et al. (2013) who found

that the players selected as the best for their region were also the players who were more advanced in their maturational development.

**Limitations**

A limitation of this investigation is the high representation of basketball scouts who responded to the survey from Australia compared to other countries. It is possible that if there was greater representation from other countries the results of the survey may have been different. Further, the results asked the participants to reflect on what they believed to be their talent identification process. Furthermore, this study considered the coaches retrospectively identifying the attributes they consider important to skilled youth performance. It may be possible that when undertaking this process within an applied setting, several other considerations or justifications that were not identified in the current study may also be shown to influence the talent identification process. As such, future studies should consider the talent identification process within an applied environment, when the coaches are making their decisions, to better understand the applied importance of certain attributes when they are making the talent identification decisions.

**Practical Implications**

The findings also provide some practical applications in relation to coaching and recruitment. By understanding the attributes which high performance youth coaches consider important, it enables coaches within the development pathway to potentially shape and guide training programs to develop these attributes. For example, as decision-making is rated the most important attribute in the talent identification process, coaches could consider developing training programs and activities, which provide a focus on decision-making skill development. Further, it may provide more of a focus on the development of objective instruments or testing procedures, which may clarify the talent identification and selection process for all key stakeholders. Another practical implication relates to the high rankings coaches provided for

471 psychological attributes. It may be important for coaches in the developmental pathway to
472 consider using practice tasks that provide opportunities for players to develop their
473 psychological skills (see Headrick, Renshaw, Davids, Pinder, & Araujo, 2015), as well as
474 providing players with opportunities to work with individuals who can support their
475 psychological development (see Fletcher & Sarkar, 2016).

476 **Conclusion**

477 Based on the current findings, participants appear to consider a range of tactical,
478 technical, psychological, and physical attributes during talent identification. The findings show
479 that decision-making was rated as the most important attribute. Given the range of attributes
480 highlighted as important, this also confirms the current perspective that coaches need to
481 consider player's abilities holistically when identifying potential sporting talent. This might
482 suggest that coaches should consider a more ecologically based approach to talent
483 identification, whereby these attributes are assessed within the game environment rather than
484 in isolated assessments (see also Vilar, Araújo, Davids, & Renshaw, 2012). However, further
485 research is needed to fully understand this process within basketball and to corroborate the
486 current findings in an applied assessment environment.

487

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784 **Table 1.** Attributes rated very important and above by responding coaches; and all other
785 attributes.

| Rank | Attribute | Average | SD | Category |
|---|---|---|---|---|
| 1 | Decision making | 6.58 | 0.68 | Tactical |
| 2 | Lay up | 6.48 | 0.64 | Technical |
| 3 | Teamwork | 6.35 | 0.98 | Tactical |
| 4 | Composure | 6.28 | 0.75 | Psychological |
| 5 | Shooting (in the paint, 2 point) | 6.28 | 0.78 | Technical |
| 6 | Adaptability | 6.2 | 0.72 | Psychological |
| 7 | Concentration | 6.15 | 0.74 | Psychological |
| 8 | Work-rate | 6.15 | 0.77 | Physical |
| 9 | Game awareness | 6.15 | 0.83 | Tactical |
| 10 | Rebounds | 6.13 | 0.76 | Technical |
| 11 | Determination | 6.05 | 0.81 | Psychological |
| 12 | Jump shot | 6.05 | 0.81 | Technical |
| 13 | Balance | 6 | 0.88 | Physical |
| 14 | Dribbling | 6 | 0.82 | Technical |
| 15 | Consistency | 6 | 0.75 | Psychological |
| **All Other Attributes** | | | | |
| Agility; Vision; Anticipation; Versatility; Stamina; Core Strength; Stance; Steals 3 Point Shooting; Receiving a pass on the move; Short Passing; Injury Proneness Shooting (outside the paint, 2 point); Acceleration; Deceleration; Positioning; Front Pivot; Back Pivot; Off the Ball Movement; Jump Stop; Screening; Flair Pace; Long Passing; Stride Stop; Jumping Reach; Aggression; Leadership; Dirtiness 5 Match Performance; Bravery; Natural Fitness; Upper body Strength | | | | |

786