DIFFERENCES BETWEEN YOUNG BASKETBALL PLAYERS PLAYING THE GUARD AND WING POSITION IN CHOSEN ANTHROPOMETRIC, MOTORIC AND PSYCHOLOGIC VARIABLES

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1 INTRODUCTION

Basketball is a team sport, played by five players. One of its characteristics is also the division of the players according to playing positions. This separation is necessary to optimise the organisation of attack and defence and thus increase their efficiency.

Three main types of players are known in basketball: guards, wings and centres. Each of these types divides further into several sub-types. They differ in the game according to the position on the court and their playing role in the attack and defence team tactics. The playing success of the individual playing role depends on an adequate psychosomatic structure of the players.

Two researches were made in Slovenia, that dealt with the differences in some dimensions of the psychosomatic status of young basketball players in the roles of guards, wings and centres (Dežman, 1988; Dežman, Tancig, 1986). The results of both studies confirmed that significant differences exist between the different types of players in some of the psychosomatic dimensions. At the same time they enabled more reliable and efficient orientation of young players in their best-suited playing roles.

In the current study, new information on the differences in the chosen morphologic, motor and psychological dimensions of young players in the guard and wing position was sought.

2 METHODS

2.1 Subject sample

The sample consisted of 18 guards and 9 wings, members of the extended selection for the Slovene 1998 Cadet Team. Their playing position was set by their coach and was also the most frequently played position at national championship matches.

2.2 Variable sample

The chosen players were measured with two anthropometric measures (reach height, body mass), six basic motor tests (jump height, 20m sprint, ball throw in sitting position, shuttle run, arm plate-tapping, 800m run) and three special motor tests (various dribbling, dribbling and passing, wall-passing). Descriptions of these tests are given in Dežman & Erčulj (1997).

From the psychological space, attention, state and trait anxiety, three types of motivation (positive, negative and strive for power) and four types of pre- and during performance behaviour (active anxiety management, concentration on performance, negative performance orientation and stress reduction) were measured. Test descriptions are available in Šturm et al.

(1992), Tušak (1997) and Tušak & Tušak (1997). The measurements were performed at the Faculty of Sport in Ljubljana.

2.3 Data analysis methods

The data was analysed with basic descriptive statistical procedures and t-test. The statistical package SPSS for Windows, version 6.0 was used.

3 RESULTS

Table 1: Differences between guards and wings in the chosen anthropometric measures

measures	playing role	average	stand. dev.	stand. error	F	sig.	t	df	sig.
Reach height	Guards	246,5	6.61	1.60	,922	,347	-5,065	24	,000
	Wings	259,6	5,61	1,87					
Body mass	Guards	76,1	7,08	1,71	,080	,779	-3,299	24	,003
	Wings	86,0	7,81	2,60					

Wings have noticeably higher values in both anthropometric measures. Their reach height is on the average 13 cm higher than that of the guards. They are also 10 kg heavier. The differences are significant.

Table 2: Differences between guards and wings in chosen basic motor tests

Tests	playing role	average	stand. dev.	stand. error	F	sig.	t	Df	sig.
Jump height	Guards	62,9	7,64	1,85	,055	,816	1,769	24	,090
	Wings	57,0	9,08	3,03					
20 m sprint	Guards	3,18	,11	0,03	,618	,440	-2,462	24	,021
	Wings	3,32	,16	0,06					
Ball throw in sitting	Guards	10,0	1,16	,282	2,86	,103	-2,158	24	,041
	Wings	10,9	,64	,216					
Shuttle run	Guards	8,9	,288	0,69	2,76	,109	-2,860	24	,009
	Wings	9,3	,411	,137					
Am plate tapping	Guards	50,2	3,13	,760	1,10	,304	3,173	24	,004
	wings	44,6	5,89	1,96					
800 m run	Guards	181,1	6,38	1,54	7,08	,014	[1] -4,228	24	,000
	wings	200,7	17,17	5,72			[2] -3,292	9,18	,009

[1] – equal variances assumed, [2] – equal variances not assumed

The differences between the two player types are significant in all the basic motor tests, except in jump height. Guards achieve better results in most tests, the wings are better only in ball throwing from a sitting position, which is understandable because of their greater body mass.

Table 3: Differences between guards and wings in chosen special motor tests

tests	playing role	average	stand. dev.	stand. error	F	sig.	t	df	sig.
Various dribbling	guards	11,8	,705	,171	2,15	,155	-3,821	24	,001
	wings	13,0	,889	,296					
Dribbling and passing	guards	13,2	,668	,162	,281	,601	-2,307	24	,030
	wings	13,8	,745	,248					
Wall passing	guards	8,6	,643	,156	,815	,376	-1,432	24	,165
	wings	9,0	,812	,271					

Guards achieved better results in all the tests with the ball, but the differences were significant only for both ball dribbling tests. An especially large difference can be seen in the test VRV, which is technically more demanding.

Table 4: Differences between guards and wings in chosen tests of psychological characteristics

test	playing role	average	stand. deviat.	stand. error	F	sig.	t	df	sig.
Attention	guards	14,0	5,60	1,32	5,11	,033	[1] -1,241	25	,226
	wings	17,4	8,82	2,94			[2] -1,069	11,34	,307
Anxiety - state	guards	35,5	7,50	1,77	,079	,781	-1,508	25	,144
	wings	40,3	8,54	2,84					
Anxiety - trait	guards	35,3	4,91	1,16	,852	,365	-2,698	25	,012
	wings	40,4	4,00	1,33					
Positive motivation	guards	69,8	5,04	1,19	,049	,827	1,471	25	,154
	wings	66,7	5,76	1,92					
Negative motivation	guards	28,7	5,53	1,31	,291	,594	,062	25	,951
	wings	28,6	5,94	1,98					
Strive for power	guards	44,6	4,89	1,15	,168	,685	2,449	25	,022
	wings	39,7	4,95	1,65					
Active anxiety management	guards	35,1	6,07	1,43	,184	,671	,463	25	,647
	wings	34,0	4,36	1,45					
Concentration on perform.	guards	35,2	4,01	,945	8,28	,008	[1] 1,764	25	,090
	wings	30,9	8,71	2,90			[2] 1,399	9,73	,193
Neg. perform. orientation	guards	22,1	4,14	,975	2,11	,159	-2,248	25	,034
	wings	25,3	1,87	,624					
Stress reduction	guards	24,6	2,45	,579	,258	,616	4,436	25	,000
	wings	19,8	2,99	,997					

[1] – equal variances assumed, [2] – equal variances not assumed

The differences between the guards and wings are not significant in most of the psychological tests, except in anxiety trait, strive for power, negative performance orientation and stress reduction.

4 DISCUSSION

The obtained data shows that wings in the chosen sample are significantly higher, heavier and stronger in the arms (ball throw in sitting position), than the guards. These are significantly faster with the arms and legs (arm-plate tapping, 20m sprint), change direction more quickly (shuttle run), have a better developed aerobic-anaerobic endurance (800m run) and handle the ball better (various dribbling, dribbling and passing).

These results are in accord with findings of similar studies (Dežman, Tancig, 1986; Dežman, 1988), however, such large differences were usually obtained between guards and centres. The reasons for this might lie in the characteristics of the chosen sample of players, for which the playing roles are probably not yet finally defined.

In most of the psychological characteristics the differences are not significant, which was expected. Significant differences show in trait anxiety, which forms under the influence of many factors during a lifetime (early experiences, relations in the family and with peers, etc.). In our case the reason is probably in body height. Wing players are usually much higher than their peers and because of this more clumsy and awkward. This can result in their lower peer-acceptance, which is in the early adolescence period one of the principal causes for development of anxiousness.

The results in motivational space are quite expected. There are no significant differences between both types in positive and negative motivation, which might mean that the coach does not differ in the mode of communication with the two types of players. However, there are significant differences in strive for power, which expresses mostly social power or the wish for leading other people. Guards are usually organisers in the game. Their role is placing and directing the other players on the court. These characteristics are also being purposefully developed in the training process. Their excellence in technical-tactical skills makes their superiority in this psychical characteristic even more understandable.

Guards are also more efficient in negative performance orientation, stress reduction and concentration on performance (just a tendency, $p=0.09$). The reasons for this are probably in the greater responsibility of the guards due to their role in the game and in the greater effort that shorter players must invest if they wish to succeed in basketball. This effort in the psychical sense means a constant search for efficient ways for stress control and concentration on performance.

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