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THE BODY BUILD OF THE STUDENTS APPLYING FOR ADMISSION TO THE TESTNEVELÉSI FŐISKOLA (HUNGARIAN UNIVERSITY OF PHYSICAL EDUCATION)

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Abstract: In connection with the reform of the Hungarian system of university admission, a „fitness test" assessing the candidates' motor performance level has been introduced at the University of Physical Education, Budapest. The intention was to provide means for classifying the candidates on the basis of their motor preparation. The applicant whose performance did not meet the minimum standards of this screening was excluded from the subsequent phases of the entrance examination.

The last two years' experience showed that the physique of the applicants of the early eighties was not essentially different from the physique of the candidates of the seventies. In these years, the average rate of those who were excluded from the further phases was about 20 percent. When compared to the group of students who were classified as „fit" by these tests, the group of the students who failed was found to be significantly shorter as well as having a greater relative body mass and a mainly endo-mesomorphic somatotype.

Key words: Body build, Students

Introduction

The project of recording data on the physique of the youth applying for admission to the Testnevelési Főiskola (Hungarian University of Physical Education) started in 1972. The experience gained by it in the first 10 years of the study led us to the inference that those who passed the entrance examination to the University were consistently taller and heavier than those who failed. There was also a difference in the body fat content of the two groups (Mészáros 1979).

However, the admission procedure of all types of higher education was revised in 1983. The essence of the change was the introduction of a standard system of criteria which meant more exacting requirements in general, and the addition of a further step – a fitness test – to the hitherto employed two-step system (theoretical and practical) of entrance examination to the Testnevelési Főiskola, in particular. This third step primarily serves as an assessment of the existing level of motor abilities, but it also has a screening function.

The purpose of the present study was to compare the stature, body mass, somatotype, growth type and percentage body fat content of the successful applicants before and after the introduction of the new admission criteria, in order to report on such effects that could manifest in the body build because of the change.

Material and Methods

The comparison refers to the applicants of 1978 and 1979 scored by the procedure before the change (old group) and to the applicants of 1984 and 1985 (new group). Altogether 546 males and 534 females were studied, all of whom were aged between 18 and 20.

In applying for admission it has been a basic requirement that the applicant should be healthy, a fact to be certified by the district dispensaries of sport medicine. Another specific feature of the sample was that all the applicants had a valid „competition licence" though not every one of them was an elite athlete.

In every case, body dimensions were recorded under laboratory conditions following the recomendations of the IBP (Weiner and Lourie 1969). Individual somatotypes were estimated by the anthropometric method of Carter and Heath (1971). The metric and plastic indices describing the type of growth were calculated by the method of Conrad (1963). Body fat content was estimated by the skinfolds using Pařízková's method (1961).

Differences between the means were tested separately for the males and the females by the F-test after the analysis of variance components at the 5% level of random error.

Results and Discussion

The differences of the several body dimensions will not be analysed here, except for stature and body mass. Discussion will extend mostly to the intergroup differences of indicators combining several measures. The eight variables to be treated here are tabulated for their means and standard deviations (Table 1). The first two columns of the table contain the statistics of the old group of candidates while columns 3 and 4 contain the values of the new group applying for admission in 1984 and 1985.

Table 1. Descriptive statistics of the groups of students in the old and new system of admission

Females								
1978 and 1979					1984 and 1985			
Applicants		Passers			Applicants		Passers	
$\bar{x}$	s	$\bar{x}$	s	DIM	$\bar{x}$	s	$\bar{x}$	s
162.58	5.70	164.96	5.43	ST	166.61	5.53	166.24	5.59
55.95	5.79	57.15	5.21	BM	58.39	5.94	58.51	7.14
−1.07	0.30	−1.14	0.31	MI	−1.26	0.33	−1.30	0.33
78.07	2.57	78.59	3.00	PI	78.46	3.50	78.83	2.81
3.51	1.00	3.12	1.03	I.	3.53	0.93	3.45	0.95
4.03	0.92	3.98	0.88	II.	3.56	0.91	3.64	1.05
2.57	0.90	2.82	0.86	III.	2.88	0.92	2.88	0.98
19.95	4.22	16.40	3.11	%	17.72	4.05	17.51	4.61
325		102		n	209		108	
Males								
174.64	6.23	177.85	7.32	ST	177.51	6.61	177.96	6.66
69.21	7.14	71.01	7.30	BM	70.84	8.28	70.30	7.52
−0.86	0.30	−0.92	0.31	MI	−1.02	0.35	−1.07	0.30
86.35	3.26	87.13	3.16	PI	88.90	3.81	89.19	3.25
2.25	1.07	2.05	0.90	I.	2.57	0.86	2.50	0.90
4.98	1.03	4.92	0.91	II.	4.96	1.14	4.87	0.94
2.54	0.90	2.88	0.86	III.	2.88	1.03	3.04	0.92
12.23	2.98	11.28	2.63	%	12.19	3.33	11.60	3.48
316		100		n	230		98	

Abbrevations: ST – stature; BM – body mass; MI – metric index; PI – plastic index; I. – first component of relative fatness; II. – second component of relative robustness; III. – third component of relative linearity; % – per cent of body fat in body mass; n – number of subjects.

As shown by the respective means, both the male and female *applicants* of the old group were significantly shorter and lighter than those who *passed* the admission procedure. The old group of applicants were by about 100 more than the new group, and their dimensions were closer to the peer students of medicine (Frenkl and Mészáros 1979) and technology (Gyenis and Till 1981) than to the dimensions of those who passed from the old group. Apperciable differences between the somatotypes and growth types of the groups were not found either in the males or in the females.

It is worth mentioning, however, that the body fat content in percentage was markedly lower in those who passed than in those who failed the admission procedure in the old group.

In the new group practically no difference was found between the subgroups of passers and failers. The smaller number of applicants were similar in their body build to the passers of the old group.

These results led to two points as inference:

– The number of applicants has markedly decreased, probably under the pressure of the more stringent system of admission to the Testnevelési Főiskola. Though this provided a reduced base of selection, those who were able to pass had a body build comparable to those who would pass in the previous system.

– It should be realized that at this university all priorities favour the education of physical educators rather than elite performance in sports. Accordingly, with respect to the complex physical requirements our future physical educators have to meet, any extreme type of body build would be unfavourable. One has to be aware that in several of the sports the elite athletes display such characteristics of physique that are near to the extremes of body build (Tanner 1964, Maas 1974), and that these traits help to maintain good performance or are even indispensable for it. The students are expected, however, to perform at least at an average level in several sport events. Thus, success in meeting the admission criteria also implies a more or less balanced physique generally. This may be the main reason for the finding that in respect of their physique the prospective successful applicants were very similar and extreme variants in dimensions or combined indices were absent, quite irrespective of whether they had to face the old or the new system of admission.

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