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DOES DANCE TRAINING AFFECTS STRENGTH VARIABLES AMONG UNIVERSITY GIRLS

Рамеш К. А., Сабаанант С. Чи впливає танцювальне тренування на силові змінні серед студенток університету.

Ключові слова: бхаратханатям, танець кандян, швидкий відрив, сила ніг, сила спини, сила і витривалість.

Abstract. *The objective of the study was to find out the comparative effect of different (Bharathanatyam, Fast break, Kandyam) dance training on selected strength variables among post-pubescent girls. To achieve the purpose, thirty (N=30) women students were selected from Visual and Performing Arts University, Sri Lanka, and their mean age was 22 ± 1.3 years. They were assigned into three groups. Group I (n=10) underwent Bharathanatyam, Group II (n=10) underwent Fast Breakdance and Group III (n=10) underwent Kandyam dance. The selected subjects measured their leg strength(LS), and back strength(BS), using Dynamometer and strength and endurance (SE) by sit-ups. The interventional period for this study was 45-60 min/day/five days/week over the period of nine weeks for all the experiment groups. Data were collected on selected variables before and after the training period and were subjected to statistical treatment using analysis of covariance (ANCOVA). In all the cases 0.05 level of confidence was fixed to test the significance. When the obtained 'F' ratio was significant, Scheffe's post-hoc test was used to find out the paired mean difference. Within the limitations set for this study, it was concluded that fast break shows a better effect on developing all the selected variables than the rest two groups. However, bharathanatyam was also better than Kandyam dance in improving BS, LS, and SE. Hence it was recommended that fast break and bharathanatyam dancers are required BS, LS, and SE to execute better theatre performances.*

Keywords: *bharathanatyam, kandyam dance, fast break, leg strength, back strength, strength and endurance.*

Introduction. Dancers are not just performing artists. But their bodies are also the instruments through which the art is created. The quality of this art, therefore, necessarily depends on the physical qualities and skills that dancers possess. The stronger and more flexible a dancer's body, the more capable it is of a wide range of movement. Nearly all professional dancers start training at a young age in order to shape and develop their bodies correctly. Strength is built up in the right muscles, and the bone-connecting ligaments on which flexibility of the joints is so dependent are lengthened early before they begin to harden.

A good dancer must also possess great coordination, a highly developed kinesthetic awareness, control over weight and balance in motion, and endurance is essential to the continued existence of prolonged dance performance to develop an awareness of space, a strong sense of rhythm, and an appreciation of music. Particularly in theatrical dance, the dancer must be able to project movement clearly and make its expressive qualities intelligible to the audience. Grace, fluidity, and harmony of the body are also frequently desired in the dancer, as is physical beauty.

Bharatanatyam. Very popular dance form in South India. It is the oldest of all classical dance forms in India. The general Etymology of Bharathanatyam is BHAVA (expression) + RAGA (music) + TALA(rhythm) + NATYAM(dance). The variety and style of the dance and musical accompaniment provide to the people's tastes and performing them (Judith, 2021).

Break Dancing. Since the 1960^s, it became popular in the 1970^s and 1980^{'s} in New York with African American people (Jorge, 2009). It is believed that it might have had its roots in the 'Lindy Hop' and the Charleston but there is no right way to break dancing as it is adapted by the dancers all the time, borrowing from other dance forms and arts. Dexterity in mixing music and transforming break dancing into what will be seen in current times (Schloss, 2009).

Kandyan Dance is a dance form that originated in the area called Kandy of the Central hills region in Sri Lanka. But today it has been widespread in other parts of the country. It was originally performed by dancers who were identified as a separate caste under the Kandyan Feudal system. They were aligned to the Temple of the Tooth and had a significant role to play in the Dalada Perahera (procession) held each year in the temple (wiki-2022). The dance waned in popularity as the support for the dancers from the Kandyan kings ended during the British period. It has now been revived and adapted for the stage and is Sri Lanka's primary cultural export. Dance is an art form that generally refers to the movement of the body, usually rhythmic and to music, used as a form of expression, social interaction, or presented in a spiritual or performance setting. Hence the purpose of the study was to find out the comparative effect of different (Bharathanatyam, Fast Break, and Kandian) dancing on selected strength variables among Post Pubescent girls.

Methods. To achieve the purpose, thirty (N=30) women students were selected from Visual and Performing Arts University, Sri Lanka, and their mean age was 22 ± 1.3 years. They were assigned into three groups. Group I (n=10) underwent Bharathanatyam, Group II (n=10) underwent Fast Breakdance and Group III (n=10) underwent Kandyan dance. The selected subjects measured their leg strength, and back strength, using Dynamometer and strength and endurance by sit-ups. The interventional period for this study was 45-60 min/day/five days/week over the period of nine weeks for all the experiment groups. previous experience was not considered for this study. Data were collected on selected variables before and after the training period and were subjected to statistical treatment using

analysis of covariance (ANCOVA). In all the cases 0.05 level of confidence was fixed to test the significance. When the obtained ‘F’ ratio was significant. Scheffe’s post-hog test was used to find out the paired mean difference.

Results.

Table 1

Ancova on selected strength variable for bharathanatyam, kandyan, fast break dancers

Variables	Bhara thanatyam	Fast break	Kandyan	SV	SS	df	MS	F
Leg strength (kg)	90.25	90.87	87.82	Between	4.07	2	2.04	11.33
				Within	4.84	26	0.19	
Back strength (Kg)	79.22	80.00	76.44	Between	5.11	2	2.56	13.47
				Within	4.99	26	0.19	
Strength and endurance No/min	37.30	37.40	34.45	Between	53.97	2	26.98	12.78
				Within	54.89	26	2.11	

F – ratio at 0.05 level of confidence for (2) (26) = 3.36.

From the table, it was clear that there was a significant difference between experimental (Bharathanatyam, Fast Break and Kandian dance) groups on leg strength, back strength and strength and endurance. the positive trend was observed in the fast break, bharathanatyam, and than Kandyan dance to improve leg strength, back strength and strength endurance. However fast break dance shows a better effect in developing leg strength than the bharathanatyam.

Table 2

Scheff’s Post hoc test and its mean differences between experimental groups on selected strength variables

Variable	Bharathanatyam VS Kandyan	Fast break VS Kandyan	Bharathanatyam VS Fast break	CI
Leg strength	2.43*	3.05*	0.62*	0.502
Back strength	2.78*	3.56*	0.78	1.89
Strength and endurance	2.95*	2.85*	0.10	1.69

Discussion. Every dance, no matter what style, has something in common. It not only involves flexibility and body movement but also physics. At birth, patterns of movement are in the form of primitive reflexes that are designed to guarantee the infants’ survival [4]. The hip flexor muscles are used in a high percentage of dance steps. In class, however, they are isolated for strength training [5].

Dance is an artistic discipline, yet one that requires the extreme physical fitness of its participants. Along with the technical demands of the art, dancers must be flexible, strong, lean, and powerful. Dance is both artistic and athletic; it is the integration of these two seemingly unrelated elements that distinguish it from other sports and art forms. These two components of dance present a challenge to the researcher wishing to examine its pertinent aspects. While dance training is focused on the development of technique, its explicit objective is rarely to improve the athletic components of dance. Various studies have examined the normative abilities of dancers and compared them to those of other athletes [6].

However, little research has been done on the traditional dance. Low intensity program designed to train the hip flexors elicited a mean increase of six inches in the height of a leg extension [7]. This study demonstrates that different dance training can positively affect technical strength ability. Ultimately, the goal of this type of research is to determine how changes in physical fitness affect the aesthetic component of dance. To jump effectively dancers must have a high degree of strength and power. The results show that all types of dance training programs have a beneficial effect on leg strength, back strength, and strength endurance. However fast break dance shows a better effect than other dance forms.

Conclusions. Within the limitations set for this study, it was concluded that fast break shows a better effect on developing leg strength, back strength, and strength endurance than the rest training groups. However, bharathanatyam also shows a better effect than kandyan dance in improving leg strength, back strength and strength endurance.

Recommendations. It was recommended that fast break and bharathanatyam dances are improving leg strength, back strength and strength endurance to execute better theatre performance, the other dancers need to undergo special training to improve leg strength, back strength and strength endurance apart from their regular dance practice to avoid injuries and enhance their theatre performance.

References:

1. Judith, R. Mackrell. (2021). Article from the Encyclopædia Britannica
2. Schloss, J. (2009). *Foundation: B-boys, B-girls, And Hip-Hop Culture In New York*. Oxford University Press.
3. Jorge «Popmaster Fabel» Pabon (September 10, 2009). «25 Things You Should Know About Hip Hop»: *Dancer Universe*, 2009. URL : http://en.wikipedia.org/wiki/Kandyan_dance.
4. Piaget, J. (1972). *The psychology of the child*. New York: Basic Books.
5. Wilmerding, M. V. (2000). Conditioning for Greater Leg Extension. *J. Dance Med Sc.*, 4 (4), pp. 117-121.
6. Brinson, P. & Dick, F. (1996). The fitness and nutritional research. In: *The Report of the National Inquiry to Dancer's Health and Injury*. London, UK : Calouste Gulbenkian Foundation, pp. 59-69.
7. Grossman, G. & Wilmerding, M. V. (2000). The effect of conditioning on the height of dancer's extension in a la seconde. *J. Dance Med. Sc.*, 4 (4).