



Effect of Yogic and Physical Training on Speed and Cardiovascular Endurance of Young Adults

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Abstract

Introduction: The objective of this study was to investigate the effect of yogic and physical training on speed and cardiovascular endurance of young adults. Another purpose of the study was to find out the comparatively better training programs among Yogic and Physical training for young adults. **Methods:** 75 male students of the department of physical education, Swami Vivekanand Subharti University, Meerut were randomly selected for the study. The subjects were divided into three groups i.e. one control and two experimental groups for the study. The age of the subjects was ranged between 17 to 21 years. Criterion measures for this study were different test items for speed and cardiovascular endurance such as: To measure speed about the young adults, manual method was used. To measure cardiovascular endurance about the young adults, 600 mtr. run & walk was used. To find out the effect of yogic and physical training on speed and cardiovascular endurance of young adults, the t-test was used. For the testing of hypotheses, the level of significance was set at 0.05. **Results and Discussion:** The result reveals that there was significant ($p < .05$) effect of yogic and physical training on speed and cardiovascular endurance of young adults. Based on findings and within the limitation of the study it was noticed that effect of yogic and physical training helped to improve speed and cardiovascular endurance of young adults. Since speed and cardiovascular endurance of the subject of experiment group was found to be statistically significant since the obtained values was found to be higher than the tabulated value.

Keywords: Speed, Cardiovascular Endurance, Yogic Training, Physical Training

INTRODUCTION

Today involvement in games and sports has an extremely important part in the lives of people. As a portion and package of continuation and recreate education has to offer a great many things in changing the behavior of an individual. Physical education is the essential segment of the whole process of education which adds to previous knowledge, and merges the aspects like social, physical, etc. by physical activity of an individual life. (V. Krishnamurthy and Parameswaran Rao, 1980)

Physical Education is a crucial part of the school education program and a class also that every pupil waits for it. It is that part of the schedule that waits eagerly by every student and it is also the only confirm time slot when the ground is used by the students and engaged in their favorite sports. One of the main objectives of physical education is to bring the component of happiness to the school's academic orientation. It aims to provide the time in daily routine for physical activity to the students.

In this present scientific age in all fields of mankind try, structured objective and scientific process are done in line with principles depend upon past happening, understanding, and use of the skill of science. The field of games and sports is no exception to this as sports have developed into a distinct scientific discipline in itself and every nation is trying to produce top-class sports persons to win Laurels in international competitions. (Singh D. & Patel S. 2014)

Yogic and physical training may be started for an assortment of reasons. It may be initiated by the individual or promoted by healthcare professionals in the course of comprehensive medical care. Whatever the reason for discussing yogic and physical training, it is helpful to ask the individual some basic questions before embarking on a more detailed assessment and setting realistic targets. Physical fitness is now more or less a matter of national concern. The strength of democracy is the collective well-being of our people.

METHODOLOGY

The subjects of the study were randomly selected in 75 male students of the department of physical education, Swami Vivekanand Subharti University, Meerut were randomly selected for the study. The subjects were divided into three groups i.e. one control and two experimental groups for the study. The age of the subjects was ranged between 17 to 21 years. Criterion measures for this study were different test items for speed and cardiovascular endurance such as: To measure speed about the young adults, 50 mtr. dash run was used. To measure cardiovascular endurance about the young adults, 600 mtr. run & walk was used. To find out the effect of yogic and physical training on speed and cardiovascular endurance of young adults, the t-test was used. For the testing of hypotheses, the level of significance was set at 0.05.

PHYSICAL TRAINING PROGRAM

S. N.	Day	Physical Training	Duration	Total Duration
1	Monday	Running continuously	20 min.	40 Min.
		Normal stretching from toe to head- 60 mtr. 6 repetitions for 90% accuracy.	10 min.	
2	Tuesday	Warm-up	5 min.	40 Min.
		Leg exercises (active and passive)	10 min.	
		Trunk exercises (active and passive)	10 min.	
		Hand exercises (active and passive)	10 min.	
		Stretching with the help of the equipments.	5 min.	
3	Wednesday	Warm-up	10 min.	40 Min.
		Normal stretching	10 min.	
		150 mtr. 6 repetitions for 80% accuracy.	20 min.	
4	Thursday	Warm-up	10 min.	40 Min.
		Normal stretching	10 min.	
		500 mtr 4 repetitions for 75% accuracy.	20 min.	
5	Friday	Warm-up	10 min.	40 Min.
		Normal stretching	10 min.	
		250 mtr 4 repetitions for 80% accuracy.	20 min.	

YOGA TRAINING PROGRAM

S. N.	Day	Yogic Training	Duration	Total Duration
1	Monday	Chanting of Manta (Starting Prayer)	03 Min.	40 Min.
		Surya Namaskar	07 Min.	
		Asanas: Standing Asanas (1-3 Repitition)	20 Min	
		Pranayama: Kapalbhathi: Simple (3 Repitition)	03 Min.	
		Nadi Shodan: Anulom-Vilom (3 Repitition)	02 Min	
		QRT (Quic Relaxation Technique)	03 Min	
		Finishing Prayer	02 Min	
2	Tuesday	Chanting of Manta (Starting Prayer)	03 Min.	40 Min.
		Sukshma Vyayam	07 Min.	
		Asanas: Supine Line Asanas (1-3 Repitition)	20 Min	
		Pranayama: Kapalbhathi: Right – Left (3 Repitition)	03 Min.	
		Nadi Shodan: Surya Shodan (3 Repitition)	02 Min	
		QRT (Quic Relaxation Technique)	03 Min	
		Finishing Prayer	02 Min	
3	Wednesday	Chanting of Manta (Starting Prayer)	03 Min.	40 Min.
		Surya Namaskar	07 Min.	
		Asanas: Pronation Asanas(1-3 Repitition)	20 Min	
		Pranayama: Kapalbhathi: Hold One Nostil(3 Repitition)	03 Min.	
		Nadi Shodan: Sheetal (3 Repitition)	02 Min	
		QRT (Quic Relaxation Technique)	03 Min	
		Finishing Prayer	02 Min	
4	Thursday	Chanting of Manta (Starting Prayer)	03 Min.	40 Min.
		Sukshma Vyayam	07 Min.	
		Asanas: Long Sitting Asanas(1-3 Repitition)	20 Min	
		Pranayama: Kapalbhathi: Simple(3 Repitition)	03 Min.	
		Nadi Shodan: Anulom-Vilom (3 Repitition)	02 Min	
		QRT (Quic Relaxation Technique)	03 Min	

5	Friday	Finishing Prayer	02 Min	40 Min.
		Chanting of Manta (Starting Prayer)	03 Min.	
		Sukshma Vyayam	07 Min.	
		Asanas: Twisting Asanas(1-3 Repitition)	20 Min	
		Pranayama: Kapalbhathi: Right – Left (3 Repitition)	03 Min.	
		Nadi Shodan: Surya Shodan (3 Repitition)	02 Min	
		QRT (Quic Relaxation Technique)	03 Min	
		Finishing Prayer	02 Min	

RESULTS OF THE STUDY

To find out yogic and physical training effect on pre and post speed of young adults in the experimental group and control group, Dependent t-test statistics was used and presented in table-1.

TABLE-1

T-ratio of pre and post speed of young adults in experimental group and control group

Speed		Pre	Post	t.ratio
Experimental Group of Yogic Training	Mean	8.108	7.878	3.256*
	S.D	.475	.458	
Experimental Group of Physical Training	Mean	8.196	7.234	11.533*
	S.D	.455	.579	
Control Group	Mean	8.248	8.251	-.391
	S.D	.462	.463	

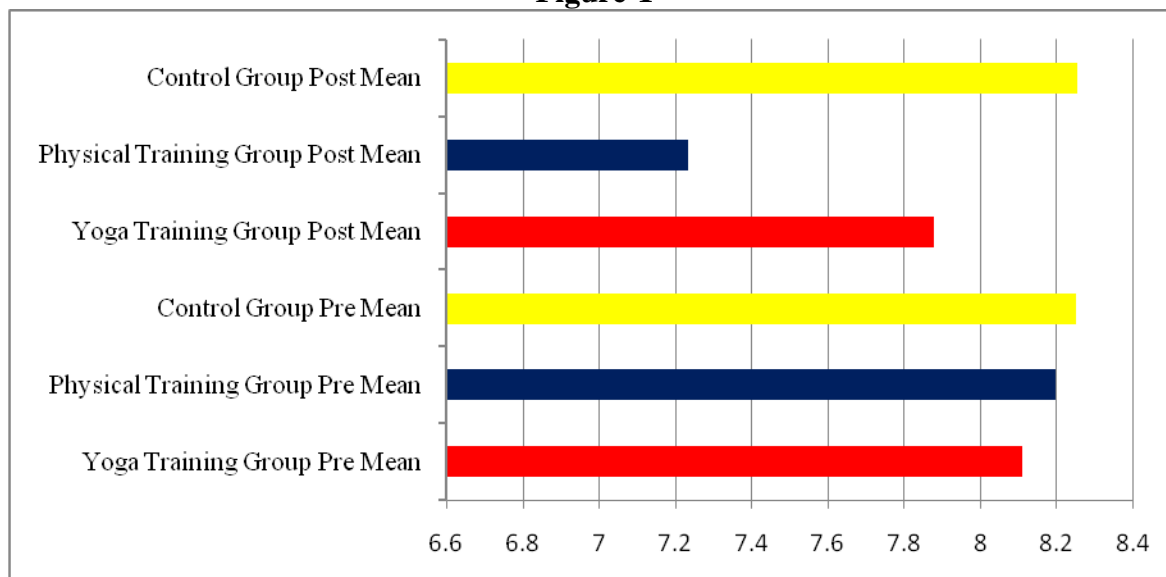
*Significant at .05 level

t-value required to be significant at 24 df =1.71

It is evident from table-1 that significant difference was found in yogic training effect between pre and post-speed of young adults in the experimental group as the t-value was found 3.256. This was a higher value than the required value at .05 level of significance, significant difference was found in physical training effect between pre and post speed of young adults in the experimental group as the t-value was found 11.533. This was a higher value than the required value at .05 level of significance, but an insignificant difference was found between pre and post speed of young adults in the control group as the t-value was found -.391. This was a lower value than the required value at .05 level of significance.

The scores are also illustrated in the figure-1.

Figure-1



To find out yogic and physical training effect pre and post-speed of young adults in the experimental group after three, six, nine and twelve weeks, Dependent t-test statistics was used and presented in table-2.

TABLE-2

T-ratio of pre and post speed of young adults in experimental group after three, six, nine and twelve weeks

Data Collation Duration	Yoga training effect on Speed					Physical Training effect on Speed			
	Speed	Pre	Weeks	t.ratio		Speed	Pre	Weeks	t.ratio
01-03 Weeks	Three Weeks	Mean	8.108	8.100	.122	Mean	8.196	8.117	2.741*
		S.D	.475	.484		S.D	.455	.528	
01-06 Weeks	Six Weeks	Mean	8.108	8.059	.845	Mean	8.196	7.945	5.530*
		S.D	.475	.490		S.D	.455	.570	
01-09 Weeks	Nine Weeks	Mean	8.108	7.985	1.953*	Mean	8.196	7.575	9.445*
		S.D	.475	.485		S.D	.455	.524	
01-12 Weeks	Twelve Weeks	Mean	8.108	7.878	3.256*	Mean	8.196	7.234	11.533*
		S.D	.475	.458		S.D	.455	.579	

*Significant at .05 level

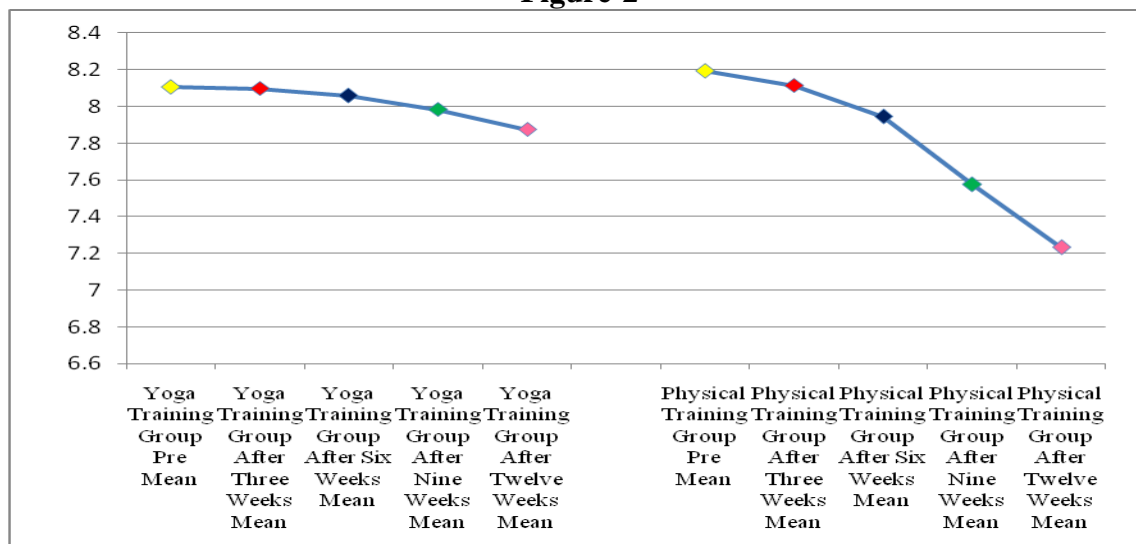
t-value required to be significant at 24 df = 1.71

It is evident from table-2 that insignificant difference was found in yogic training effect between pre and after three weeks speed of young adults as the t-value was found .122. This was a lower value than the required value at .05 level of significance, insignificant difference was found yogic training effect between pre and after six weeks speed of young adults as the t-value was found .845. This was a lower value than the required value at .05 level of significance, significant difference was found yogic training effect between pre and after nine weeks speed of young adults as the t-value was found 1.953. This was a higher value than the required value at .05 level of significance and significant difference was found yogic training effect between pre and after twelve weeks speed of young adults as the t-value was found 3.256. This was a higher value than the required value at .05 level of significance.

An significant difference was found in physical training between pre and after three weeks speed of young adults as the t-value was found 2.741. This was a higher value than the required value at .05 level of significance, significant difference was found in physical training between pre and after six weeks speed of young adults as the t-value was found 5.530. This was a higher value than the required value at .05 level of significance, significant difference was found in physical training between pre and after nine weeks speed of young adults as the t-value was found 9.445. This was a higher value than the required value at .05 level of significance and significant difference was found in physical training between pre and after twelve weeks speed of young adults as the t-value was found 11.533. This was a higher value than the required value at .05 level of significance.

The scores are also illustrated in the figure-2.

Figure-2



To find out the yogic and physical training effect on pre and post cardiovascular endurance of young adults in the experimental group and control group, Dependent t-test statistics was used and presented in table-3.

TABLE-3

T-ratio of pre and post cardiovascular endurance of young adults in experimental group and control group

Speed		Pre	Post	t.ratio
Experimental Group of Yogic Training	Mean	2.458	2.383	6.374*
	S.D	.117	.105	
Experimental Group of Physical Training	Mean	2.476	2.390	7.608*
	S.D	.117	.114	
Control Group	Mean	2.440	2.453	-.734
	S.D	.125	.084	

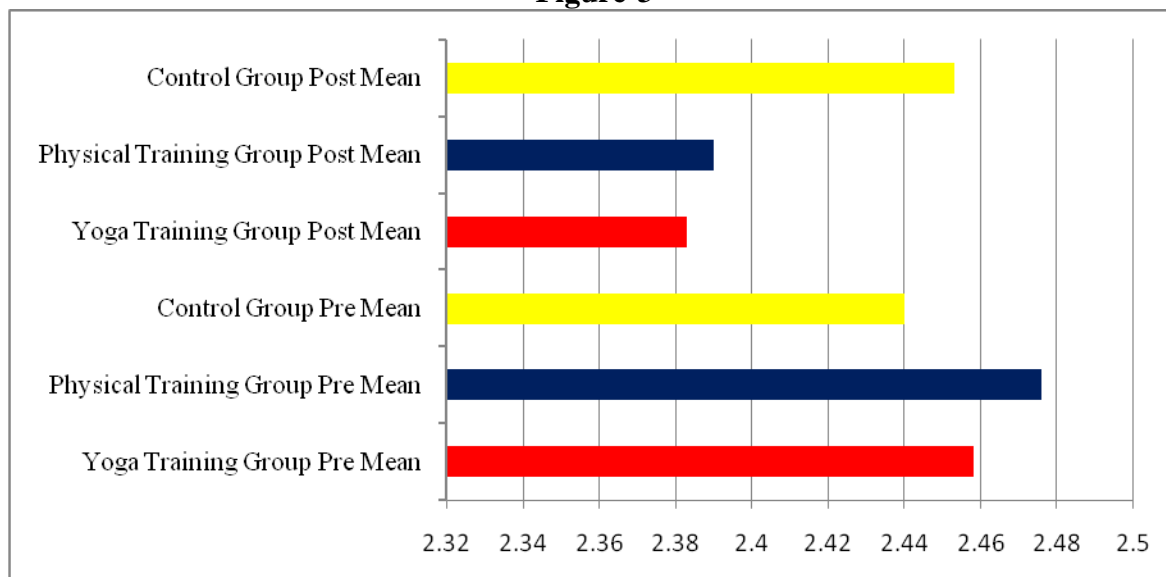
*Significant at .05 level

t-value required to be significant at 24 df = 1.71

It is evident from table-3 that significant difference was found in yogic training between pre and post cardiovascular endurance of young adults in the experimental group as the t-value was found 6.374. This was a higher value than the required value at .05 level of significance, significant difference was found in physical training between pre and post cardiovascular endurance of young adults in the experimental group as the t-value was found 7.608. This was a higher value than the required value at .05 level of significance, but an insignificant difference was found between pre and post cardiovascular endurance of young adults in the control group as the t-value was found -.734. This was a lower value than the required value at .05 level of significance.

The scores are also illustrated in the figure-3.

Figure-3



To find out yogic and physical training effect pre and post cardiovascular endurance of young adults in the experimental group after three, six, nine and twelve weeks, Dependent t-test statistics was used and presented in table-4.

TABLE-4

T-ratio of pre and post cardiovascular endurance of young adults in experimental group after three, six, nine and twelve weeks

Data Collation Duration	Yoga training effect on Cardiovascular Endurance				Physical Training effect on Cardiovascular Endurance				
		Pre	Weeks	t.ratio		Pre	Weeks	t.ratio	
01-03 Weeks	Three Weeks	Mean	2.458	2.449	2.600*	Mean	2.476	2.470	.722
		S.D	.117	.108		S.D	.117	.107	
01-06 Weeks	Six Weeks	Mean	2.458	2.426	4.396*	Mean	2.476	2.437	4.102*
		S.D	.117	.101		S.D	.117	.108	
01-09 Weeks	Nine Weeks	Mean	2.458	2.458	6.324*	Mean	2.476	2.396	6.194*
		S.D	.117	.109		S.D	.117	.135	
01-12 Weeks	Twelve Weeks	Mean	2.458	2.383	6.374*	Mean	2.476	2.390	7.608*
		S.D	.117	.105		S.D	.117	.114	

*Significant at .05 level

t-value required to be significant at 24 df =1.71

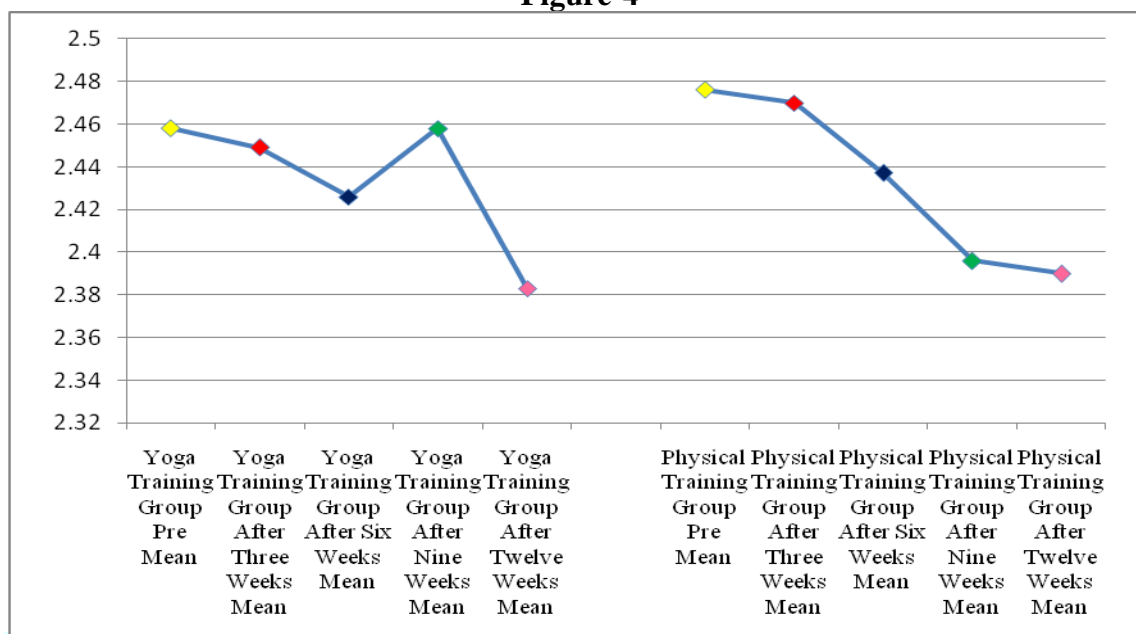
It is evident from table-4 that significant difference was found in the yogic training effect between pre and after three weeks of cardiovascular endurance of young adults as the t-value was found 2.600. This was a higher value than the required value at .05 level of significance, significant difference was found yogic training effect between pre and after six weeks cardiovascular endurance of young adults as the t-value was found 4.396. This was a higher value than the required value at .05 level of significance, significant difference was found yogic training effect between pre and after nine weeks cardiovascular endurance of young adults as the t-value was found 6.324. This was a higher value than the required value at .05 level of significance and significant difference was found yogic training effect between pre and after twelve weeks cardiovascular endurance of young adults as the t-value was found 6.374. This was a higher value than the required value at .05 level of significance.

An insignificant difference was found in physical training between pre and after three weeks of cardiovascular endurance of young adults as the t-value was found .722. This was a lower value than the required value at .05 level of significance, significant difference was found in physical training between pre and after six weeks cardiovascular endurance of young adults as the t-value was found 4.102. This was a higher value than the required value at .05 level of significance, significant difference was found in physical training between pre and after nine weeks cardiovascular endurance of young adults as the t-value was found 6.194. This was a higher value than the required value at .05 level of significance and significant difference was found in physical training between

pre and after twelve weeks cardiovascular endurance of young adults as the t-value was found 7.608. This was a higher value than the required value at .05 level of significance.

The scores are also illustrated in the figure-4.

Figure-4



DISCUSSION OF THE RESULTS

The present study was designed to explore comparatively better training between yogic and physical training programs for young adults. The purpose of this study was to find a better training program (yogic training and physical training) for the young adults. Although the research scholar did not interfere with the personal lifestyle of the young adults, some facts may be inaccessible. Which training program (yogic training and physical training) will be more beneficial in looking at the lifestyle of young adults and making their lifestyle more effective, it has been seen in this study. In order to achieve the objectives, speed and cardiovascular endurance of young adults were collected from various scientific aspects and after that the young adults were divided into three groups i.e. one control and two experimental group for the study. After which these groups were trained, after that data were obtained from all these groups again. Before going to the conclusion of the study, it must be understood that the progress of any country depends on its younger generation. His positive contribution definitely helps any society or country to move in the right direction.

The result of the study revealed significant difference between the mean scores of yogic and physical training effect on pre and post speed and cardiovascular endurance of young adults in the experimental group. The mean score of yogic training young adults group were found higher than the control group young adults, but mean score of yogic training young adults were found lower than the physical training young adults group. We cannot deny the fact that physical training has more effect on physical characteristics than physical training because any physical training is more effective than physical training on the physical characteristics of humans. The results of this study also point to the same. The result of present study is also on the line of the studies conducted by Malipatil, R. P. & Patil, S. S. (2016), It was drawn conclusions that after the training of yoga and physical exercise both training have improved physical and physiological Sharma A., & Parihar R. (2016), Results indicated that flexibility and endurance was improved significantly and thereby improved the academic performance of the students significantly for the experimental group irrespective of gender. The study has important implications for school students for employing yogic exercises in their school curriculum. Cao Z. B., Maeda A., Shima N. & et. al. (2007), These findings from the present investigation provide evidence of significant improvements in physical performance related to the risk factors of falling and safe gait strategy with a combined exercise intervention program in community-dwelling elderly women. The results suggest this exercise intervention could be an effective approach to ameliorate the risk factors for falls and to promote safer locomotion in elderly community-dwelling women.

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