

# THE EFFECTS OF PENCAK SILAT ACTIVITY ON THE PHYSICAL FITNESS OF CHILDREN WITH MENTAL RETARDATION

JUHANAINI, YUYUS SUHERMAN, HANU RESINURJATI

Special Education Departement Indonesia University Of Education & Special School  
For Children With Mental Retardation

BANDUNG, INDONESIA

## ABSTRACT

The aim of study was to investigate the effects of Pencak silat<sup>®</sup> on physical fitness of children with mental retardation. The subjects of this study were 12 children with mental retardation (7 boys and girl with age range from 11 to 16 years old who attend special school for mental retardation (SPLB-C YPLB) in Cipaganti Bandung Indonesia. The study was conducted using the pre test post test experimental design. Physical fitness factors include speed, endurance, agility, eye-hand coordination, eye-foot coordination, arm strength, leg strength and flexibility. The research finding shows that there was significant difference between pre test post test scores of the physical fitness factor ( $P < 0.05$ ). This study suggest that Pencak silat can increase the physical fitness of children with mental retardation.

**Key word:** Physical Fitness, Pencak Silat, Mental Retardation  
<sup>®</sup>Pencak Silat is a form of tradition martial arts which includes light movement.

## INTRODUCTION

Efforts to help mentally retarded children to achieve physical fitness are very much needed because physical condition is important to support everyday activities. Physical fitness relates closely with physical condition, meanwhile the physical condition depends on physical training. With optimum physical condition, hopefully the mentally retarded children will be able to do their physical duty without causing extreme tiredness, have more self confidence, and more prepared to face life challenges.

At the school for Mentally Retarded Children YPLB in Bandung, there are many mentally retarded children who show indications of weak physical condition, get tired easily, lack of movement, obesity problem, as referred by Cratts, 1974; Rarick, et al, 1976 performance of mildly retarded children in psychomotor areas such as static balance, dynamic balance, body perception, gross agility, locomotor agility, throwing, and tracking are inferior to those of non handicapped children. Besides, it also stated that the physical fitness and motor proficiency are below normal. Thus, mentally retarded children need forms of activity which can improve or maintain level of fitness required.

Pencak silat activity is a form of Indonesian cultural heritage which contain divine values, athletic values, as well as aesthetic values in the form of structurally arranged, harmonious, balance and rhythmic movement. The beautiful movement of Pencak silat is often displayed in cultural activities such as marriage ceremony, circumcision ceremony, and thanksgiving which are familiar to the Indonesian community. The athletic value of Pencak silat as a form of martial art depends upon interrelationship of motoric ability, both gross motoric and fine motoric. Based on the above explanation Pencak silat is very interesting to be studied to concretely learn whether Pencak silat activity contributes positively to improve the physical fitness of mentally retarded children. This factor is very important as one of school effort to improve service for the students.

## METHODOLOGY

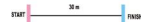
**Subjects**  
The subjects were 12 children with mentally retarded. Their age range from 11 to 16 years old who attend the special school for mentally retarded (SPLB-C) Cipaganti, in Bandung Indonesia. This study was conducted using pre test post test experimental design.

### Procedure

The research subjects were given pre test that covered speed, endurance, agility, eye-hand coordination, eye-foot coordination, arm strength, leg strength and flexibility.  
Furthermore the subject were given Pencak silat activities for one semester, two or three times a week for two hours. The activities was give repeatedly, the subjects followed any movement displayed by the teacher as well as by the researcher. The activities were designed to comprise of warming up including static stretch, running and dynamic stretch. The core activities which was Pencak silat. Finally the closing activity was static stretch.

After the subjects had attended the Pencak silat activities during one semester they were given post-test. To measure the level of physical fitness both in pre test and post-test the following tool and procedure were used:

### 1. Measuring speed by 30 m sprint



### 2. Measuring endurance by shuttle run



### 3. Measuring agility by zigzag running in 10 m circle



### 4. Measuring eye-hand coordination by having the subject Catch a drop pencil



### 5. Measuring eye-hand coordination by having the subject to do body movement from one place to another



### 6. Measuring arm strength by hit Naboya Meter<sup>®</sup>



### 7. Measuring leg strength by hit Naboya Meter



### 8. Measuring flexibility with Sit and Reach the Subject



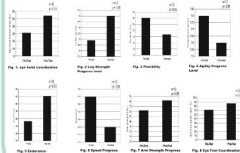
## PENCAK SILAT ACTIVITY BY CHILDREN WITH MENTAL RETARDATION



## RESULT

Based on the statistical analysis t-test of the physical fitness components, it is shown that component of speed, endurance, agility, eye-hand coordination, eye-foot coordination, arm strength, leg strength and flexibility differ significantly in pre-test and post-test ( $n=12$ ,  $df=11$ ,  $p<0.05$ ).

The study result suggest that the Pencak silat activities have positive effects on the physical fitness of with mentally retarded children in eight physical fitness components.



## DISCUSSION

After following Pencak Silat activities the physical fitness degrees children with mental retardation has significantly increase ( $P < 0.05$ ), it means the activities give positive effect on the retarded children physically.

The result of this research is that, Pencak silat activity which given to mentally retarded children concern to the component of physical fitness as the expert suggest it is relevant to the theory by Siedentop (1990 : 157), Davis at 1995 : 115. Taken from Chapter II, one of the AAHPERD (1999 : 7) The components of (health related) physical fitness are aerobic capacity (cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and body composition).

The physical fitness of children with mental retardation can be increased because of the movement of pencak silat which focus on muscular strength and strengthen upper part of the body (shoulder muscle, hand, and arm), middle part of the body (abdominal, waist, back and side/body), as well as lower part of the body (thigh, calf, leg). These influence area is the primary work ergosystem (Ergosystem Primer). It can be observed by the motion, especially the muscular stretching and the movement of the joints. It can also increase speed, agility, flexibility, of the anatomy component of physical fitness.

According to the physiology theory by Santoso Gatotjiyo (1997: 57-58), the ability of ergosystem primer determine individual physical fitness, contain of the skiled system, which are movement of the joints, muscular system (the contraction of power quality and muscle endurance), avorram and secondary ergosystem which contains of hemo-hidra-limfatis system, respirasi system and cardio muscular system.

Whereas Sapardi (1997 : 33), the human can develop strength, speed, endurance only by their muscle. The statement means that order to develop the systems will need of those more physical exercise, and one of those activity is Pencak Silat.

The Pencak Silat activity give chance for the children with mental retardation to move actively in the basic movement. Those basic movement are, eight side step pattern of pencak silat (yola langkah delapan pesjura mata angle), cross step (langkah silang), mincir movement (gerak mincir), standing ready (sikap pasang), berangsal movement (gerak berangsal), hit (pakulan), kick (tendangan), ludo-ludo (kudo-kudo), dipence, aerial movement of the military of two or more kind of movement multilaterally by using the learning time optimally, with planned movement, directed and continuously.

Pencak silat activity will spur the work of ergosystem primary and secondary, by increase the work quality, therefore it will influence the physical fitness and the ability of muscle function to increasing accuracy and balance movement that has been one of motoric problem of children with mental retardation. The research also support The Rarick and colleagues who said that Three 20 minute activity sessions each week can be effective in improving strength, cardiovascular endurance, flexibility, and other fitness components in the mildly and moderately retarded (Rarick, et al, 1976; Rarick & McQuillan, 1997 in Ronald W and Paul J, 1982).