

**IDENTIFYING THE LEVEL OF FLEXIBILITY, SPEED AND AGILITY AMONG VISUALLY  
IMPAIRED STUDENTS**



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## ABSTRACT

Visually impaired and blindness can cause low level of physical capacity, posture problems, orientation difficulties, depressions and problems with balance. Previous studies had indicated that these problems existed among the visually impaired and blind children. Zabriskie and McCormick (2001) defined visually impaired individual as having a limited field of vision either in a tunnel vision stage where the individual have the capability to see limited light source or can detect a minimal light source that aid them in finding direction. According to Ellis (2001) and Palmer (2006), visual impairment referring to individual that have the field of vision at the rate of 40% due to different congenital eye diseases that have a very minimal mobility capacity. Therefore, the needs to do research study on the fitness levels of the visually impaired in Malaysia is crucial since there are limited data in this area especially those related to the motor abilities of the handicapped individuals. Most of the studies done in this area are related to the education development of the VI and TB which focus on the educational instructions, visual aids apparatus, program structures and mainstream programming. However, there are no studies focus on the fitness levels of the VI and TB especially those measuring the level of flexibility, speed and strength of the handicapped individuals

**Objectives of study:** To compare the fitness level between genders and classification of the totally blind and visually impaired children in Special Education Schools in Malaysia.

**Methodology:**

**Study design:** The study design can be characterized as a randomized experimental study which employed a cross-sectional method to collect data.

**Sample:** Sample for this study was selected using a convenient sampling technique since the pool of sample for this study is very limited and difficult to recruit. Subjects n=110 (male-65, female-45) were selected from special school education setting represented by the state school for visual impairment students (Sekolah Pendidikan Khas Seksyen 18, Shah Alam and Sekolah Pendidikan Khas, Setapak, Kuala Lumpur).

**Method of data collection:** Data was collected using 4 physical fitness tests which were modified to suit the conditions. The tests consisted of 20M guided shuttle run, handgrip strength, sit-and-reach test and stork stand test.

**Statistic analysis:** A parametric statistic was used to analyze the data. An Independent Sample T-test was used to determine the differences between groups and MANOVA was used to determine the the within and between subjects effects. A significant level  $p < 0.05$  was set for all tests.

**Results:** The Independent Sample T-test results showed that there are not significant different in fitness tests between genders (male and female) and classifications (totally blind and visually impaired). The MANOVA results showed that there are no between and within subject's effect between genders and classifications. The results indicated that the totally blind and the visually impaired children have low fitness level.

**Conclusion and recommendation:** The findings indicated that the fitness level of totally blind and visually impaired children in Malaysia was low and the children practiced a sedentary lifestyle. This finding is consistent with findings from the past studies which also indicated the same results. Further study in this area need to be done to determine the effect of low fitness level and sedentary lifestyle of these children.

**Key words:** physical fitness, visually impaired children, totally blind children, genders and classifications.

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## CHAPTER 1

### INTRODUCTION

#### 1.0. Physical activity constrains for the visually impaired

Visually impaired and blindness can cause low level of physical capacity, posture problems, orientation difficulties, depressions and problems with balance. Previous studies had indicated that these problems existed among the visually impaired and blind children. Zabriske and McCormick (2001) defined visually impaired individual as having a limited field of vision either in a tunnel vision stage where the individual have the capability to see limited light source or can detect a minimal light source that aid them in finding direction. According to Ellis (2001) and Palmer (2006), visual impairment referring to individual that have the field of vision at the rate of 40% due to different congenital eye diseases that have a very minimal mobility capacity . Fitness can be defined as the capacity of performance without overtiredness. In other words, Physical fitness is the capability to function competently and efficiently. The fitness levels of school-aged children are influenced by healthy lifestyle including physical activity participation and physical education settings (Chung, 2008). Therefore, each individuals need to maintain at least minimal levels of physical fitness prior to experience the many benefits associated with adequate fitness. Recent of the years, children may be fatter, less fit and more susceptible in chronic disease. Because in these early adolescences and middle adolescent may be important in ensuring maintaining fitness during adulthood. Healthy lifestyle is assumed have regular physical activity and enhanced dietary habits is beneficial for health in terms of reduced risk of morbidity and mortality from a number of chronic disease (Matton, 2006; 114[1]). Children with disabilities are typically have decreased activity as well as fitness levels. This statement has supported by Fragala-Pinkham (2006), the percentage of children and youth with disabilities typically have decrease fitness and normally prevents them to participating with their peers involve in any