

## ORIGINAL ARTICLE

## UPPER AND LOWER LIMBS DISABILITY AND PERSONALITY TRAITS

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**Background:** It is believed that the study of personality has the potentials to enhance our prognostic abilities and can better to expose the etiology of mental illness through the relationship of revealed mechanisms. The focus of this study was to investigate and compare the habitual patterns of behavior, thought and emotions of upper and lower limb physically disabled students in terms of personality traits. **Methods:** This cross sectional study consisted of 100 upper limbs and lower limbs disabled students taken from Kingston school Inclusive Education System Abottabad, Mashal special education system Haripur, Syed Ahmed Shaheed special education center Abottabad, Al-Munir Foundation Mansehra and Hera Special Education System Haripur and 100 normal students taken from Islamic International School Abottabad, Falcon Public School Haripur, Iqra Academy Mansehra and Alhamd International School Haripur of Hazara Division by purposive sampling technique. This study was conducted during the month of June 2013 to May 2014. Goldberg five big personality scale was used for measuring personality traits of physically disabled and normal students. **Results:** The significant difference of personality traits scores between physically disabled students ( $M = 139.2$ ,  $SD=12.0$ ) and normal students ( $M=184.5$ ,  $SD=13.2$ ),  $t(198) = 25.3$ ,  $p < .05$  was observed. **Conclusion:** Normal students have high scores as compared to physically disabled students on big five traits, i.e., Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experience.

**Keyword:** Upper limb disability, Lower limb disability, Personality traits

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## INTRODUCTION

Disability is a global problem and about 500 million people in the world are suffering from disability.<sup>1</sup> Like normal individual they have feelings, sensation, thinking ability, planning, management.<sup>2</sup> In each and every society there is one in ten, suffering from disability, including physical disability. It is stated a helpless condition in which person deprived from the physical fitness goes behind the standard and norms of society.<sup>3</sup>

Physically disabled people are deprived of their basic rights so they cannot meet their needs of standard survival. These people are ignored by their families, by educational institutions, as well as they are considered valueless as a work place. For the sake of their rights United Nation worked on rights of physically disabled people that enhanced disabled people in various settings of life. This brings a change in civil society and develops a positive sense toward physically disabled people.<sup>4</sup>

There are various types of disabilities such as physical disability, sensory disability, vision impairment, hearing impairment, olfactory and gustatory impairment. Physical disabilities include limb disabilities, such as upper and lower limb disability, paraplegia, quadriplegia, hemiplegic, cerebral palsy, muscular dystrophy, polio, multiple sclerosis, osteogenesis imperfect and spinal bifida amongst others. Present research deals with upper

and lower limb disability. It implies there is a problem with physical activities such as walking, reaching, lifting or carrying things, but does not cover vision impairments or hearing impairments on their own. In this definition, physical disability is taken to exclude a sensory disability that is blindness and vision impairment, deafness and hearing problems, unless these are present along side another disability.

Larsen and Buss<sup>5</sup> defined personality as the set of psychological traits and mechanisms within the individual that are organized and relatively enduring that influence his or her interactions adaptations to the intra-psychic, physical, and social environments. Personality is expressed in different situation with stability of emotional, interpersonal, experiential, attitudinal, and motivational styles. Funder<sup>6</sup> described personality as prototype of thought, emotion, and behavior.

According to Larsen and Buss<sup>5</sup> personality traits are tools that help in describing individual and individual differences and also impede in predicting individual's behavior. Secondly, they also explain an individual behavior. The personality is agent, for describing, predicting, individual's behavior in different situations.<sup>7</sup> Literally Psychological traits are structured and stable. Personality is structured and quite stable because it includes decision rules with respect of different situation<sup>8</sup>, however the some

situations may be critical and can overwhelm these Psychological traits. The interaction of an individual with various situations is a complex phenomenon and difficult to describe it and it includes organizing and selecting the stimulus from the situation. Personality traits are psychological in nature and state the stable characteristics of individuals which provide reasons why individuals behave in a certain way. These traits assess and determined an individual's cognitive, emotional and behavioral tendencies.

The nature of the environment and personalities of people varies, forms of interaction also vary, hence people need to interpret a situation and go through about it and direct the ways to impact on other individuals. Sometime an individual has direct threat to their lives. Individuals are threat oriented, goal directed, coping, and they can adjust themselves with critical situations and challenges of life by adjusting themselves with various condition of their environment, this is called adaptive functioning and is the main feature of personality. They have the ability of adjusting with intra psychic, social and physical environment. They can face social challenges, and they do struggle for belongingness, esteem and love.

Larsen and Buss<sup>5</sup> personality can be defined by various features. These domains are dispositional, cognitive, experiential, biological, social cultural context and adjustment domains. Cognitive experiential domain concerns with conscious behavior such as, emotion, feelings, desires, and beliefs. Adjustment domain states to the competing, acquiring, and adjusting in daily changeable life events. Intra-psychic domain referred with mental phenomena of personality which works at an unconscious level. Domain deals with the individual differences are called dispositional domain. Some personality characteristics describe human is collections of biological coordination are called biological domain and deal with Psychophysiology of an individual personality.<sup>9</sup>

The Five Factor Model (FFM) evaluates the necessary traits of personality. It has been widely used by many researchers. It provides an appropriate structure of personality with clear identification of organization to interpret personality of an individual. Like other psychological tool, it's also has importance for assessing individual.

It measures individual differences on bases of five factors, these factors are described as, extraversion, agreeableness, openness, conscientiousness and imagination. These five dimensions have validity and reliability with accurate assessment of personality traits and has widely used in factor analysis with standardization of various

populations in various situations.<sup>10</sup> FFM has been applied on students and adults of many populations with diversity of culture and behaviors. Five factor model is reliable and applicable at different age level.<sup>11</sup>

The empirical structure of FFM is also claimed to be theoretical dimensions of personality. FFM model was highly supported by many personality psychologists and used it as a valuable and authentic model of describing personality.<sup>12</sup> In cross cultural studies Five Factor Model attained remarkable maintenance and more chances of applicability by personality psychologists.<sup>13</sup> However, the analysis of the study by Aziz and Jackson<sup>14</sup> suggested that the Five Factor Model is more forceful as compared to three factor model in the Pakistani data.

Catherine and Fichten conducted a study on college students, for measuring their personality characteristics. Physically disabled students showed both socially approved and undesirable personality characteristics.<sup>15</sup> Margaret concluded that difference existed among the personality traits of physically disabled students and normal students such as physically disabled students were less effective, confused and dependent.<sup>16</sup>

Researchers showed that number of disabled people is increasing day by day because of progressively aging individuals and by the influence of conflict that created by aggressiveness. Naturally, that disabled people exist in every society in the world, but most of them are found in low income countries.<sup>17</sup>

Disabled people have reduced capability of activity due to many difficulties they encounter in life. In every society of the world, persons with disabilities continue to face obstacles in both social and economic barriers. They are prevented from exercising their rights and freedom and this makes it difficult for them to participate fully in society.<sup>18</sup>

Researchers concluded from their investigation that disabled children have interpersonal incompetency, poor self-identity, and low confidence and poor decision making abilities. They often suffer from anxiety and shifting identity.<sup>19</sup>

## MATERIAL AND METHODS

A cross sectional survey research design has been used to collect the information from physically disabled students and normal students (half male and half female) having the age range of 13–25 years. The education level of the participants was middle to intermediate. The sample of study consisted of 100 upper limbs and lower limbs disable students and 100 normal students taken from the different special education centers and public schools of Hazara

Division by purposive sampling technique. The sample on the basis of gender, age, institutions and education was equally distributed as normal students compared to physically disabled students. In disabled categories half of the sample consisted of upper limb disability and half of the disabled sample consisted of lower limb disability.

The names of the institutions, where from the physically disabled students were the part of the sample was Kingston school Inclusive Education System Abottabad, Mashal special education system Haripur, Syed Ahmed Shaheed special education center Abottabad, Al-Munir Foundation Mansehra, Hera Special Education System Haripur. The name of the public school, where from the normal students were the part of the sample were Islamic International School Abottabad, Falcon Public School Haripur, Iqra Academy Mansehra, Alhamd International School Haripur. This study was conducted during the month of June 2013 to May 2014.

For measuring personality of physically disabled students and normal students' personality scale of Goldberg<sup>20</sup> consisting of 50 items and having Cronbach's alpha reliability, .89 have been used. Scale base on five factor model. The five-factor model has emerged as being an important development in the study of individual differences. The scale measures the five personality characteristics such as, Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experience. Extraversion persons are assertive, active and talkative, like excitement and stimulation, and tend to be cheerful in disposition. They are upbeat, energetic, and optimistic. Agreeableness is fundamentally altruistic, sympathetic. Conscientious individuals are purposeful, strong-willed, determined, scrupulous, punctual, reliable, consistent, and is associated with academic and occupational achievement. Emotional Stability includes traits like a less tense, no moody, and no anxious. Openness to Experience includes traits like having wide interests, and being imaginative and insightful.<sup>21</sup> Item no 1, 6, 11, 16, 21, 26, 31, 36, 41, and 46 measures extraversion. Item no 2, 7, 12, 17, 22, 27, 32, 37, 42, and 47 measures Agreeableness. Item no 3, 8, 13, 18, 23, 28, 33, 38, 43, and 48 measures Conscientious. Item no 4, 9, 14, 19, 24, 29, 34, 39, 44, and 49 measures Emotional Stability. Item no 5, 10, 15, 20, 25, 30, 35, 40, 45 and 50 measures Openness. For the present study Urdu translation of personality test has been used and Cronbach's alpha obtained is .88 that shows good internal consistency of the scale. The items were rated on a 5 point scale ranging from 1=strongly disagree, 2=disagree, 3=neutral, 4= agree and 5=strongly agree. Item no 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26,

28, 29, 30, 32, 34, 36, 38, 39, 44, 46, 49 are negatively scored items.

## RESULTS

Before the analysis of data, the reliability of the scale regarding the collected data was estimated that was presented in table-1, which shows the Cronbach's alpha reliability coefficient of personality scale and five domains Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experience of personality scale. The Cronbach's alpha reliability coefficient for personality traits scale is .88. The alpha reliability of domains, range from .54 conscientiousness to .87 extraversion. Conscientiousness shows moderate alpha reliability coefficients whereas the overall result demonstrate high internal consistency of the instrument as reflect by alpha coefficients.

Table-2 shows the mean, standard deviation and *t*-value of scores of personality of physically disabled students and normal students on the personality scale. There is a significant difference between the scores of personality of physically disabled students (M=139.2, SD=12.0) and normal students on the personality scale (M=184.5, SD=13.2), *t* (198) =25.3, *p*<.05.

Table-3 illustrates the result of *t*-test for measuring difference on five domains of personality between physically disabled students. It indicates that normal students score high on Extraversion (M 37.6, SD=7.9) as compared to physically disabled students on extraversion (M=27.1, SD=3.80), *t* (198)=10.4, *p*<.05. On Agreeableness scores of physically disabled students is (M=28.2, SD=5.75) and of normal students is (M=40.4, SD = 3.86), *t* (198)=17.5, *p*<.05. On Conscientiousness scores of physically disabled students and normal students are (M= 9.8, SD=4.50), (M=33.5, SD=3.8), *t* (198)=6.12, *p* < .05. Similarly the scores of normal students are also high on Emotional Stability (M=34.7, SD=7.06) and scores of physically disabled students are low (M=27.7, SD=3.85), *t* (198)=8.74, *p*<.05. On Openness to Experience show the scores of physically disabled students (M=24.9, SD=4.27) and normal students (M=34.1, SD=3.96), *t* (198)=15.6, *p*<.05.

**Table-1: Alpha Reliability Coefficients for Personality Traits Scale and Five Domains of Personality Scale (n=200)**

Scale	No. of items	Cronbach's alpha coefficients
Personality Traits Scale	50	.88
Extraversion	10	.87
Agreeableness	10	.69
Conscientiousness	10	.54
Emotional Stability	10	.72
Openness to Experience	10	.67

**Table-2: Difference between personality of physically disabled students and normal students on personality traits scale (n=200)**

Disabled students n=100		Normal students n=100		t	P
M	SD	M	SD		
139.2	12.0	184.5	13.2	25.3	.000

df=198, p<.05

**Table-3: Differences between five personality domains of physically disabled students and normal students (n=200)**

	Disabled Students n=100		Normal Students n=100		t	P
	M	SD	M	SD		
<b>E</b>	27.1	3.80	37.6	7.9	10.4	.000
<b>A</b>	28.2	5.75	40.4	3.86	17.5	.000
<b>C</b>	29.8	4.50	33.5	3.8	6.12	.000
<b>ES</b>	27.7	3.85	34.7	7.06	8.74	.000
<b>O</b>	24.9	4.27	34.1	3.96	15.6	.000

Note: E=Extraversion; A=Agreeableness; C=Conscientiousness; ES=Emotional Stability; O=Openness, df=198, p<.05

**DISCUSSION**

The first objective of this study was to know the difference between personality traits of physically disabled students and normal students. According to the results of this study it was observed that normal students scored high on the personality trait scale (M=184.5, SD=13.2) as compared to physically disabled students on a personality trait scale (M=139.2, SD=12.0),  $t(198)=25.3, p<.05$ . Previous study of Margaret<sup>16</sup> yielded the same result that there was a significant difference between the personality of physically disabled children and normal children. A difference existed among the personality traits of both groups such as physically disabled students were less affective, confused and dependent. Comer & Pivlivian<sup>22</sup> suggested the difference in personality of physically disabled and normal as physically disabled people’s experiences discomfort in interaction to the society. They terminated an interaction sooner while normal people have strong societal interaction. Physical disability had a profound effect on one’s quality of life, social intercourse and emotional well-being. Physically disabled people differ from normal individuals in various aspects of life.<sup>23</sup> Loneliness have been found to be a frequent companion of those afflicted with physical disabilities.<sup>24</sup> The traditional view of disability often focuses on the individual, highlighting incapacities or failings, a defect, or impairment. This focus creates obstacles to participate on equal terms since an individual who seems to lack certain capacities may not be able to attain autonomy.<sup>25</sup>

The second objective of this study was to know the difference between physically disabled students and normal students with reference to Extrovert, Agreeableness, Conscientiousness,

Emotional Stability and Openness to experience respectively. It was observed in this study that normal students scored high on Extraversion (M=37.6, SD=7.9) as compared to physically disabled students on Extraversion(M=27.1, SD=3.80). On Agreeableness mean score of physically disabled students was (M=28.2, SD=5.75) and of normal students was (M=40.4, SD=3.86). On Conscientiousness mean scores of physically disabled students and normal students were (M=29.8, SD=4.50), (M=33.5, SD=3.8). Similarly the mean scores of normal students were also high on Emotional Stability (M=34.7, SD=7.06) and mean scores of physically disabled students were low (M=27.7, SD=3.85). On Openness to Experience showed the mean scores of physically disabled students (M=24.9, SD=4.27) and normal students (M=34.1, SD=3.96).

A study was conducted for measuring five factors of personality, such as cultural context, Conscientiousness, Extraversion, Agreeableness, and Emotional Stability of college students. This study consisted of two groups. One group consisted of physically disabled students and the second group was consisted of normal students. These students were rated on five factor test by themselves as well as about each others. Self-rated scores showed that there was a difference in personality traits of normal and physically disabled students. Counter rating results showed that normal children were high in traits of Extrovert and Emotional stability and physically disabled students were more cultural and Conscientious.<sup>26</sup>

In literature this difference is revealed by a study of Booth<sup>27</sup> physically disabled students and normal students were rated on five factor tests by themselves as well as about each others. Self-rated scores show that there were differences in personality traits of normal and physically disabled students. Counter rating results showed that normal children were high on five domains of personality traits as compared to physically disabled children. The finding of Steinhausen *et al.*<sup>28</sup> yields similar results that the difference existed between the personality traits of normal and physically disabled people. Physically disabled children were less sociable and less emotional integration in the different factorial test. Richardson *et al.*<sup>29</sup> found that physically disabled people made more negative statements about themselves. They seemed to be more anxious and emotionally unstable.

These findings of Byrne<sup>30</sup> showed relatively low participation rates in life activities by young people with disabilities due to less self-assurance and poor interaction. Research on identity, self, and disability Shakespeare<sup>31</sup> indicates that persons with

impairments often suffer loss of self; they go through a process during which they negotiate their lives in such a way as to be as ordinary as possible and so retain some contacts with desired life-worlds.

## CONCLUSION

Normal students have high scores as compared to physically disabled students on Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experience. Consequently, on the bases of the outcome of this study and previous studies finding, we have concluded that disabled students are at greater risk for anxiety disorders, substance abuse disorders and major depression.

## AUTHOR'S CONTRIBUTION

TJ, SFK, AR and SA contributed equally in designing, literature review, data collection, data interpretation, manuscript writing and proof reading.

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