

## **A COMPARATIVE ANALYSIS OF IMPACT OF PLAYING SPORTS ON THE PSYCHOLOGICAL WELL-BEING OF VISUALLY-IMPAIRED PEOPLE**

Sukhmanni Bhandari

Advisor: Ms. Rashmi Shaju

Modern School Barakhamba Road New Delhi

DOI: 10.46609/IJSSER.2022.v07i07.010 URL: <https://doi.org/10.46609/IJSSER.2022.v07i07.010>

Received: 5 July 2022 / Accepted: 14 July 2022 / Published: 21 July 2022

### **ABSTRACT**

Playing sports is important for both physical and mental health wellbeing. The aim of this study was to find out whether playing sports improves psychological well-being in visually-impaired people or not. The present research work is a quantitative study in which a survey method was used. The study consisted of a total of 67 participants (M=38, F=29) who filled a 28-item scaled General Health Questionnaire (GHQ-28). This scale, developed by Goldberg and Hillier, is used to measure the psychological wellbeing of individuals. After the scoring for each athlete was done, descriptive statistics and inferential statistics was carried out and appropriate conclusions were drawn. The higher the score depicts a poorer mental well-being of the respondent. The mental health well-being among visually-impaired individuals who play sports and those who do not appears to be almost at the same level. However, differences in well-being can be seen in the 4 different subdivisions i.e. social symptoms, anxiety / insomnia, social dysfunction and depression. This study may also help promote and popularize adoption and playing of sports for visually-impaired individuals. It could be used in schools to encourage students to play sports from a young age. Organizations including non-government organizations working with visually-impaired individuals can promote their involvement in physical activities and thus enhance the mental well-being of the subjects. This research could also be used in awareness programs.

**Keywords:** Visually-impaired, somatic symptoms, anxiety / insomnia, social dysfunction.

## **INTRODUCTION**

Centers for Disease Control and Prevention (CDC) define vision impairment as a condition where the visually-impaired (VI) person's eyesight cannot be corrected to a normal level. (Dr. Mandal, 2019) Globally, nearly 2.2 billion individuals suffer from visual impairment out of which India accounts for 40 million, nearly 20 % of the world's total visually-impaired. (Naveen S Garewal, 2019). In the above 50 years old age group, the prevalence of blindness stood at 11.6% for the above 80 years age-group, 4.1%, 1.6% and 0.5% for those between 70 and 79, 60 and 69, and 50 and 59 years old categories respectively. (Dr. Rajendra Prasad Center, 2019)

The term visually-impairment includes the completely blind and those that have a low vision as per medical agreement, which is evolving continually. Hence the numbers considered as visually-impaired changes as it hinges on the most currently acceptable definition. (Dandona and Dandona, 2006) The visually-impaired find it difficult and troublesome to undertake their daily-life (routine) activities such as walking, commuting and reading. With the social stigma present in India the visually-impaired find it very hard to find employment. Studies have shown that visual disability affects a person's Quality of Life (QOL). One such study conducted by the International Journal of Science and Research (IJSR) shows that less than 47% of the subjects studied were satisfied by their Quality of Life because of the existing work atmosphere and infrastructure facilities. (Rao and Shetty, 2014)

Evidence indicates that the mental health condition of visually-impaired individuals is not as good and sound when compared to the normally-sighted. (Van Der Aa, H. P., Margrain, T. H., Van Rens, G. H., Heymans, M. W., & van Nispen, R. M., (2016).

This global trend of disturbed mental health among visually-impaired individuals is rampant worldwide including India. This research paper is an effort to draw comparison in the mental well-being of visually-impaired individuals who play sports and those who do not, information on which was dismal and data had to be collected to draw an inference. One would assume that since the impact of any sport would be positive in general on everyone, it would hold true for the visually-impaired too. This paper hopes to address the second part and hopes to establish the positive correlation between sport and improved mental well-being of the visually-impaired in particular. As indicated by most studies, playing sports improves physical and mental well-being. It reduces stress and anxiety amongst individuals. Visually-impaired individuals gravitate towards lower physical activity levels when compared to normally-sighted individuals without disabilities. Studies have shown that playing sports makes a significant contribution to the QOL of a person. Playing sports helps both abled and disabled to improve chronic diseases and overall

well-being. Explicit evidence on the benefit of sports (through the physical processes associated with it such as intensity of stimulation) on the mental health of the visually-impaired individuals exists. Visually-impaired individuals can engage in recreational and sporting activities such as athletics, judo, blind-cricket, 5-a-side football, swimming, goal-ball, etc. Playing sports also improves motor skills and self-esteem. (Monaci, Miccinesi, Vannuzzi, Sgambati, Manetti, Marini, 2019).

For a developing country like India to transform itself into a developed economy, it is imperative that the marginalized segments of society be treated at par and given equal opportunity. About 33% of visual-impaired individuals experience subclinical symptoms namely depression and anxiety. While between 5% and 7% experience a major depressive disorder about 7% have an anxiety disorder. These percentages are way higher when compared to individuals with healthy vision. (Hilde P A van der Aa, Tom H Margrain, Ger H M B van Rens, Martijn W Heymans, Ruth M A van Nispen, 2015).

Impaired vision, even in children, is connected to psychological disorders that can lead to social distancing (that can induce feelings of loneliness and social isolation) and mental tiredness. (Gertrudis I J M Kempen, Judith Balleman, Adelita V Ranchor, Ger H M B van Rens, G A Rixt Zijlstra, 2012) General Health Questionnaire-28 (GHQ-28), a recognized and globally acceptable psychometric screening tool, has been used in this study to identify common psychiatric conditions. And based on the results obtained, inferences were drawn.

Globally growing evidence suggests that practicing a sporting activity is important for holistic health: physical and mental. But, up to 2019 at least, conclusive information and evidence on the impact of practicing a sport on the mental well-being of either non-competitive visually-impaired individuals or those visually-impaired competitive-sportspersons with a recognized track-record, still does not exist. (Kohda, Monma, Yamane, Mitsui, Ando, Jesmin and Takeda, 2019).

If the data collected and analyzed by this research paper points us in the direction that the visually-impaired (VI) athletes enjoy an enhanced mental well-being as compared to the visually-impaired non-athletes, then we need to ensure that more VI individuals are encouraged to play some form of sport as that would most likely improve their Quality of Life.

## **METHODOLOGY**

### **Aim of the study**

The present study explores the mental health well-being of visually-impaired individuals who

play sports versus those visually-impaired individuals who do not play sports.

### **Research Design**

The present research work is a quantitative study in which a survey method was used.

### **Consent and Ethical Issues**

Strict moral and ethical guidelines were followed for this study. The respondents had voluntarily submitted their data for this study under our express promise to respect and maintain confidentiality and privacy of the respondents. We maintained non-disclosure of the data including any identifiers (name or pictures) to any third party.

### **Sample**

The study consisted of a total of 67 participants, residing in New Delhi or other states in India. Out of which 29 were female and 38 male. The mean age of the respondents was 24.25 years.

### **Tools used**

We used a 28 question self-reporting questionnaire known as The General Health Questionnaire -28 (GHQ-28) as the tool to screen the visually-impaired respondents' mental well-being. The GHQ-28 is a widely used tool that helps identify respondent's ability (or inability) to perform normal functions; and also helps assess any signs of any new and disturbing conditions. (Goldberg & Hillier, 1979).

The questions are inherently designed to identify whether the respondent's current mental state diverges from his/her normal state. Each of the 28 questions can be answered using any one of the following options:

- “1” signifying “Not At All”,
- “2” signifying “No More than usual”,
- “3” signifying “More than usual”, and
- “4” signifying “Much More than usual”.

To derive conclusions we have used the LIKERT scoring procedure (1, 2, 3 and 4). The higher the score depicts a poorer mental well-being of the respondent. The total scale score ranges from

28 to 112. Thus a total of 4 scores were drawn for analysis. Some examples of the Questions that were used were: *Have you recently been feeling perfectly well and in good health? Have you recently lost much sleep over worry?"*

The scale had 4 further sub-scales to assess the following symptoms:

1. Physical or somatic (were inherently assessed by Questions 1 to 7)
2. Anxiety or insomnia (were inherently assessed by Questions 8-14)
3. Social troubles (were inherently assessed by Questions 15-21)
4. Severe depression (were inherently assessed by Questions 22-28).

### **Data Collection Procedure**

A Google form version of the GHQ-28 was created. It was distributed amongst visually-impaired individuals who play sports and visually-impaired individuals who do not play sports by The Blind Relief Association, Delhi. Once the responses were received, the data was carefully analyzed.

### **Data Analysis**

A Google form version of the GHQ-28 was created and distributed among the visually-impaired respondents. The GHQ-28 is a widely used tool that helps identify respondent's ability (or inability) to perform normal functions; and also helps assess any signs of any new and disturbing conditions. The questions are inherently designed to identify whether the respondent's current mental state diverges from his/her normal state. Each of the 28 questions can be answered using any one of the following options:

- “1” signifying “Not At All”,
- “2” signifying “No More than usual”,
- “3” signifying “More than usual”, and
- “4” signifying “Much More than usual”.

To derive conclusions we have used the LIKERT scoring procedure (1, 2, 3 and 4). The higher the score depicts a poorer mental well-being of the respondent. The total scale score ranges from

28 to 112. After the scoring for each athlete was done, descriptive statistics, t tests for all 4 sub categories and graphical representation of mean were taken out and appropriate conclusions were drawn.

**RESULTS & DISCUSSION**

The aim of the study was to explore the impact of playing sports on the mental well-being of visually-impaired individuals. In order to carry this out descriptive statistics and t tests were carried out to analyze the data. Different subdivisions such as somatic symptoms, anxiety / insomnia, social dysfunction, and severe depression were assessed.

**Table 1 Mean, Standard Deviation, Mode and Median measuring the GHQ score of VI individuals who play sports and who do not play sports.(N=67)**

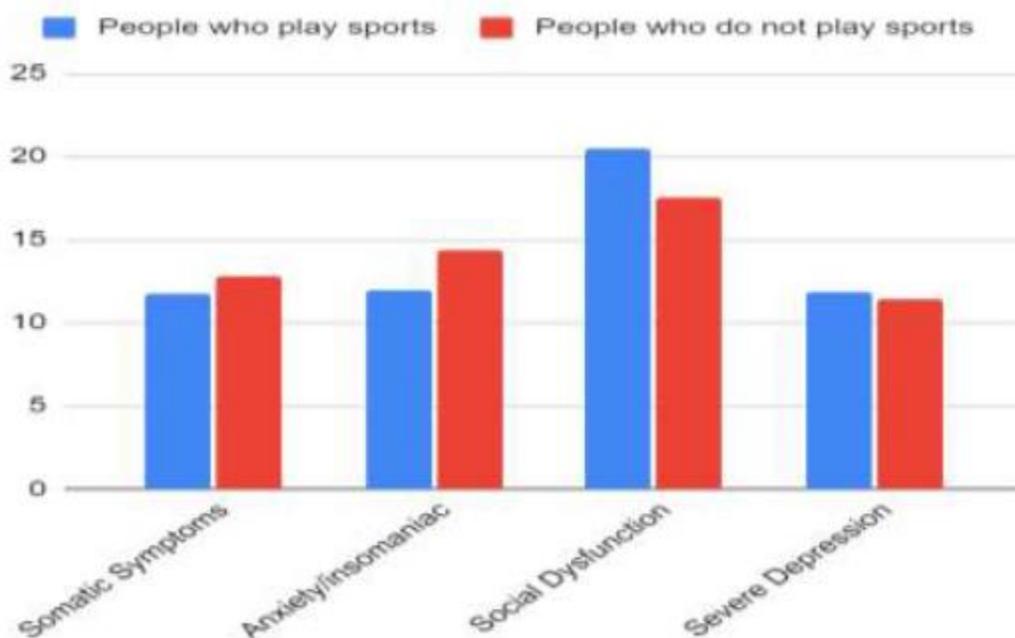
Visually-impaired individuals who play sports and who don't play sports	n	GHQ score			
		Mean (M)	Standard deviation (SD)	Mode	Median
VI individuals who play sports	33	56.06	4.894	58	56.5
Vi individuals who do not play sports	34	56	11.24	57	57

Table 1 depicts the overall score of the General Health Questionnaire of Visually-impaired individuals who play sports (M= 56.06, SD= 4.89, the median=56.5 and mode=58) while for the Visually-impaired individuals who do not play sports (M= 56, SD= 11.24, the median=57 and mode=57). It is evident that there is a negligible difference between the overall mental health well-being of visually-impaired individuals who play sports and those who don't. This could be because of small sample size hence, we cannot infer or generalize.

Sports do improve your well-being. A study that contrasts our findings, and applies both to

adults and children, points out that we as individuals have certainly become less physically active in our daily lives and are increasingly substituting the ‘normal daily physical activity’ with organized exercise and training. Nonetheless, growing evidence is suggesting that the advantage of being active, even though moderately, is far superior to adopting an inactive or sedentary lifestyle. (Malm , Jakobsson & Isaksson, 2019).

**Figure 2: Graphical representation of mean scores of Visually-impaired individuals who play a sport and those who do not play a sport on the 4 different subscales of General Health Questionnaire (N= 67).**



*Note, VI individuals who play a sport = 33, and VI individuals who do not play a sport = 34.*

Figure 2 is a graphical representation of different subdivisions of GHQ including somatic symptoms, anxiety / insomnia, social dysfunction and depression. It shows the psychological well-being of visually-impaired individuals who play sports versus those who do not play any sport.

Physical or somatic symptom disorder occurs when an individual feels significantly depressed from physical symptoms, such as pain or weakness or shortness of breath, and has abnormal and excessive thoughts, feelings and behaviors relating to them; so much so that it interferes with daily functioning (Muskin, 2021).

Anxiety is the body's natural response to stress and it is a feeling of fear or uneasiness about what's coming next. Insomnia is a condition where there is trouble sleeping and/or staying asleep.(Scott,2019).

Visually-impaired individuals who play sports have lower somatic symptoms and anxiety/insomnia namely 11.79 and 11.91 respectively as compared to VI individuals who do not play a sport namely 12.75 and 14.33 respectively.

The graph also represents the scores on social dysfunction and severe depression. Social deficits could be broadly defined as impairments in the subject's capacity to integrate behavioral, cognitive, and affective skills to flexibly adapt to diverse social contexts and demands. (Bierman and Welsh, 2000) .

Depression (major depressive disorder) is a common and serious medical illness that negatively affects how one feels and acts. (Torres,2020).

VI individuals who do not play a sport have lower social dysfunction and depression i.e. 20.44 and 11.82 as compared to VI individuals who play a sport i.e. 17.54 and 11.42. Hence, there is a difference in the well-being of VI individuals who play sports and those who don't in these four subdivisions.

In a study conducted by Cambridge University, playing sports reduces depression, anxiety and stress in individuals; and thus improves the well-being of a person. Also there is now good evidence that aerobic and resistance exercise enhances mood states, and weaker evidence that exercise can improve cognitive function (primarily assessed by reaction time) in older adults. (Fox,2007)

**Table 2: Summary of Independent T-test Analysis between visually-impaired athletes and visually-impaired non-athletes on variables suffering from somatic symptoms (N=67)**

Source	t		P	
	M	V		
VI individuals who play a sport	11.79	3.19	1.9	0.09

VI individuals      12.75      7.8  
 who do not play  
 sport

Note.\*p < .05

**Table 3: Summary of Independent T-test Analysis between visually-impaired athletes and visually- impaired non-athletes on variables suffering from anxiety and insomnia (N=67)**

Source			t	p
	M	V		
VI individuals who play a sport	11.91	3.96	1.99	0.009
VI individuals who do not play a sport	14.33	24.17		

Note.\*p < .05

Table 2 depicts Visually-impaired individuals who play a sport (M=11.79) reported lower somatic symptoms than VI individuals who do not play a sport (M=12.75),  $t(65) = 1.9, p < .05$ . It can be observed that individuals who play sports have better well-being i.e. lesser pain, weakness or shortness of breath as compared to those who do not play sports.

Table 3 depicts Visually-impaired individuals who play a sport (M=11.91) reported lower anxiety/ insomnia than VI individuals who do not play a sport (M=14.33),  $t(65) = 1.99, p < .05$ . It can be observed that individuals who play sports have lesser stress, fear or difficulty in sleeping as compared to those who do not play a sport.

On the similar lines, in a study conducted, it was found that individuals who play sports have

better physical health as compared to those who don't play a sport. According to this study, playing sports reduces stress, improves mood, has positive long term mental effects (Brennan,2021)

**Table 4: Summary of Independent T-test Analysis between visually-impaired athletes and visually- impaired non-athletes on variables suffering from social dysfunction (N=67)**

Source			t	p
	M	V		
VI individuals who play a sport	20.44	12.98	1.998	0.008
VI individuals who do not play a sport	17.54	24.7		

Note.\*p < .05

Table 4 depicts visually-impaired individuals who play a sport (M=20.4411) reported higher social dysfunction than visually-impaired individuals who do not play a sport (M=17.5454),  $t(65) = 1.99$ ,  $p < .05$ . It can be observed that visually-impaired individuals who play sports have better social relationships as compared to those who do not play a sport.

**Table 5: Summary of Independent T-test Analysis between visually-impaired athletes and visually-impaired non-athletes on variables suffering from severe depression (N=67)**

Source			t	p
	M	V		

VI individuals who play a sport	11.823	3.91	1.99	0.49
VI individuals who do not play a sport	11.42	7.56		

---

Note.\*p < .05

Table 5 shows that VI individuals who play a sport (M=11.823) reported higher severe depression than VI individuals who do not play a sport (M=11.424), $t(65)= 5.44, p < .05$ .

It can be observed that individuals who play sports have a more negative outlook on life as compared to those who do not play a sport. This might be because of competitiveness in the sport they are playing. In contrast, however, a study conducted (Brennan,2021) suggests that individuals who play sports have lesser depression as compared to those who do not. In one study exercise turned out to be as effective as standard antidepressant treatment; and modest amounts of exercise helped to improve depression. (Brennan, 2019).

This study may also help promote and popularize adoption and playing of sports for visually-impaired individuals. It could be used in schools to encourage students to play sports from a young age. Organizations including non-government organizations working with visually-impaired individuals can promote their involvement in physical activities. This research could also be used in awareness programs.

## **CONCLUSION**

The mental health well-being among visually-impaired individuals who play sports and those who do not might appear to be almost at the same level. However, differences in well-being can be seen in the 4 different subdivisions i.e. social symptoms, anxiety / insomnia, social dysfunction and depression. Many studies show that playing sports for even a few hours a week not only reduces stress, anxiety, depression and insomnia but also improves self-esteem and reduces social dysfunction. Therefore, individuals affected by visual impairment should certainly be encouraged to adopt and play any sports that they are comfortable with.

## LIMITATIONS

Some limitations of this study are insufficient sample size for statistical measurements. The Responses could also be influenced to cater to socially desirable responses.

## REFERENCES

- 1) Arora, Shetty (2014). Common Problems Faced By Visual
- 2) Bierman, Welsh (2001). Assessing Social Dysfunction: The Contributions of Laboratory and Performance-Based Measures. *Journal of clinical child psychology*
- 3) Brennan (2021). Benefits of Sports for Mental Health. WebMD
- 4) Brennan (2021). Benefits of Sports for Mental Health. WebMD
- 5) Dandona, L., & Dandona, R. (2006). Revision of visual impairment definitions in the International Statistical Classification of Diseases. *BMC medicine*, 4(1), 1-7.
- 6) Fox, K. R. (1999). The influence of physical activity on mental well-being. *Public health nutrition*, 2(3a), 411-418.
- 7) Frothingham (2019) What Is the Link Between Anxiety and Insomnia? Healthline
- 8) Garewal (2022). India is home to 20 percent of the world's visually-impaired. The tribune
- 9) Kempen, G. I., Ballemans, J., Ranchor, A. V., van Rens, G. H., & Zijlstra, G. A. (2012). The impact of low vision on activities of daily living, symptoms of depression, feelings of anxiety and social support in community-living older adults seeking vision rehabilitation services. *Quality of life research*, 21(8), 1405-1411.
- 10) Kohda, Y., Monma, T., Yamane, M., Mitsui, T., Ando, K., Jesmin, S., & Takeda, F. (2019). Mental health status and related factors among visually-impaired athletes. *Journal of Clinical Medicine Research*, 11(11), 729
- 11) Malm, C., Jakobsson, J., & Isaksson, A. (2019). Physical activity and sports—real health benefits: a review with insight into the public health of Sweden. *Sports*, 7(5), 127.
- 12) Mandal (2019). What is visual impairment ? News medical life sciences

- 13) Mirandola D, Monaci M, Miccinesi G, Vannuzzi A, Sgambati E, Manetti M, et al. (2019) Psychological well-being and quality of life in visually-impaired baseball players: An Italian national survey. *PLoS ONE* 14(6): e0218124
- 14) Muskin (2021). What is Somatic Symptom Disorder? American Psychiatric Association
- 15) National Blindness and Visual Impairment Survey India 2015-2019 – A Summary Report for Survey Conducted by a team at The Dr. Rajendra Prasad Center for Ophthalmic Sciences, All-India Institute of Medical Sciences, New Delhi. The survey was planned by The Ministry of Health and Family Welfare, Government of India.
- 16) Torres (2020). What is depression? American Psychiatric Association
- 17) van der Aa, H. P., Comijs, H. C., Penninx, B. W., van Rens, G. H., & van Nispen, R. M. (2015). Major depressive and anxiety disorders in visually-impaired older adults. *Investigative ophthalmology & visual science*, 56(2), 849-854
- 18) Van Der Aa, H. P., Margrain, T. H., Van Rens, G. H., Heymans, M. W., & van Nispen, R.
- 19) M. (2016). Psychosocial interventions to improve mental health in adults with vision impairment: systematic review and meta-analysis. *Ophthalmic and Physiological Optics*, 36(5), 584-606.