

# Analyzing The Different Psychological Parameters And Health Related Quality Of Life In The Physiotherapy Students, General Students And Civil Services Aspirants.

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**Background:** Present world has maximum number of youths is experiencing the psychological distress during their professional study journey and even in preparing for competition. This study has taken some psychological measure which helping in the evaluation of their psychological distress during their journey.

**Methods:** This is the prospective cross-sectional study design to assess the level of depression, anxiety, stress, insomnia, loneliness, suicidal behavior and associated health related quality of life during the academic period. Duration for this study was ten months and this comprises of 1536 participants. According to the inclusion criteria, all genders are invited to take part in this study, with the mentioned age group of 21 years to 32 years. Both bachelors mainly who are in final year of their bachelor's degree and year of their bachelor's degree and postgraduation pursuing and even passed out students are welcomed for the study. Similarly, for the exclusion prospective the students who are below the age of 21 years and above the age of 32 years and the bachelor's pass out students or postgraduate pass out students who are working with any organization are not eligible for taking part in this study.

**Findings:** This study has constituted a unique insight into experiences, perception and behaviors that students and aspirants possess in responses to psychological distress. This study has revealed that students and aspirants are reportedly experiencing varying level of psychological distress with HRQOL.

**Interpretation:** Mainly Civil Services Aspirants are more affected their Health-Related Quality of Life (HRQOL) than other two groups i.e., Physiotherapy and General Studies Group of Students. Civil Services Aspirants are bringing down their HRQOL more increasingly as compare with the Physiotherapy Group and General Studies Groups are bringing down their HRQOL more increasingly than the Physiotherapy Group.

**Funding:** No favors is taken or given to any participants. Legal permission is permitted by ethical committee for proceeding to the study.

**Keywords:** Depression, Anxiety, Stress, Loneliness, Suicidal Behavior, Insomnia, Health Related Quality of Life.

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## I. Introduction

India's higher education system is the world is third largest in terms of students, next to China and the United States<sup>[2]</sup>. Ensuring the quality in higher education is among the foremost challenges being faced in India today<sup>[9]</sup>. Many studies highlighted mental health issued in young adult, especially during their studying years at university students have more psychological problems<sup>[7]</sup>. Health profession education is highly demanding and challenging rendering, students to deal with complex learning environment<sup>[7]</sup>. Healthcare education can be a stressful experience for some individuals and may affect negatively emotional well-being and academic performance of the students. Studies that high level of stress and psychological morbidity occurs in health care profession students<sup>[5]</sup>.

A study among undergraduate students in Canada showed that 30% of students has psychological morbidities<sup>[3]</sup>. In addition, over 50% students in United States, 53% of students in Australia and 41.9% of students in Malaysia experienced mental health problems. In Turkey, depression, anxiety and stress were recorded as 27.1%, 47.1% and 27% respectively<sup>[11]</sup>. Dahlin et al reported the prevalence of stress to be as high as 12.9%. Another study has shown that academics and taking exams are the most powerful stress in the medical and paramedical students<sup>[6,8]</sup>. Rosenthal and Okie in 2005 reported that higher prevalence of

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psychological problems such as stress, anxiety and depression among medical students than in the general population and age matched press. Asia seems to be suffering for DAS <sup>[10,14,15]</sup>. A study conducted on 353 medical university students in India reported that more than half of the responsible were affected by Depression (51.3%), Anxiety (66.9%) and Stress (53%). In 2013, studies conducted in Iran reported that 38% Depression among university students <sup>[11,12]</sup>. Anxiety affects learning, social interaction, physical and mental health. Anxiety in physiotherapy students may be due to various reason such as last-minute study, sleep deprivation, poor time management, and lack of confidence. This may lead to mugging up before exam, fear of forgetting information, lack of hard work, poor academic performance and under achievements and poor engagement in class <sup>[9]</sup>.

Stress and anxiety go hand in hand, as anxiety is a responsive to the stress in times of threat. Anxiety is a term used to describe a normal feelings people experiences when faced with threat, danger, or when stressed experiencing occasional anxiety is a normal part of life <sup>[18]</sup>. Stress is an inevitable part of life; it is very present and becoming more prevalent among university students. Stress is often described as a feeling of being overwhelmed, worried or rundown <sup>[13]</sup>. Stress has both physical and emotional effects and can create positive or negative feelings, where positive feelings can be beneficial at times, producing a boost that provides the drives and energy to help people get through situation like exams or work deadline. However, an extreme amount or negative feeling of stress can have health consequences and adversely affect the immune, cardiovascular, and neuroendocrine and central nervous system <sup>[13]</sup>.

Sleep is a part of what is called the sleep-wake cycle. This sleep-wake cycle, which consist of roughly eight hours of nocturnal (might) sleep and 16 hr. of daytime wakefulness in humans. It is controlled by a combination of two internal influences sleep, homeostasis and circadian rhythms. Sleep also is considered a time when other body system restores their energy, repairs their tissues, and is important to well-being and optimal health <sup>[4]</sup>. The have a better cognitive function, like wise improved memory and better immune system. Alongside their alertness, attentiveness and performance throughout the day are considerably enhanced <sup>[4]</sup>.

The profession of civil services in India is very much prestigious job in the society. India is a democratic country and, in this system, power confers with the people <sup>[1]</sup>. The civil services by quality of its knowledge, experience and understanding of public affairs supports the chosen representatives to devices effective policy and have great responsibility to welfare of society and enhancement of nation <sup>[1,22]</sup>. India is a constitutional fairness and its operations usually depends upon four support that include Legislature, Executive, Judiciary and Free Press <sup>[19]</sup>. The civil services are thrust responsibility to managing the economic, natural and human resources of the country. They constitute of individuals from different occupations and different educational and social backgrounds who imbibe the qualities of integrity, vision and commitments to the nation <sup>[20]</sup>. Indeed, recent studies have shown that the situational factors during either unemployment or underemployment (UUE) were quite diverse, and appeared to be associated with the risk of manifestations common mental health consequences, such as depression, anxiety and stress. Moreover, these common mental health problems account for at least 90% of suicide cases <sup>[16]</sup>.

Recently the census of India 2011 has founded that the literacy rate of India constitutes 74% of the total population aged seven and above as compared to 65% in 2001. In the NCT (National Capital Territory) Delhi, the literacy rate constitutes 86.67% in 2001. Despite the inverse in literacy rates, induction of qualified candidates for various jobs in government, non-governmental and private organizations have reduced considerably. A large number of aspiring candidates joins suitable coaching classes in Delhi to prepare for competitive examination <sup>[18,21,22]</sup>. Around 4,89,327 candidates applied for the UPSC Civil Services Prelims Examinations in 2011. Now around 10 lakh candidates appeared for the UPSC Civil Services Prelims Examinations in 2021. This data shows that even though the number of eligibility candidates has increased, the number of vacancies has not increased proportionality. There by, a huge gap exists between the aspirants and the aspired jobs vacancies leading to increase in competitions, heartbreak even failures <sup>[18,19,21]</sup>.

### **Hypothesis**

There is a significant relation between the different Psychological Parameters and Health Related Quality of Life of taken three different studying groups of students.

### **Null Hypothesis**

There is no significant relation between the different Psychological Parameters and Health Related Quality of Life of taken three different studying groups of students.

## **II. Material and Methods**

**Study Design:** This is the prospective cross-sectional study design to assess the level of depression, anxiety, stress, insomnia, loneliness, suicidal behavior and associated health related quality of life during the academic period of undergraduate and postgraduation in physiotherapy, general studies, and civil services aspirants. The samples are selected from the IAMR (Institute of Applied Medicine and Research), Ghaziabad, UP and other different institutional sources including the Mukherjee Nagar, Delhi and old Rajendra Nagar the hub of civil services aspirants. Duration for this study was ten months and this comprises of 1536 participants. According to

the inclusion criteria, all genders are invited to take part in this study, with the mentioned age group of 21 years to 32 years. Both bachelors mainly who are in final year of their bachelor’s degree and postgraduation pursuing and even passed out students are welcomed for the study. Similarly, for the exclusion prospective the students who are below the age of 21 years and above the age of 32 years and the bachelor’s pass out students or postgraduate pass out students who are working with any organization are not eligible for taking part in this study.

**Method:** This study is conducted with the physiotherapy students of IAMR and other different institutional students. The data were collected from the interview with each and every participant during the period of April 2021 to first week of January of 2021. Participation in the study was voluntary and an informed consent was obtained. The participating students were briefed about the purpose of the study and informed that their data would be safe and was guaranteed confidentiality. The Scale used to collect the data are: Hamilton Anxiety Rating Scale (HAM-A); Hamilton Depression Rating Scale (HDRS); Perceived Stress Scale (PSS); Insomnia severity scale (ISI); De Jong Gierveld scale; The Suicide Behavior Questionnaire-Revised (SBQ-R); DASS-21; and Short Forms Scales: SF-36 and SF-12 for the Health-Related Quality of Life. The scales have been tested and found to possess excellent reliability, good validity and simple language.

**Data Analysis**

The Data were entered in to the computer database. The responses of the data were calculated with the JASP (Jeffrey’s Analyzing Statistics Program) Version 0.16 (2021) and Microsoft Excel 2016.

**III. Results**

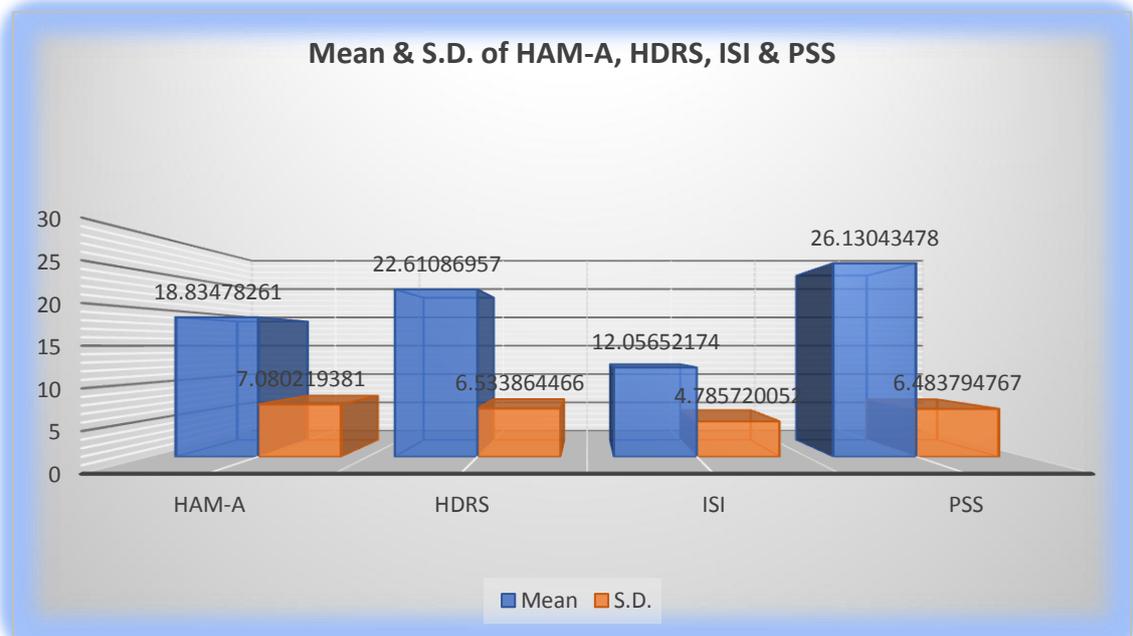
**3.1 Physiotherapy Samples Group**

Table No. 8.19: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of HAM-A, HDRS, ISI and PSS in Main Study of Physiotherapy Samples with N= 460.

	<b>HAM-A</b>	<b>HDRS</b>	<b>ISI</b>	<b>PSS</b>
<b>Mean</b>	<b>18.83</b>	<b>22.61</b>	<b>12.06</b>	<b>26.13</b>
<b>S.D.</b>	<b>7.08</b>	<b>6.534</b>	<b>4.786</b>	<b>6.484</b>

According to the table no. 8.19

- The Mean and Standard Deviation Values of HAM-A is manifests as 18.83 and 7.08 respectively.
- For the Mean and S.D. Values for the HDRS is reveals as 22.61 and 6.534 respectively.
- Next, for the ISI, the Mean and Standard Deviation values are proclaiming as 12.06 and 4.786 respectively.
- Similarly, at last the Mean and Standard Deviation Values of PSS is reveals as 26.13 and 6.484 respectively.



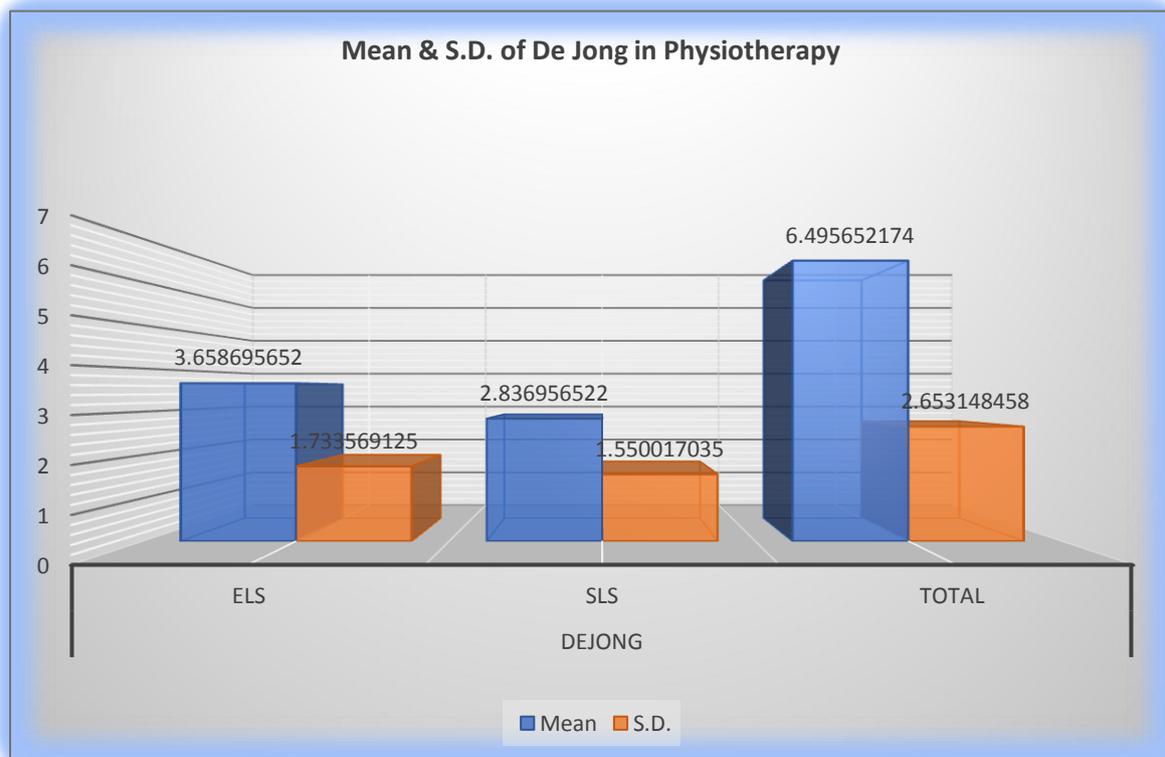
Graph No. 8.19: - Demonstrate the Graphical Representation for the HAM-A, HDRS, ISI and PSS in Main Study of Physiotherapy Group with N= 460.

Table No. 8.20: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of De Jong Gierveld in Main Study of Physiotherapy Samples with N=50

	<b>De Jong</b>		
	<b>ELS</b>	<b>SLS</b>	<b>Total</b>
<b>Mean</b>	<b>3.659</b>	<b>2.837</b>	<b>6.496</b>
<b>S.D.</b>	<b>1.734</b>	<b>1.55</b>	<b>2.653</b>

According to the table no. 8.20

- The De Jong Gierveld Values are divided into three-sub division i.e., ELS- Emotional Loneliness Score, SLS-Social Loneliness Score, Total represents the total values of ELS and SLS.
- The Mean and Standard Deviation Values of ELS is manifested as 3.659 and 1.734 respectively.
- For the Mean and S.D. Values for the SLS is revealed as 2.837 and 1.55 respectively.
- Similarly, at last the Mean and Standard Deviation Values of Total Loneliness Score is revealed as 6.496 and 2.653 respectively.



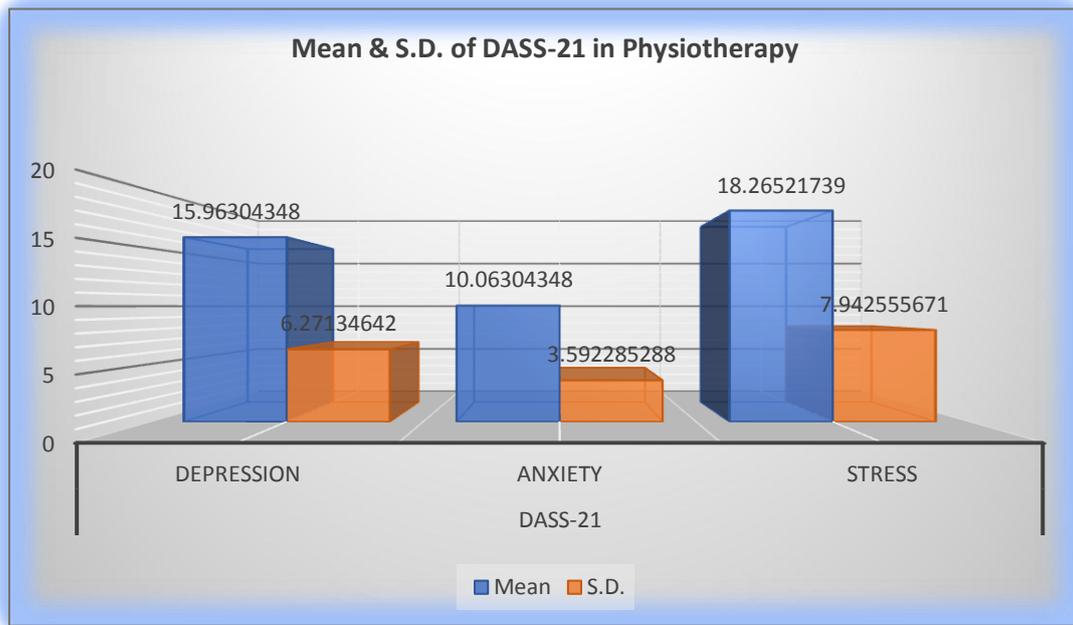
Graph No. 8.20: - Demonstrate the Graphical Representation for the De Jong Gierveld in Main Study of Physiotherapy Group with N= 460.

Table No. 8.21: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of DASS-21 in Main Study of Physiotherapy Samples with N= 460.

	<b>DASS-21</b>		
	<b>Depression</b>	<b>Anxiety</b>	<b>Stress</b>
<b>Mean</b>	<b>15.96</b>	<b>10.06</b>	<b>18.27</b>
<b>S.D.</b>	<b>6.271</b>	<b>3.592</b>	<b>7.943</b>

Following the table no. 8.21 is representing

- The Mean and Standard Deviation of three different parameters of the DASS-21 i.e., Depression, Anxiety and Stress.
- According to the table the Mean and Standard Deviation Values of Depression is manifested as 15.96 and 6.271 respectively, same follow up for Anxiety the Mean and Standard Deviation are array as 10.06 and 3.592.
- Similarly, for the last parameters i.e., Stress which is set forth the Mean and Standard Deviation as 18.27 and 7.943 respectively.



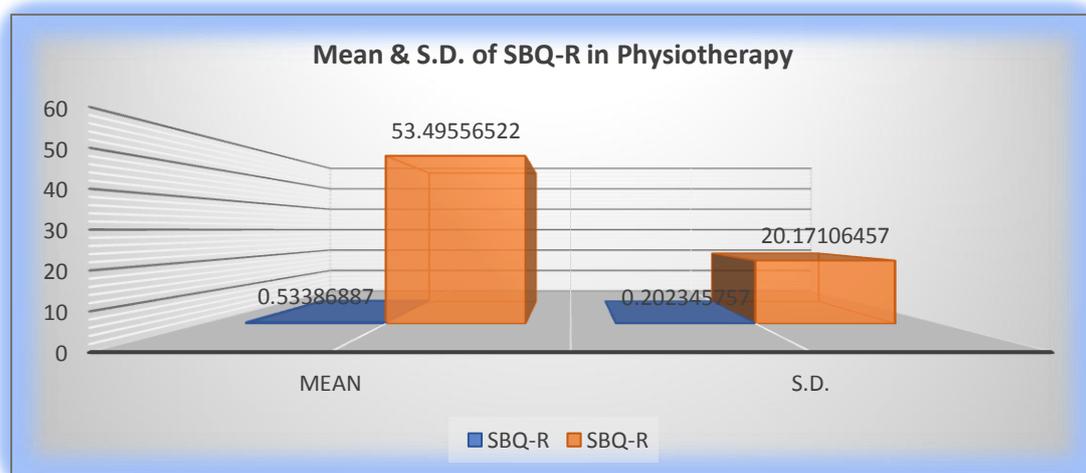
Graph No. 8.21: - Demonstrate the Graphical Representation for the DASS-21 in Main Study of Physiotherapy Group with N= 460.

Table No. 8.22: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of SBQ-R in Main Study of Physiotherapy Samples with N=460.

	SBQ-R	
	Decimal value	Percentage value (%)
<b>Mean</b>	<b>0.534</b>	<b>53.5</b>
<b>S.D.</b>	<b>0.202</b>	<b>20.17</b>

This table is presenting

- The Mean, Standard Deviation Values for the SBQ-R in Two different forms of scoring one is in Decimal form, and other one is in the form of Percentage.
- According to the table Mean and Standard Deviation Values for the Decimal Value is array as 0.534 and 0.202 respectively.
- Similarly, the Mean and Standard Deviation Values for the Percentage Values are set forth as 53.5 and 20.17 respectively.



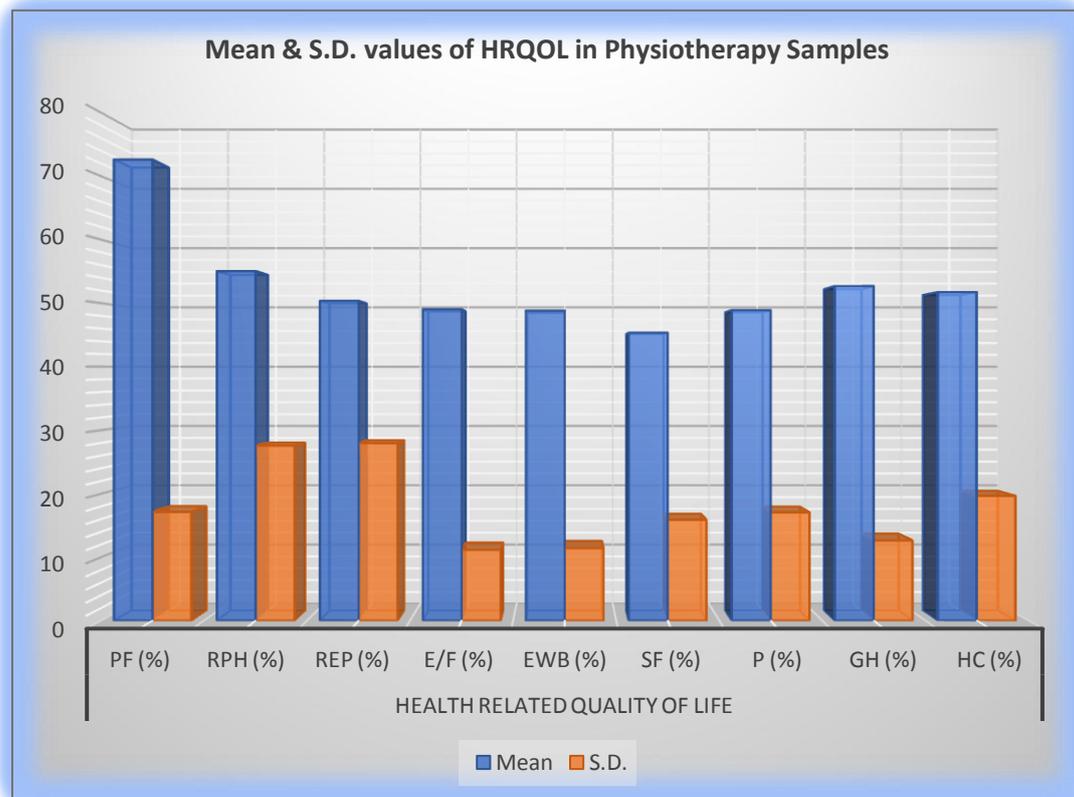
Graph No. 8.22: - Demonstrate the Graphical Representation for the SBQ-R in Main Study of Physiotherapy Group with N= 460.

Table No. 8.23: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of HRQOL-SF-36 in Main Study of Physiotherapy Samples with N=50.

	<b>Health Related Quality of Life</b>								
	<b>PF (%)</b>	<b>RPH (%)</b>	<b>REP (%)</b>	<b>E/F (%)</b>	<b>Ewb (%)</b>	<b>SF (%)</b>	<b>P (%)</b>	<b>GH (%)</b>	<b>HC (%)</b>
<b>Mean</b>	<b>72.63</b>	<b>55.05</b>	<b>50.38</b>	<b>49.04</b>	<b>48.82</b>	<b>45.35</b>	<b>48.9</b>	<b>52.7</b>	<b>51.74</b>
<b>S.D.</b>	<b>17.12</b>	<b>27.57</b>	<b>27.96</b>	<b>11.15</b>	<b>11.42</b>	<b>15.88</b>	<b>17.05</b>	<b>12.63</b>	<b>19.66</b>

The table no 8.23 is mentioning

- The Mean and Standard Deviation for the Health-Related Quality of Life with SF-36's Nine parameters i.e., manifests as PF=72.63, 17.12; RPH= 55.05, 27.57; REP= 50.38, 27.96; E/F= 49.04, 11.15; Ewb= 48.82, 11.42; SF= 45.35, 15.88; P= 48.9, 17.05; GH= 52.7, 12.63; HC= 51.74, 19.66 respectively.



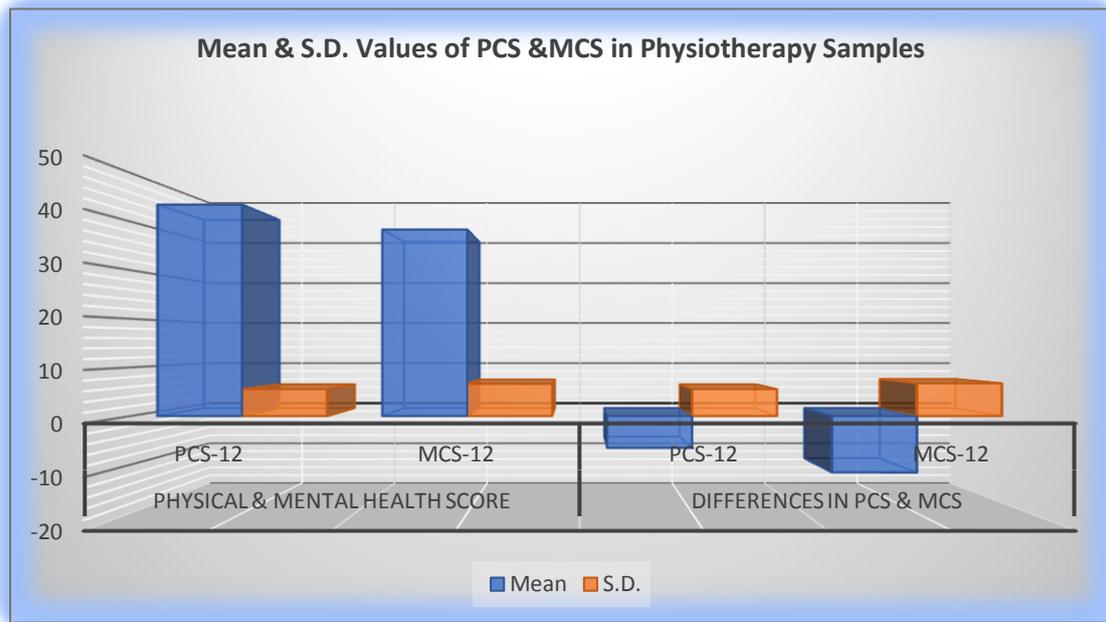
Graph No. 8.23: - Demonstrate the Graphical Representation for the HRQOL-SF-36 in Main Study of Physiotherapy Group with N=460.

Table No. 8.24: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of HRQOL-SF-12 in Main Study of Physiotherapy Samples with N= 460.

	<b>Physical &amp; mental health score</b>		<b>Differences in PCS &amp; MCS</b>	
	<b>PCS-12</b>	<b>MCS-12</b>	<b>PCS-12</b>	<b>MCS-12</b>
<b>Mean</b>	<b>43.45</b>	<b>38.34</b>	<b>-6.54</b>	<b>-11.6</b>
<b>S.D.</b>	<b>5.532</b>	<b>6.605</b>	<b>5.534</b>	<b>6.739</b>

This table no. 8.24 is presenting

- The Mean and Standard Deviation Values of Physical and Mental Score and the Difference of the Physical and Mental Score measured by the SF-12 part of the Health-Related Quality of Life.
- The Mean and Standard Deviation Values of Physical Score (PCS-12) is manifests as 43.45 and 5.532 respectively, with the difference values as -6.54 and 5.534 respectively.
- Similarly, the Mean and Standard Deviation Values for the Mental Score (MCS-12) is array as 38.34 and 6.605 with the difference values as -11.6 and 6.739.



Graph No. 8.24: - Demonstrate the Graphical Representation for the HRQOL-SF-36 in Main Study of Physiotherapy Group with N= 460.

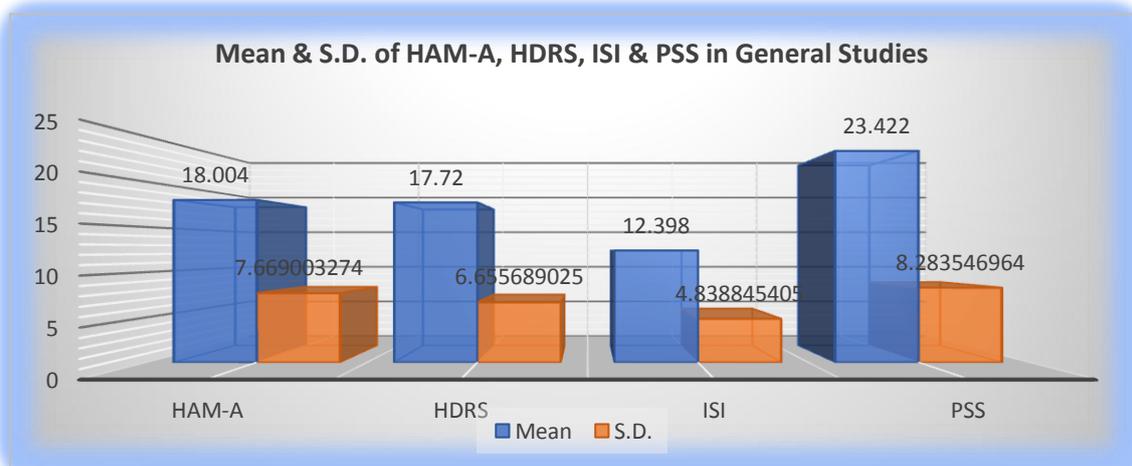
### 3.2 General Studies Samples Group

Table No. 8.25: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of HAM-A, HDRS, ISI and PSS in Main Study of General Studies Samples with N=500.

	HAM-A	HDRS	ISI	PSS
<b>Mean</b>	<b>18</b>	<b>17.72</b>	<b>12.4</b>	<b>23.42</b>
<b>S.D.</b>	<b>7.669</b>	<b>6.656</b>	<b>4.839</b>	<b>8.284</b>

According to the table no. 8.25

- The Mean and Standard Deviation Values of HAM-A is manifests as 18 and 7.669 respectively.
- For the Mean and S.D. Values for the HDRS is reveals as 17.72 and 6.656 respectively.
- Next, for the ISI, the Mean and Standard Deviation values are proclaiming as 12.4 and 4.839 respectively.
- Similarly, at last the Mean and Standard Deviation Values of PSS is reveals as 23.42 and 8.284 respectively.



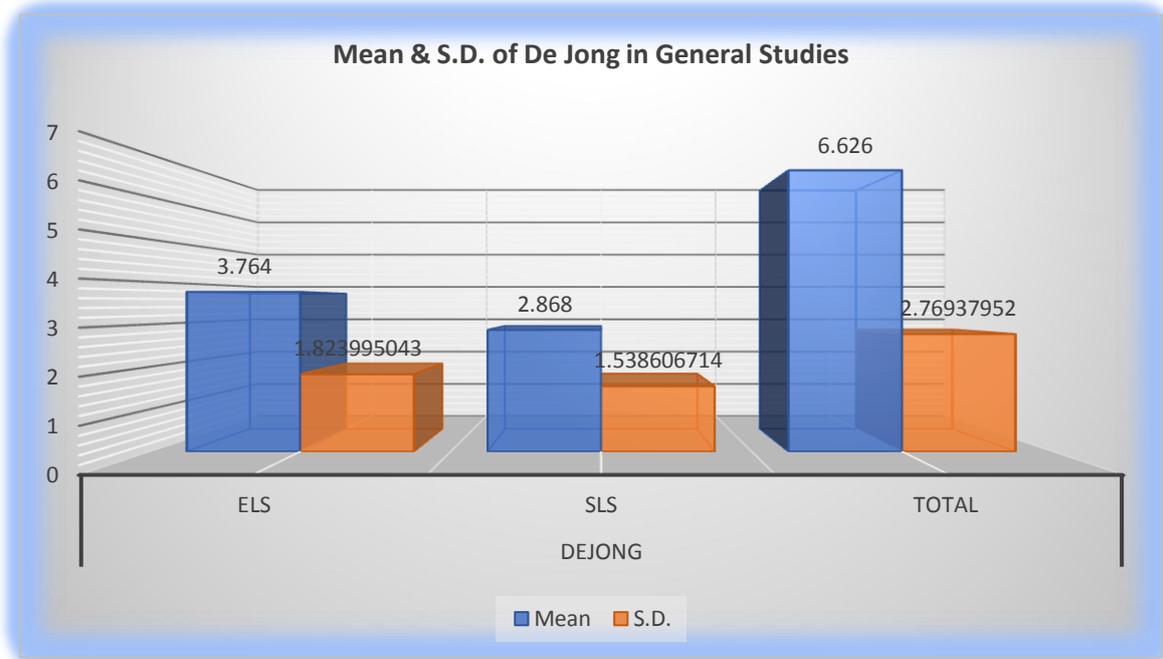
Graph No. 8.25: - Demonstrate the Graphical Representation for the HAM-A, HDRS, ISI and PSS in Main Study of General Studies Samples Group with N=500.

Table No. 8.26: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of De Jong Gierveld in Main Study of Physiotherapy Samples with N=500.

	<b>De Jong</b>		
	<b>ELS</b>	<b>SLS</b>	<b>Total</b>
<b>Mean</b>	<b>3.764</b>	<b>2.868</b>	<b>6.626</b>
<b>S.D.</b>	<b>1.824</b>	<b>1.539</b>	<b>2.769</b>

According to the table no. 8.26

- The De Jong Gierveld Values are divided into three sub-division i.e., ELS- Emotional Loneliness Score, SLS-Social Loneliness Score, Total represents the total values of ELS and SLS.
- The Mean and Standard Deviation Values of ELS is manifested as 3.764 and 1.824 respectively.
- For the Mean and S.D. Values for the SLS is revealed as 2.868 and 1.539 respectively.
- Similarly, at last the Mean and Standard Deviation Values of Total Loneliness Score is revealed as 6.626 and 2.769 respectively.



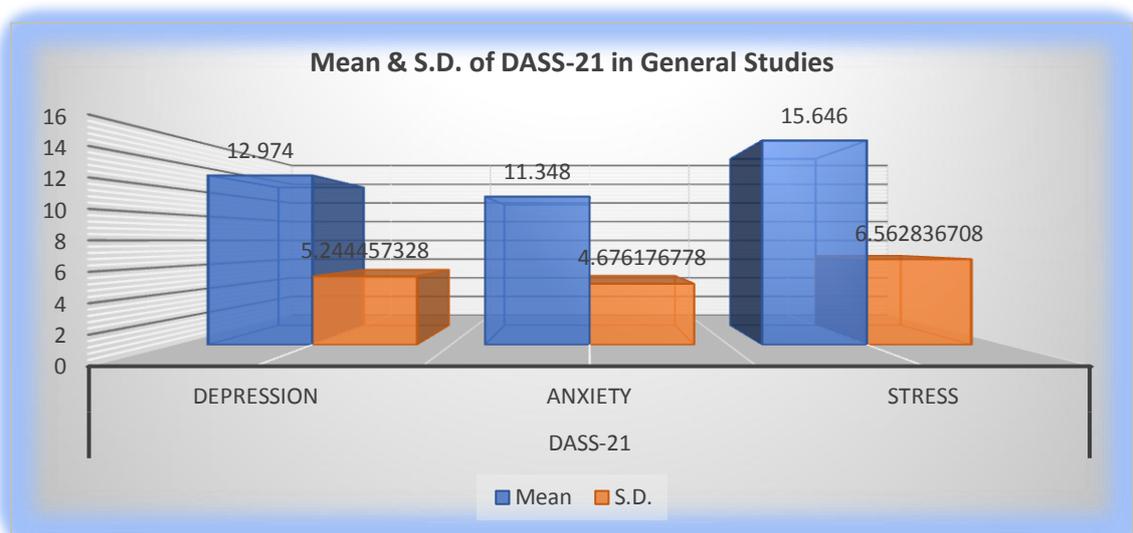
Graph No. 8.26: - Demonstrate the Graphical Representation for the De Jong Gierveld in Main Study of General Studies Samples Group with N=500.

Table No. 8.27: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of DASS-21 in P Main Study of General Studies Samples with N=500.

	<b>DASS-21</b>		
	<b>Depression</b>	<b>Anxiety</b>	<b>Stress</b>
<b>Mean</b>	<b>12.97</b>	<b>11.35</b>	<b>15.65</b>
<b>S.D.</b>	<b>5.244</b>	<b>4.676</b>	<b>6.563</b>

Following the table no. 8.27 is representing

- The Mean and Standard Deviation of three different parameters of the DASS-21 i.e., Depression, Anxiety and Stress.
- According to the table the Mean and Standard Deviation Values of Depression is manifested as 12.97 and 5.244 respectively, same follow up for Anxiety the Mean and Standard Deviation are array as 11.35 and 4.676. Similarly, for the last parameters i.e., Stress which is set forth the Mean and Standard Deviation as 15.65 and 6.563 respectively.



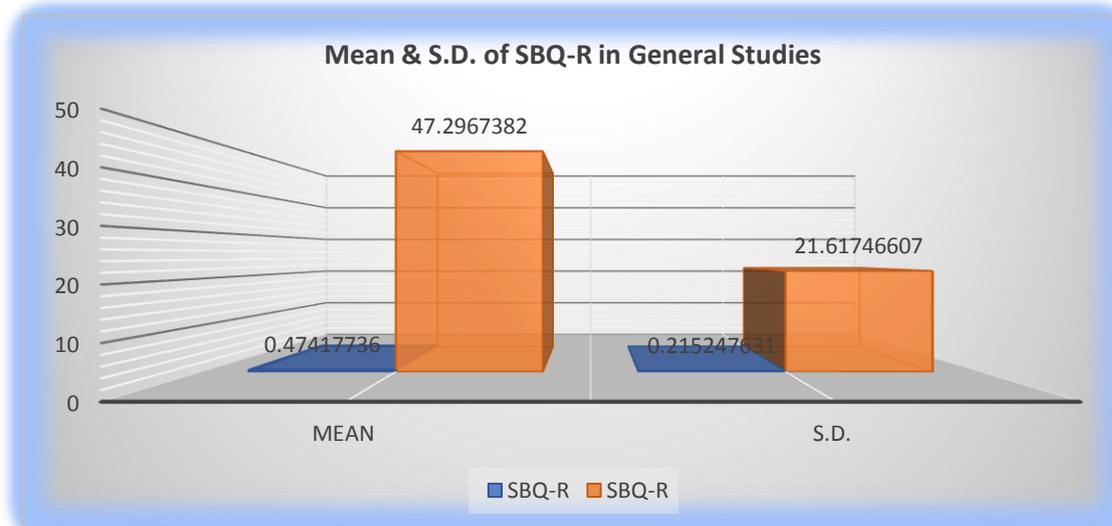
Graph No. 8.27: - Demonstrate the Graphical Representation for the DASS-21 in Main Study of General Studies Samples Group with N=500.

Table No. 8.28: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of SBQ-R in Main Study of General Studies Samples with N=500.

	SBQ-R	
	Decimal value	Percentage value (%)
<b>Mean</b>	<b>0.474</b>	<b>47.3</b>
<b>S.D.</b>	<b>0.215</b>	<b>21.62</b>

This table is presenting

- The Mean, Standard Deviation Values for the SBQ-R in Two different forms of scoring one is in Decimal form, and other one is in the form of Percentage.
- According to the table Mean and Standard Deviation Values for the Decimal Value is array as 0.474 and 0.215 respectively.
- Similarly, the Mean and Standard Deviation Values for the Percentage Values are set forth as 47.3 and 21.62 respectively.



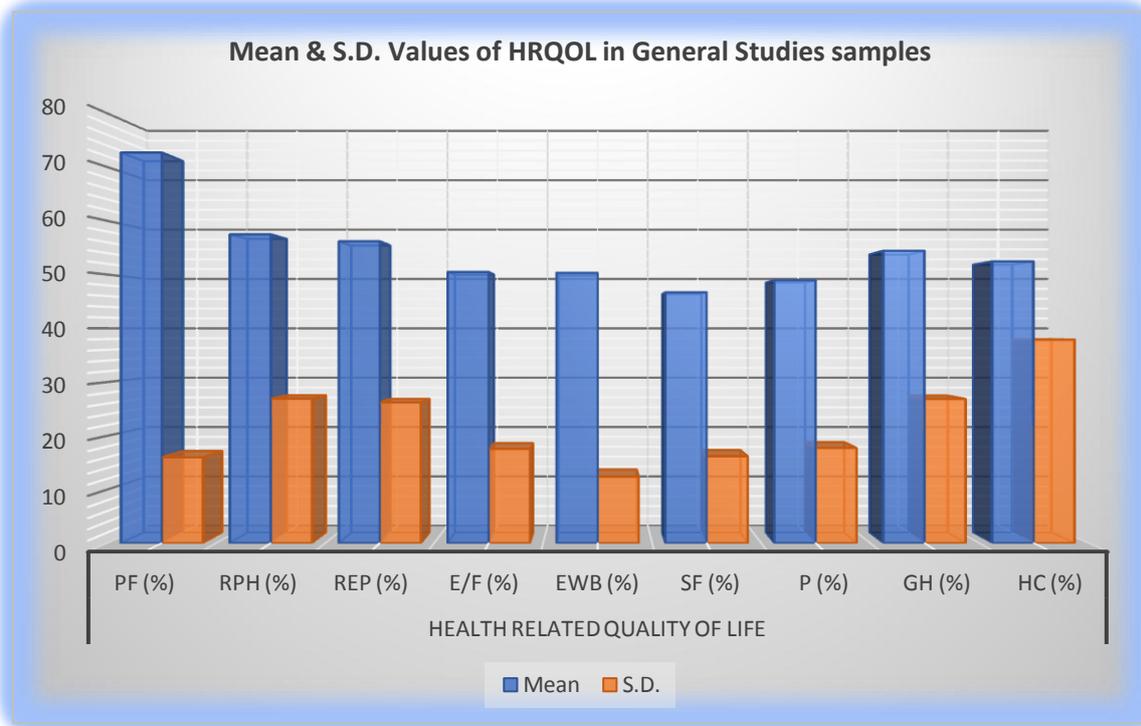
Graph No. 8.28: - Demonstrate the Graphical Representation for the SBQ-R in Main Study of General Studies Samples Group with N=500.

Table No. 8.29: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of HRQOL-SF-36 in Main Study of General Studies Samples with N=500.

Health Related Quality of Life									
	PF (%)	RPH (%)	REP (%)	E/F (%)	Ewb (%)	SF (%)	P (%)	GH (%)	HC (%)
<b>Mean</b>	<b>72.72</b>	<b>57.49</b>	<b>56.2</b>	<b>50.48</b>	<b>50.32</b>	<b>46.69</b>	<b>48.94</b>	<b>54.43</b>	<b>52.45</b>
<b>S.D.</b>	<b>15.99</b>	<b>26.89</b>	<b>26.2</b>	<b>17.54</b>	<b>12.39</b>	<b>16.18</b>	<b>17.72</b>	<b>26.84</b>	<b>37.89</b>

The table no 8.29 is mentioning

- The Mean and Standard Deviation for the Health-Related Quality of Life with SF-36's Nine parameters i.e., manifests as PF= 72.72, 15.99; RPH= 57.49, 26.89; REP= 56.2, 26.2; E/F= 50.48, 17.54; Ewb= 50.32, 12.39; SF= 46.69, 16.18; P= 48.94, 17.72; GH= 54.43, 26.84; HC= 52.45, 37.89 respectively.



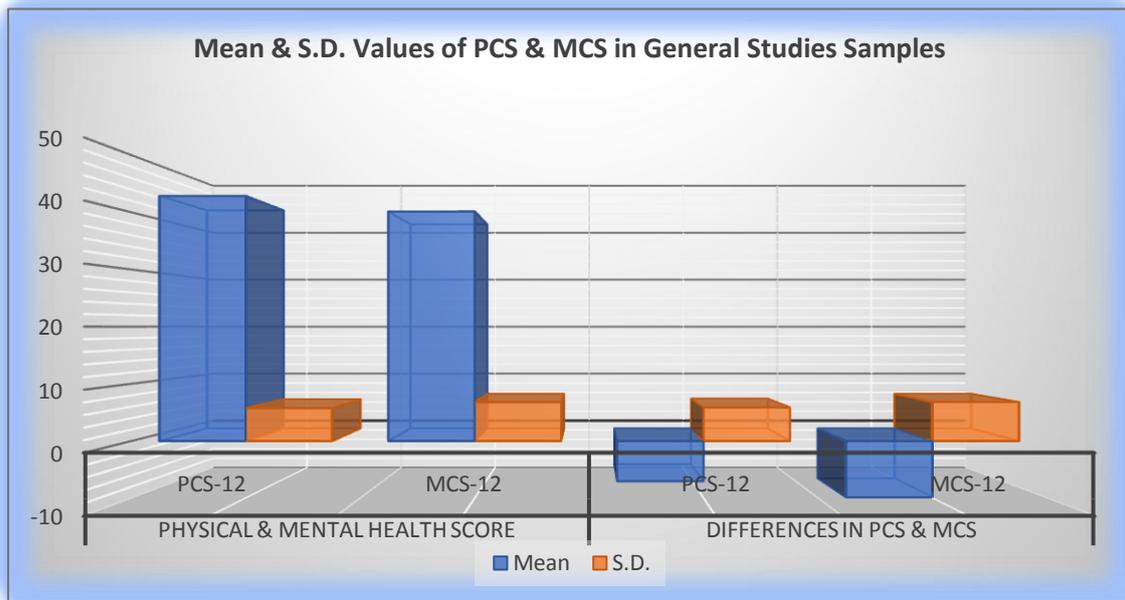
Graph No. 8.29: - Demonstrate the Graphical Representation for the HRQOL-SF-36 in Main Study of General Studies Samples Group with N=500.

Table No. 8.30: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of HRQOL-SF-12 in Main Study of General Studies Samples with N=500.

	Physical & mental health score		Differences in PCS & MCS	
	PCS-12	MCS-12	PCS-12	MCS-12
<b>Mean</b>	<b>42.86</b>	<b>40.14</b>	<b>-7.03</b>	<b>-9.85</b>
<b>S.D.</b>	<b>5.735</b>	<b>6.792</b>	<b>5.855</b>	<b>6.806</b>

This table no. 8.30 is presenting

- The Mean and Standard Deviation Values of Physical and Mental Score and the Difference of the Physical and Mental Score measured by the SF-12 part of the Health-Related Quality of Life.
- The Mean and Standard Deviation Values of Physical Score (PCS-12) is manifests as 42.86 and 5.735 respectively, with the difference values as -7.03 and 5.855 respectively.
- Similarly, the Mean and Standard Deviation Values for the Mental Score (MCS-12) is array as 40.14 and 6.792 with the difference values as -9.85 and 6.806.



Graph No. 8.30: - Demonstrate the Graphical Representation for the HRQOL-SF-36 in Main Study of General Studies Samples Group with N=500.

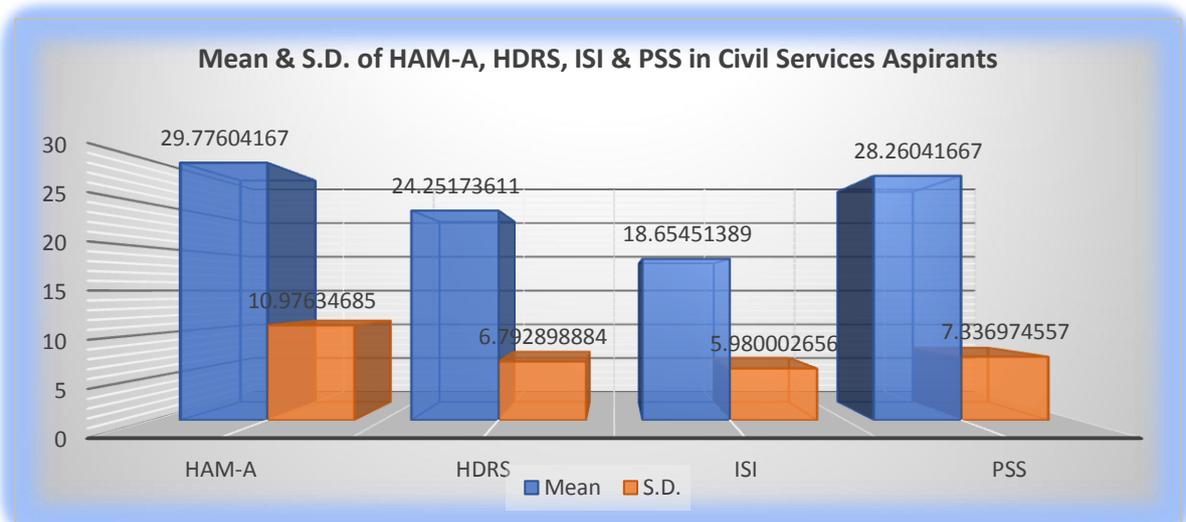
### 3.3 Civil Services Samples Group

Table No. 8.31: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of HAM-A, HDRS, ISI and PSS in Main Study of Physiotherapy Samples with N=576.

	HAM-A	HDRS	ISI	PSS
<b>Mean</b>	<b>29.78</b>	<b>24.25</b>	<b>18.65</b>	<b>28.26</b>
<b>S.D.</b>	<b>10.98</b>	<b>6.793</b>	<b>5.98</b>	<b>7.337</b>

According to the table no. 8.31

- The Mean and Standard Deviation Values of HAM-A is manifests as 29.78 and 10.98 respectively.
- For the Mean and S.D. Values for the HDRS is reveals as 24.25 and 6.793 respectively.
- Next, for the ISI, the Mean and Standard Deviation values are proclaiming as 18.65 and 5.98 respectively.
- Similarly, at last the Mean and Standard Deviation Values of PSS is reveals as 28.26 and 7.337 respectively.



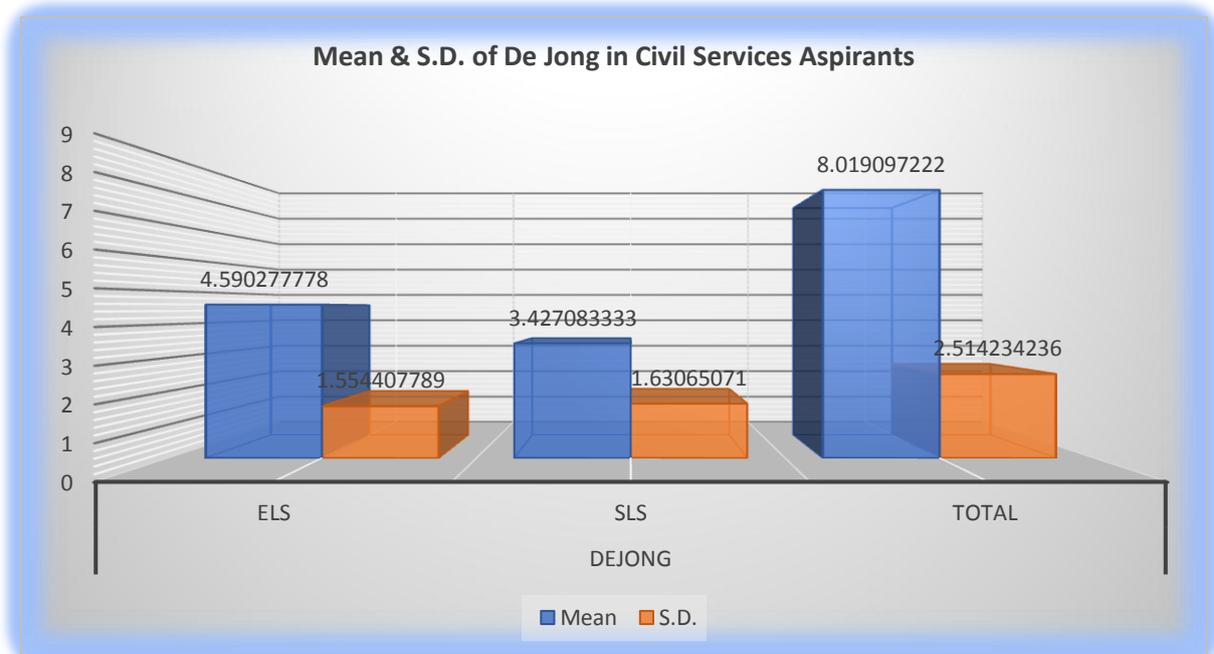
Graph No. 8.31: - Demonstrate the Graphical Representation for the HAM-A, HDRS, ISI and PSS in Main Study of Physiotherapy Group with N=576.

Table No. 8.32: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of De Jong Gierveld in Main Study of Physiotherapy Samples with N=500.

	<b>De Jong</b>		
	<b>ELS</b>	<b>SLS</b>	<b>Total</b>
<b>Mean</b>	<b>4.59</b>	<b>3.427</b>	<b>8.019</b>
<b>S.D.</b>	<b>1.554</b>	<b>1.631</b>	<b>2.514</b>

According to the table no. 8.32

- The De Jong Gierveld Values are divided into three-sub division i.e., ELS- Emotional Loneliness Score, SLS-Social Loneliness Score, Total represents the total values of ELS and SLS.
- The Mean and Standard Deviation Values of ELS is manifested as 4.59 and 1.554 respectively.
- For the Mean and S.D. Values for the SLS is revealed as 3.427 and 1.631 respectively.
- Similarly, at last the Mean and Standard Deviation Values of Total Loneliness Score is revealed as 8.019 and 2.514 respectively.



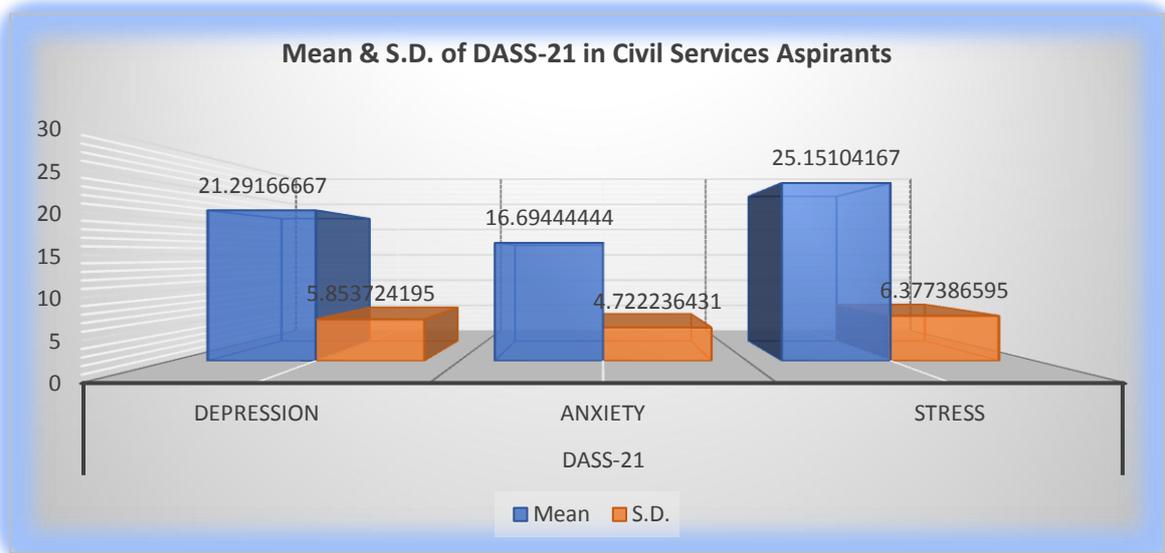
Graph No. 8.32: - Demonstrate the Graphical Representation for the De Jong Gierveld in Main Study of General Studies Samples Group with N=500.

Table No. 8.33: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of DASS-21 in Main Study of General Studies Samples with N=576.

	<b>DASS-21</b>		
	<b>Depression</b>	<b>Anxiety</b>	<b>Stress</b>
<b>Mean</b>	<b>21.29</b>	<b>16.69</b>	<b>25.15</b>
<b>S.D.</b>	<b>5.854</b>	<b>4.722</b>	<b>6.377</b>

Following the table no. 8.33 is representing

- The Mean and Standard Deviation of three different parameters of the DASS-21 i.e., Depression, Anxiety and Stress.
- According to the table the Mean and Standard Deviation Values of Depression is manifested as 21.29 and 5.854 respectively.
- Same follow up for Anxiety the Mean and Standard Deviation are array as 16.69 and 4.722.
- Similarly, for the last parameters i.e., Stress which is set forth the Mean and Standard Deviation as 25.15 and 6.377 respectively.



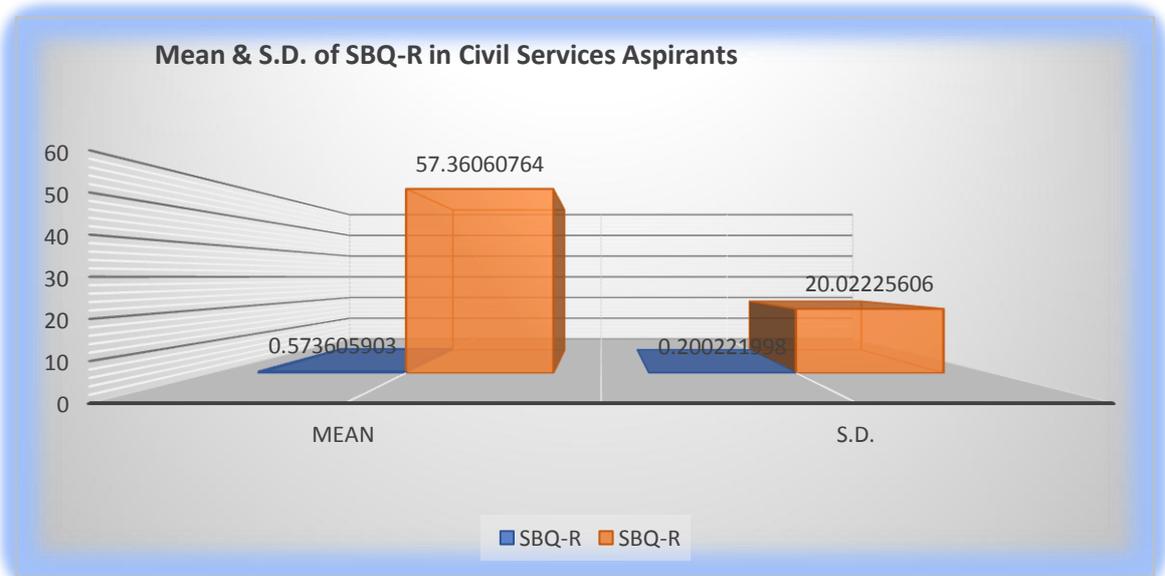
Graph No. 8.33: - Demonstrate the Graphical Representation for the DASS-21 in Main Study of General Studies Samples Group with N=576.

Table No. 8.34: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of SBQ-R in Main Study of General Studies Samples with N=576.

	SBQ-R	
	Decimal value	Percentage value (%)
<b>Mean</b>	<b>0.574</b>	<b>57.36</b>
<b>S.D.</b>	<b>0.2</b>	<b>20.02</b>

This table is presenting

- The Mean, Standard Deviation Values for the SBQ-R in Two different forms of scoring one is in Decimal form, and other one is in the form of Percentage.
- According to the table Mean and Standard Deviation Values for the Decimal Value is array as 0.574 and 0.2 respectively.
- Similarly, the Mean and Standard Deviation Values for the Percentage Values are set forth as 57.36 and 20.02 respectively.



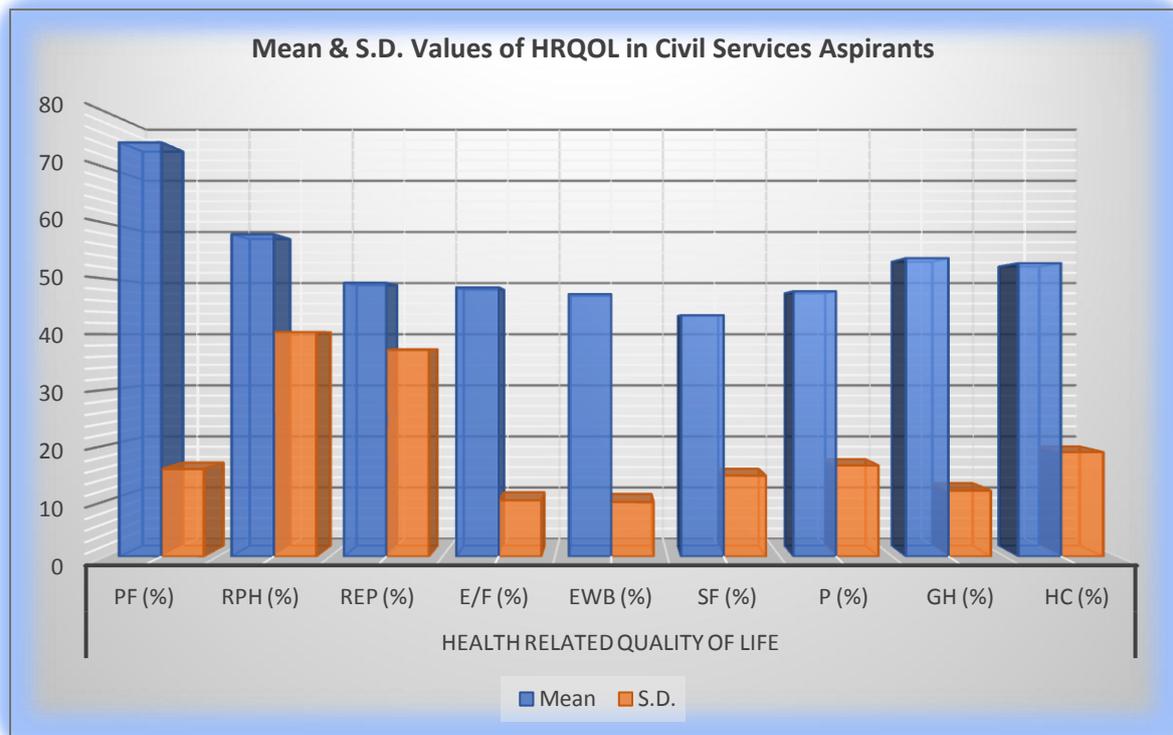
Graph No. 8.34: - Demonstrate the Graphical Representation for the SBQ-R in Main Study of General Studies Samples Group with N=576.

Table No. 8.35: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of HRQOL-SF-36 in Main Study of General Studies Samples with N=576.

		Health Related Quality of Life							
	PF (%)	RPH (%)	REP (%)	E/F (%)	Ewb (%)	SF (%)	P (%)	GH (%)	HC (%)
<b>Mean</b>	<b>74.5</b>	<b>57.96</b>	<b>49.25</b>	<b>48.39</b>	<b>47.22</b>	<b>43.43</b>	<b>47.72</b>	<b>53.67</b>	<b>52.78</b>
<b>S.D.</b>	<b>15.76</b>	<b>40.39</b>	<b>37.15</b>	<b>10.13</b>	<b>9.822</b>	<b>14.56</b>	<b>16.39</b>	<b>11.87</b>	<b>18.79</b>

The table no 8.35 is mentioning

- The Mean and Standard Deviation for the Health-Related Quality of Life with SF-36’s Nine parameters i.e., manifests as PF=74.5, 15.76; RPH= 57.96, 40.39; REP= 49.25, 37.15; E/F= 48.39, 10.13; Ewb= 47.22, 9.822; SF= 43.43, 14.56; P= 47.72, 16.36; GH= 53.67, 11.87; HC= 52.78, 18.79 respectively.



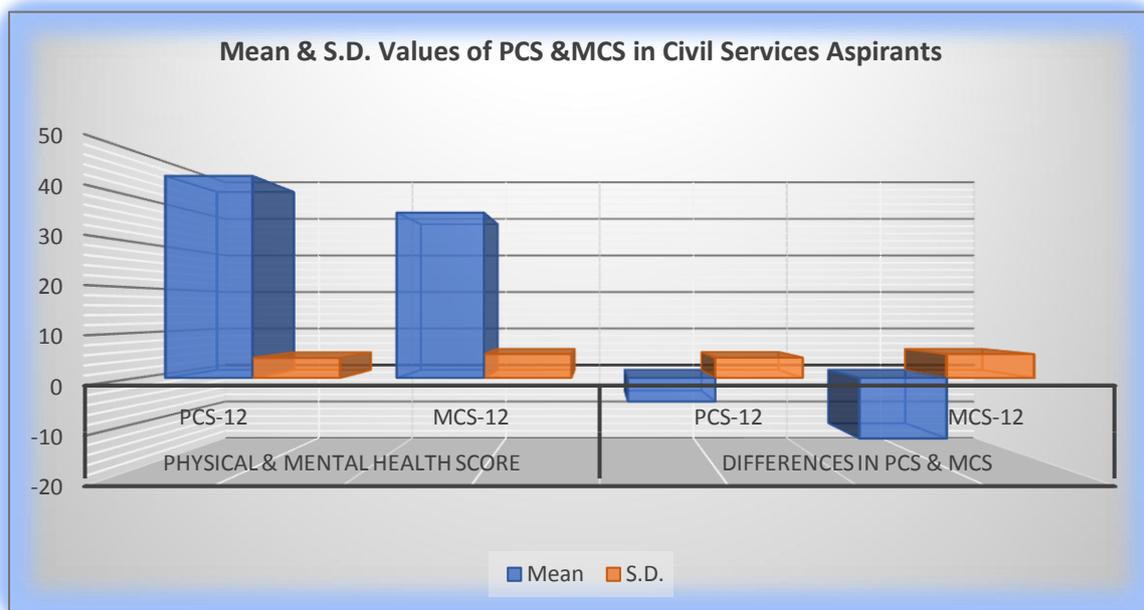
Graph No. 8.35: - Demonstrate the Graphical Representation for the HRQOL-SF-36 in Main Study of General Studies Samples Group with N=576.

Table No. 8.36: - Exhibits the Descriptive Statistical Values of Mean and Standard Deviation (S.D.) of HRQOL-SF-12 in Main Study of General Studies Samples with N=576.

	Physical & mental health score		Differences in PCS & MCS	
	PCS-12	MCS-12	PCS-12	MCS-12
<b>Mean</b>	<b>44.72</b>	<b>36.59</b>	<b>-5.23</b>	<b>-13.4</b>
<b>S.D.</b>	<b>4.43</b>	<b>5.276</b>	<b>4.5</b>	<b>5.262</b>

The Mean and Standard Deviation Values of Physical and Mental Score and the Difference of the Physical and Mental Score measured by the SF-12 part of the Health-Related Quality of Life.

- The Mean and Standard Deviation Values of Physical Score (PCS-12) is manifests as 44.72 and 4.43 respectively, with the difference values as -5.23 and 4.5 respectively.
- Similarly, the Mean and Standard Deviation Values for the Mental Score (MCS-12) is array as 36.59 and 5.279 with the difference values as -13.4 and 5.262.



Graph No. 8.36: - Demonstrate the Graphical Representation for the HRQOL-SF-36 in Main Study of General Studies Samples Group with N=576.

#### IV. Discussion

This study explored the Physiotherapy Students, General Studies and Civil Services Aspirants Group of Students, on the level of Depression, Anxiety, Stress, Insomnia, Loneliness, Suicidal Behavior on the Health-Related Quality of Life. As per the many studies, all students have these kind of life experiences during their studies. The previous studies are analyzing these psychological factors separately, even with single scales for depression, anxiety and stress only with two different scales and in the single study.

The findings of the study reveal very much folded concerns of the student's psychological nature or behavior during their study period of time in different profession with different subject's pressure. Examination and performance are the examination creates this pressure on the students and respectively the behaviors/ nature will change their state of mind.

Now, according to the table no. 8.40, which is showing the range where all the psychological parameter Scores are lying in Main Study of physiotherapy group of students with N=460.

The Hamilton Anxiety Rating Scale Score is showing that the physiotherapy group is moderately affected and on the similar ground the Anxiety parameter of DASS-21 Scale Score is evident as the physiotherapy group of students is moderately affected. As proceeding further on depression, The Hamilton Depression Rating Scale Score is mentioning that physiotherapy group of students are moderately affected, whereas the Depression parameter of the DASS-21 Scale Score reveal that the same group of students are moderately depressed. Similarly, The Perceived Stress Scale Score is mentioning that the group of physiotherapy students are moderately stressed during their study time, whereas stress of DASS-21 indicates that the group is perceiving mild stress overall in the main study. On the other ground of analyzing of other psychological measures like insomnia, loneliness and suicidal behaviors, The Insomnia Severity Index shows that physiotherapy group is having subthreshold insomnia, The De Jong Gierveld Scale is showing that group is moderately feeling lonely and same the physiotherapy group of students are having poor tendency of suicidal behavior revealed by Suicide Behavior Questionnaire-Revised Scale.

The Effect of all psychological measures came on Health-Related Quality of life which is revealing that the physiotherapy group is having 72.63% (approx. 73%) of Physical functioning 55.05% of Role Limitation due to their Physical Health, 50.38% (approx. 50%) of Role Limitation due to their Emotional Problems, 49.04% (approx. 49%) of Energy and Fatigue level, 48.82% (approx. 49%) of Emotional Wellbeing, 45.35% (approx. 45%) they are Socially Functional with the 48.9% (approx. 49%) of Pain, 52.7% (approx. 53%) of their General Health and with the 51.74% (approx. 52%) of their Health Change, referring the Health Related Quality of Life Scale measures with SF-36 Scale. The overall Physical and Mental Health of the physiotherapy group of students are measured by SF-12 Scale, which reveals that the physiotherapy group of students are 86.9% (approx. 87%) are Physically Active or Functional with the PCS-12 (Physical Health) Score of 43.45 in the difference of -6.54. Similarly, 76.68% (approx. 77%) they are Mentally Active or Functional with the MCS-12 (Mental Health) Score of 38.34 in the difference of -11.6; which is manifested that the physiotherapy group of

students are physically more active than mentally functioning, during their studies. This is also revealing that they are mentally more inactive than physically associating with all psychological measures in the main study of the physiotherapy group of students.

However, with the reference of the table no. 8.41, which is showing the range where all the psychological parameters scores are lying in the Main Study of General Studies Group of students with N=500.

The Hamilton Anxiety Rating Scale Score is showing that the general studies group of students are moderately affected and on the similar ground the Anxiety parameter of DASS-21 Scale Score is evident as the general studies group of students is severely affected. As proceeding further on depression, The Hamilton Depression Rating Scale Score is mentioning that the general studies group of students are moderately affected, whereas the Depression parameter of the DASS-21 Scale Score reveal that the same group of students are having mildly depression during their studies. Similarly, The Perceived Stress Scale Score is revealing that the group of general studies students are moderately stressed during their study time, whereas stress of DASS-21 indicates that the group is perceiving mild stress, overall, in the pilot study. On the other ground of analyzing of other psychological measures like insomnia, loneliness and suicidal behaviors, The Insomnia Severity Index shows that the general studies group is having subthreshold insomnia, The De Jong Gierveld Scale is showing that the group is moderately feeling lonely and same the general studies group of students are having below poor range tendency of suicidal behavior revealed by Suicide Behavior Questionnaire-Revised Scale.

The Effect of all psychological measures came on Health-Related Quality of life which is revealing that the general studies group of students are having 72.72% (approx. 73%) of Physical functioning 57.49% (approx. 57.5%) of Role Limitation due to their Physical Health, 56.2% (approx. 56%) of Role Limitation due to their Emotional Problems, 50.48% (approx. 50.5%) of Energy and Fatigue level, 50.32% (approx. 50%) of Emotional Wellbeing, 46.69% (approx. 47%) they are Socially Functional with the 48.94% (approx. 49%) of Pain, 54.43% (approx. 54%) of their General Health and with the 52.45% (approx. 52.5%) of their Health Change, referring the Health Related Quality of Life Scale measures with SF-36 Scale. The overall Physical and Mental Health of the general studies group of students are measured by SF-12 Scale, which reveals that the general studies group of students are 85.72% (approx. 86%) are Physically Active or Functional with the PCS-12 (Physical Health) Score of 42.86 in the dispute of -7.03. Similarly, 80.28% (approx. 80%) they are Mentally Active or Functional with the MCS-12 (Mental Health) Score of 40.14 in the dispute of -9.85; which is manifested that the general studies group of students are physically more active or functional then mentally during their studies. This also revealing that they are mentally less active or functional then physically during their studies; which is associated with all psychological measures in the main study of the General Studies Group of Students.

However, from refereeing table no 8.42, which is showing the range where all the psychological parameter scores are lying in main study of Civil Services Aspirants Group with N=576.

The Hamilton Anxiety Rating Scale Score is showing that the Civil Services Aspirants Group of students are severely affected and on the similar ground the Anxiety parameter of DASS-21 Scale Score is evident as the Civil Services Aspirants Group of students in India is severely affected. As proceeding further on depression, The Hamilton Depression Rating Scale Score is mentioning that the general studies group of students are moderately depressed, whereas the Depression parameter of the DASS-21 Scale Score reveal that the same group of students are also severely depressed during their studies. Similarly, The Perceived Stress Scale Score is revealing that the group of Civil Services Aspirants students are highly stressed during their study time, whereas stress of DASS-21 indicates that the group is perceiving moderately stress, overall, in the main study. On the other ground of analyzing of other psychological measures like insomnia, loneliness and suicidal behaviors, The Insomnia Severity Index shows that the Civil Services Aspirants group of students are having moderate insomnia, The De Jong Gierveld Scale is showing that the group is feeling moderately lonely and same the physiotherapy group of students are having poor range tendency of suicidal behavior revealed by Suicide Behavior Questionnaire-Revised Scale.

The Effect of all psychological measures came on Health-Related Quality of life which is revealing that the general studies group of students are having 74.5% (approx. 75%) of Physical functioning 57.96% (approx. 58%) of Role Limitation due to their Physical Health, 49.25% (approx. 49%) of Role Limitation due to their Emotional Problems, 48.39% (approx. 48%) of Energy and Fatigue level, 47.22% (approx. 47%) of Emotional Wellbeing, 43.43% (approx. 43%) they are Socially Functional with the 47.72% (approx. 48%) of Pain, 53.67% (approx. 54%) of their General Health is functional and with the 52.78% (approx. 53%) of their Health Change in their life, referring the Health Related Quality of Life Scale measures with SF-36 Scale. The overall Physical and Mental Health of the Civil Services Aspirants Group of students are measured by SF-12 Scale, which reveals that the Civil Services Aspirants Group of students are 89.44% (approx. 89%) are Physically Active or Functional with the PCS-12 (Physical Health) Score of 44.72 in the dispute of -5.23. Similarly, 72.18% (approx. 72%) they are Mentally Active or Functional with the MCS-12 (Mental Health) Score of 36.59 in the dispute of -13.4; which is manifested that the Civil Services Aspirants Group of students are physically more active or functional as compare with mentally functioning score during their studies. This is also revealing that the Civil

Services Aspirants Group of students are mentally more inactive or not functional properly then the physically active or functional; associated with the all-psychological measures in the main study of Civil Services Aspirants Group of students.

#### Strengths

To the best of our knowledge, this is the first study exploring psychological measures using the nine Questionnaires in three different groups of Indian Students i.e., Physiotherapy Group, General Studies Group and The Civil Services Aspirants Group of Students. This study aims to constitute as a foundation for the future guidance and to informed the structure to optimize students' welfare, academic ability and support. This paper also allows for increased understanding of how an intensive course can impact the welfare of students. Quantitative and qualitative data gathered has allowed for the research question to be answered with a humanistic view. The use of nine reliable and valid questionnaire, further enhances the strengths of this study and allows for confidence in results generated.

This study helped to address the gaps in existing literature with respect to all psychological measures taken in the study and even HRQOL. All the parameters have been previously found to be associated with each other including Health Related Quality of Life with each other and possibly affects academic performance and even competitive examinations.

#### Weaknesses

Students and Aspirants are from a specific geographical location were chosen for the study. A larger size, spread over a wider geographical area may improve the generalizability of the results.

#### Suggestions

According to the World Health Organization adults of age 18-64 years, should do at least 150 minutes of moderate-intensity of physical activities throughout the week, or do at least 75 minutes of vigorous -intensity of physical activities throughout the week, or an equivalent combination of moderate and vigorous -intensity activities to be called as a physically and mentally active.

It is recommending that the Groups institutes should take appropriate steps for reducing different psychological parameters among students. This may include undertaking counseling for students, highlighting the importance of getting things done on time, and teaching strategies such as relaxation and mental imagery to reduce test anxiety. These strategies may help to promote well- being among students and may positively affect their academic performance.

Future research can be carried out to understand how different psychological parameters can affect academic achievement. A similar investigation may be carried out at the beginning of the year and just before examinations to evaluate the impact of impending examinations on given different parameters i.e., Depression, Anxiety, Stress, Insomnia, Loneliness, Suicidal Behavior with Health-Related Quality of Life.

## V. Conclusion

The present study manifested empirical evidences regarding the psychological health in all three groups of students. The findings reveal the decline in the psychological parameters which, is also affecting the Health-Related Quality of Life. The higher level of psychological morbidity necessities the need for interventions like advisory services and psychological support to improve the Health-Related Quality of Life for these health professionals, other students and even competitive Aspirants.

According to the results of data analysis, it is found that the different psychological parameters i.e., Depression, Anxiety, Stress, Insomnia, Loneliness, Suicidal Behavior are significantly effective on the Health-Related Quality of Life with Physical Score and Mental Score Separately with psychological distress. Mainly Civil Services Aspirants are more affected their Health-Related Quality of Life (HRQOL) than other two groups i.e., Physiotherapy and General Studies Group of Students. Civil Services Aspirants are bringing down their HRQOL more increasingly as compare with the Physiotherapy Group and General Studies Groups are bringing down their HRQOL more increasingly than the Physiotherapy Group.

Even though all groups are physically active up to their needs, not perfectly fit to lack of some physical activities, there is decline in their psychological measures. Hence, this study also conclude that regular physical activities are require to have a perfect psychological measures and well-being of HRQOL. In the summary, this study has constituted a unique insight into experiences, perception and behaviors that students and aspirants possess in responses to psychological distress. This study has revealed that students and aspirants are reportedly experiencing varying level of psychological distress with HRQOL.

## VI. Limitations

This cross-sectional Study was subjected to one common limitation of such a design the relationship between five variable was not a cause and effective relationship.

- BMI does not include in the study
- Different variables are not taken in the study.

- Result was very consciously explained not elaborately.
- The total duration of physical activities per week is not taken or asked.
- Duration of using electronic equipment's, which also affects the psychological parameters, does not took in the study.
- Obesity factor were not including.
- Study had a limited small sample size in respective groups as compare to their population boom.
- The scales or indexes were distributed and no formal interviews were conducted.
- Another methodologies limitation included the length of time conducted.

The big disadvantages in the ability for non-motivational patients to manipulate the process and state what they feel will lead to them receiving a diagnosis of depression and having some type of personal gains. Therefore, a proper psychiatric evaluation is necessary of these kinds of individuals, which is not carried out in this study.

### **Ethical Clearance**

As per the Ref. No IAMR/22/3115 Institute of Applied Medicine and Research given the ethical Clearance for the research. There is no funding and no Conflict of interest.

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