

NATURE OF SPENDING LEISURE TIME AMONG THE COLLEGE STUDENTS AND ITS EFFECTS ON THEIR MENTAL HEALTH

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Abstract

Purposes of the Study: Through the present study the investigators have tried to study the nature of activities of college-level students by which they were spending their leisure time. And to find out the effects of the nature of spending leisure time on the mental health of the students is another important purpose of the present study.

Methodology: The investigators used the Descriptive Survey method for the present study. The Random sampling technique has been used for the selection of the sample. The investigators used two self-made questionnaires, one for measuring leisure time activities and another one for measuring mental health. For the analysis of data Mean, S.D., 't' test, ANOVA and graph have been used in the present study.

Major Findings of the Study: The overall results of the study explored that the college students were spending their leisure time differently by their own choices. Among them who were spending their leisure time pleasantly were comparatively more mentally healthy than those students who spent their leisure time unpleasantly. It is revealed that those students who spent their leisure time by doing different types of physical and social activities were comparatively more mentally healthy than those students who didn't perform any physical and social activities in their leisure time. It is also explored that the time duration of spending leisure hours significantly affected the mental health condition of the students. Lastly, another important finding has come out through the present study that more time spending on entertainment activities negatively affects the mental health of the college level students.

Implications: The findings of the study can be used for maintaining the mental health conditions of the college students as well as school level students and general people also who are spending their leisure time sufficiently or insufficiently.

Novelty: One very interesting thing found in the present study that is more time spending on entertainment activities negatively affects the mental health conditions of the college level students.

Keywords: Nature, Leisure Time, Activities, College Students, Effects, Mental Health.

INTRODUCTION

Nowadays people are very busy with their entire daily life and activities. As a result, they don't have little time to spend their leisure hours differently and consequently, they become sometimes very bored. But it is a very well known fact that Leisure Time is very necessary for every human life. How people spend their daily leisure time is a very important and significant factor in maintaining physical and psychological health ([Toyoshima et al., 2016](#)). If a person does not spend any Leisure Time he may fall mentally illness and may suffer from so many mental and psychological disorders. Leisure Time Activities can enhance mood and relieve depression of a person. Leisure Time empowered one's physical as well as mental health. Spending Leisure Time reduces our Stress and Depression ([Gautam et al., 2007](#); [Fullagar, 2008](#); [Harvey et al., 2010](#)). For this reason, [Minato & Zemke \(2004\)](#) have rightly stated that leisure can act as a stress-reliever in our life. Leisure remains a very important part of our life. Leisure time activities are very much important to produce a positive flow of energy in a person. This activity helps to refresh our mind, body and our feelings. So every man needs to spend Leisure Time sufficiently. That's why [Depp & Jeste \(2006\)](#) strongly argued that participation in leisure time activities is too much important as it is linked with the various components of successful aging, as well as physical health and psychological well-being. In the same way, [Ilieva & Ignatov \(2017\)](#) have opined that the participation of students in different types of sports activities during their leisure time is very much important for maintaining their personal physical and mental health.

Leisure time activities are those preferred recreational activities which are done basically for enjoyment and amusement in during one's free time ([Chang et al., 2014](#)) and it can be classified into physical, social, intellectual, recreational and creative categories ([Leung et al., 2011](#)). Leisure time activities are generally defined as such kind of activities, which an individual takes part in during his/her free time. These activities may be physical exercise, games, and sports, various types of social activities, etc. ([Pressman et al., 2009](#)). Therefore, it can be said that leisure time is an appropriate time for thinking, imagining, self-making, self-retrospection, talent blooming, faults compensating, developing common spirit, decreasing damages,

improving dynamicity, optimization of environment, inculcating aesthetic sense, improving general happiness and as well as decreasing social deviations ([Sharafuddin, 2016, p.35](#)).

Leisure has tremendous potential in numerous ways in our life. Leisure time activities have significant effects on individual well-being ([Leung et al., 2011](#)). Leisure time activities help us to build our autonomy, confidence, competence, relatedness, optimism and social relationships. Thus, it helps to enhance our stress-coping resources and personal as well as psychological well-being ([Caldwell, 2005](#); [Deci & Ryan, 1985](#); and [Ryan & Deci, 2000](#)). Leisure time activities are a helpful resource for adolescents to cope up with their stress. Along with this, leisure acts as an effective technique to cope up with our environment by eliciting positively-toned emotion which contributes to not only breathers from our stress but also involved in a pleasurable activity. And this positively-toned emotion, elicited from leisure, helps to regain our hope or self-esteem, which ultimately protects us from the harmful impacts of stress ([Kleiber et al., 2002](#)). [Ponde & Santana \(2000\)](#) showed that participation in leisure time activities was negatively associated with anxiety and depressive symptoms among women. It means that women can reduce their anxiety and depression by participating in different types of activities in leisure time. [Moloney \(2002\)](#) and [Ryan \(2002\)](#) suggested that engagement in leisure time activities is an instrument that helps us to recover from mental illness. In the same line, [Hodgson & Lloyd \(2002\)](#) through their study showed that engagement in leisure time activities plays a vital role in preventing mental illness and substance misuse for an individual. In another study, [Lloyd et al. \(2007\)](#) explored and suggested that leisure time activities are significantly associated with the recovery of the mental illness of a person. In a number of studies it is found that Leisure-time physical activity is significantly associated with our many physical and mental disorders. They reported that leisure-time physical activity helps to decrease the risk of mortality by protecting and reducing our many physical and mental disorders ([Rovio et al., 2005](#); [Schnohr et al., 2006](#); [Teychenne et al., 2008](#); [Jonsdottir et al., 2010](#); [Lahti et al., 2014](#)). Similarly, [Moore et al. \(2012\)](#) and [Janssen et al. \(2013\)](#) explored that leisure time physical activity is strongly associated with an increase in life expectancy. Besides these, the probability of Psychological distress of the people may decrease by engaging in leisure-time physical activities regularly ([Gigantesco et al., 2015](#)). On the other hand, so many researchers have examined the relationship between leisure-time physical activity and psychological health. And they have strongly suggested that leisure-time physical activity is significantly associated with lower psychological distress ([Hurwitz et al., 2005](#); [Wada et al., 2006](#); [Hamer et al., 2009](#); [Goldfield et al., 2011](#); [Velten et al., 2014](#)).

Few researchers showed through their studies that the leisure time community activities are closely associated with psychological health. For example, [Honda et al. \(2010\)](#) and [Kuriyama et al. \(2009\)](#) through their studies explored and suggested that lack of participation in community activities is strongly associated with our psychological distress.

This study is an attempt to find out the answer of following questions followed by respective objectives -

RESEARCH QUESTIONS

1. How much time the College Students get an opportunity to spend their Leisure per day?
2. How do the College Students spend their Leisure Time?
3. What are the different Places where the College Students spending their Leisure Time?
4. What are the different types of activities through which the College Students spending their Leisure Time?

OBJECTIVES OF THE STUDY

1. To know the Leisure Time that spending by the College Students per day.
2. To know the Condition (Pleasantly or Unpleasantly) of Leisure Time spent by the College Students.
3. To know the Places where the College Students spend their Leisure Time.
4. To know the Different Types of Activities through which the College Students spend their Leisure Time.
5. To find out the effects of the Condition of Spending Leisure Time on Mental Health of the College Students.
6. To find out the effects of Physical Activities on Mental Health of the College Students.
7. To find out the effects of Creative Activities on Mental Health of the College Students.
8. To find out the effects of Social Activities on Mental Health of the College Students.
9. To find out the effects of Extra Educational Activities on Mental Health of the College Students.
10. To find out the effects of Time Duration spending for Leisure on Mental Health of the College Students.

REVIEW OF RELATED LITERATURE

[Gautam et al. \(2007\)](#) through their study on *“Leisure and Religious Activity Participation and Mental Health: Gender Analysis of Older Adults in Nepal”* explored that specific type of activity participation in leisure time has significant effects in decreasing the levels of depression and increasing the levels of life satisfaction among the older adults in Nepal. [Harvey et al. \(2010\)](#) through their study on *“Physical Activity and Common Mental Disorders”* reported that people who engaged in a leisure-time activity regularly with higher intensity were less likely to have depressive symptoms. [Barbar \(2012\)](#) through his study on *“Effect of Morning Exercise on the Psychological Well-Being of High School Female Students”* showed that the morning exercise has a meaningful effect on the psychological well-being of the students. [Masrour, Tondnevis & Mozaffari \(2012\)](#) through their study on *“Investigating of Leisure Time Activities in Male Students at Iran’s Islamic Azad University: An Emphasis on Sports Participation”* revealed that the Iranian students had 2.7 hours daily to enjoy their leisure time on an average. In the season of summer, they had 6-12 hours of average leisure time per day. They were spending their leisure time by doing various types of activities. Among these activities, their first priority was watching TV, the second was watching VCD and DVD, third was leisurely work at the computer (internet, chat, etc.) and the fourth one was watching satellite TV broadcasts. The students of Iran had spent most of their leisure time at home in the first place and at sports-recreational centers either inside or outside of the university as second place. The students of Iran were agreed that their physical and mental health were significantly affected by leisure time. [Rocha et al. \(2012\)](#) through their study on *“Practice of Physical Activity During Leisure Time and Common Mental Disorders among Residents of a Municipality of Northeast Brazil”* reported that a huge number of people of Feira de Santana city had no sufficient time for spending their leisure hours actively and this negative condition was significantly associated with higher occurrence of Common Mental Disorders (CMD) among the people of Feira de Santana city of Brazil. [Aliabadi, Zobairi, & Zobairi \(2013\)](#) through their study on *“The Relationship between Depression and Leisure Time Activity in Female High School Students”* revealed that there was a significant relationship between kinds of leisure time activities and Depression. The study showed that watching TV and playing digital game had a significant positive effect on the depression of high school students. It means that as the scores of watching TV and playing digital games increase, the scores of depression also increase. On the other side, it was significantly found that physical activity and depression were negatively correlated with each other. It means that when the scores of physical activity increase, the scores of depression decrease. [Kim & McKenzie \(2014\)](#) in a study on *“The Impacts of Physical Exercise on Stress Coping and Well-Being in University Students in the Context of Leisure”* showed that leisure-time physical exercise helps to elicit positive emotions among the students by which they can able to cope up effectively with the various problems generated from stress. This effective stress coping strategy can influence the regulation of health behaviours and thus leading to the overall well-being of the students. [Stanton, Happell, & Reaburn \(2014\)](#) through their study on *“The Mental Health Benefits of Regular Physical Activity and Its Role in Preventing Future Depressive Illness”* showed that participation in leisure-time physical activity and mental health outcomes were closely related with each other. It is found that participation in leisure-time physical activity for a long time can reduce the risk of our future depressive illness. [Sharma et al. \(2015\)](#) in a study on *“Effect of Leisure Time Activities on Mental Health of Orphan Children”* reported that leisure time activities had positive effects over the various dimensions of mental health i.e. autonomy, emotional stability, security-insecurity, self-concept, intelligence and overall adjustment of the Orphan children. [Kim et al. \(2015\)](#) through their study on *“The Relationship among Leisure Attitude, Satisfaction, and Psychological Well-Being for College Students”* revealed that leisure attitudes were positively associated with leisure satisfaction. The satisfaction derived from participation in leisure activities with positive leisure attitudes affects psychological well-being by decreasing stress and loneliness. [Ghanbari et al. \(2015\)](#) through their study on *“Leisure Activities and Mental Health among Aging People in Tehran, Iran”* reported that encouraging the Iranian older adults to participate in leisure time activities actively would be an effective measure in order to improve the conditions of their mental health. [Paggi, Jopp, & Hertzog \(2016\)](#) through their study on *“The Importance of Leisure Activities in the Relationship between Physical Health and Well-Being in a Life Span Sample”* showed that the leisure time activities play a vital role in case of successful aging throughout the adult life span. The study also revealed that leisure time activities are very important in making the relationship between physical health and well-being. [Toyoshima et al. \(2016\)](#) through their study on *“Leisure-Time Activities and Psychological Distress in a Suburban Community in Japan”* reported that the long term engagement in outdoor leisure time activity and physical activity had a significant effect in reducing psychological distress of a person. That’s why they suggested that this technique can be used as an effective means for promoting the mental health of the Japanese people. On the other hand, it was found that the art activities and volunteer work were not linked with the psychological distress of the suburban community people of Japan. [Rezaei et al. \(2016\)](#) in a study on *“Investigating Patterns of Spending Leisure Time with Emphasize on Physical Activities and Sports (The Case Study: Female Professors, Students, and Staffs at Ilam University)”* showed that using mobile phone was the most important preferable leisure time activity of the professors and students both. In the list of priorities, physical activities and sports were in 7th and 8th positions among them. [Ilieva & Ignatov \(2017\)](#) through their study on *“Physical Activity during Leisure Time of Students from Ruse University Angel Kanchev and Sofia University St. Kliment Ohridski, Bulgaria”* reported that students participating in sports activities during leisure time is very much important for maintaining their personal physical and mental health. [Peleias et al. \(2017\)](#) through their study on *“Leisure Time Physical Activity and Quality of Life in Medical Students: Results from a Multicentre Study”* showed that the volume of leisure-time

physical activity had a strong and significant dose-effect relationship with the quality of life in both male and female medical students of Brazil.

HYPOTHESES OF THE STUDY

- H0₁*: There would not have any significant effects of the condition of spending leisure time on the Mental Health of the College Students.
- H0₂*: There would not have any significant effects of Physical Activities on Mental Health of the College Students on the basis of Doing or Not Doing.
- H0₃*: There would not have any significant effects of Creative Activities on Mental Health of the College Students on the basis of Doing or Not Doing.
- H0₄*: There would not have any significant effects of Social Activities on Mental Health of the College Students on the basis of Doing or Not Doing.
- H0₅*: There would not have any significant effects of Extra Educational Activities on Mental Health of the College Students on the basis of Doing or Not Doing.
- H0₆*: There would not have any significant effects of Time Duration spending for Leisure on Mental Health of the College Students.
- H0₇*: There would not have any significant effects of Physical Activities on Mental Health of the College Students on the basis of Time Duration.
- H0₈*: There would not have any significant effects of Creative Activities on Mental Health of the College Students on the basis of Time Duration.
- H0₉*: There would not have any significant effects of Entertainment Activities on Mental Health of the College Students on the basis of Time Duration.

THE METHODOLOGY OF THE STUDY

The present study is a Descriptive type in nature. The researcher has used the Descriptive type survey method in the present study (Singh, 2009). The researcher has selected only 310 Students who were studying with Honours in different subjects among all students from the four selected general degree colleges which are situated in the district of Hooghly, West Bengal as a sample for the present study. The Simple Random sampling technique has been used in the selection of the sample. The researcher has used Leisure Time Measuring Questionnaire and Mental Health Inventory as a research tool for collecting the data in the present study. The researcher himself constructed a Questionnaire which consists of 12 (twelve) questions related to their Leisure time activities. And in order to measure the Mental Health of College Students, the researcher himself constructed an Inventory on the basis of Seven Important Dimensions, namely- (i) Emotional Stability, (ii) Self Concept, (iii) Dependent & Independent, (iv) Adjustment, (v) Security & Insecurity, (vi) Anxiety and (vii) Depression. The Inventory consisted of 42 Items (19 Items are Positive and 23 Items are Negative) which were distributed into the above seven dimensions. The Inventory was constructed on the basis of Likert's Five Point Scale i.e. Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly Disagree (SD). The value of coefficient of correlation of the present research tool was 0.86 which indicates that the tool was highly reliable. The Expert Judgment Method was applied by the researcher in order to measure the validity of the tool (Singh, 2009). The present researcher has used SPSS (Version-20) followed by the techniques which are mentioned below to analyze the data: MEAN; S.D.; 't'-Test; ANOVA and Graph.

RESULTS AND INTERPRETATION

Research Question-1: How much time the College Students get an opportunity to spend their Leisure per day?

Table 1: Shows the Duration, Frequency, and Percentage of the College Students on their Daily Leisure Time Activities

Duration of Leisure Time	Frequency	Percentage (%)
Less Than 2 Hours	22	7.09
More Than 2 Hours Less Than 4 Hours	95	30.64
More Than 4 Hours Less Than 6 Hours	121	39.03
More Than 6 Hours Less Than 8 Hours	54	17.41
More Than 8 Hours	18	5.8
Total	310	100%

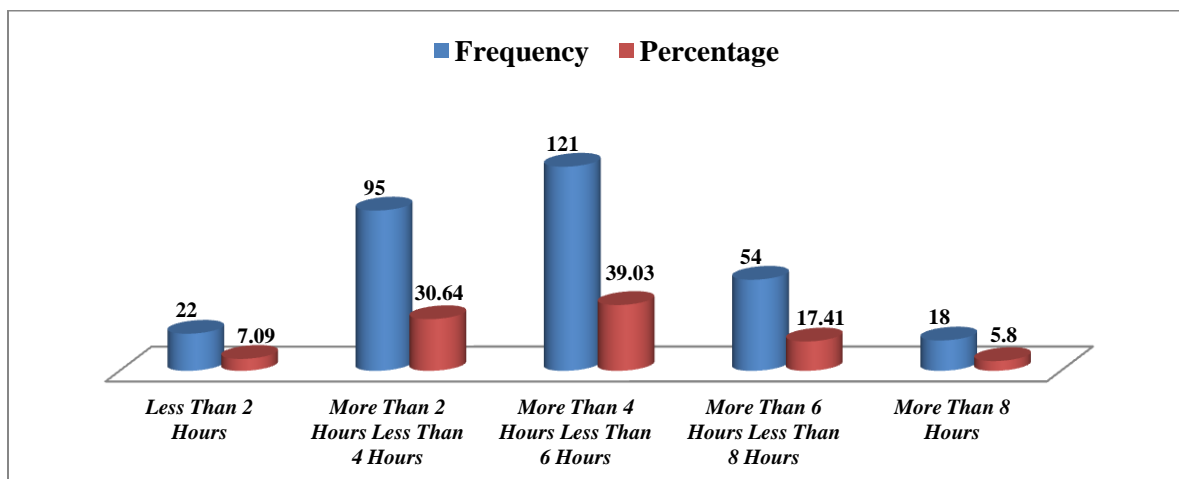


Figure1: Graphical Representation of the Duration, Frequency, and Percentage of the College Students on their Daily Leisure Time Activities

The above table and figure show that out of 310 College Students, 7.09%, 30.64%, 39.03%, 17.41%, and 5.8% Students are spending their Leisure Time for Less than 2 Hours, More than 2 Hours but Less than 4 Hours, More than 4 Hours but Less than 6 Hours, More than 6 Hours but Less than 8 Hours and More than 8 Hours respectively per day. Therefore, it can be said that the highest percentage (39.03%) of College Students is spending their Leisure Time for more than 4 Hours but Less than 6 hours per day.

Research Question-2: How do the College Students spend their Leisure Time?

Table 2: Shows the Conditions, Frequency, and Percentage of the College Students on their Daily Leisure Time

Conditions of Leisure Time	Frequency	Percentage (%)
Pleasant Group	281	90.65
Unpleasant Group	29	9.35
Total	310	100

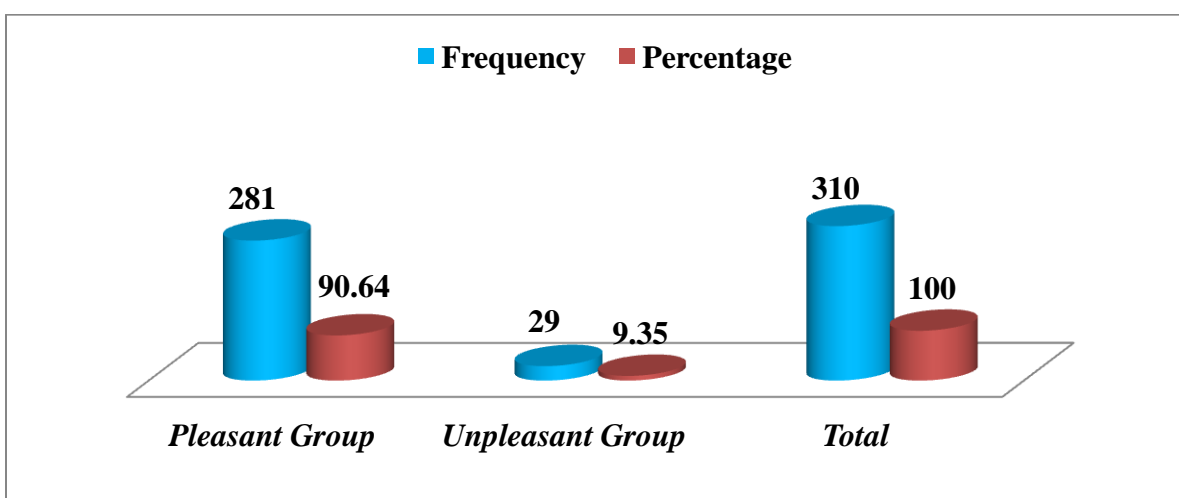


Figure 2: Graphical Representation of Conditions, Frequency, and Percentage of the College Students on their Daily Leisure Time

The above table and figure show that out of 310 College Students, 90.64% College Students are spending their Leisure Time Pleasantly and 9.35% College Students are spending their Leisure Time Unpleasantly. Therefore, it can be said that most of the College Students (90.64%) are spending their Leisure Time pleasantly in the district of Hooghly.

Research Question-3: What are the different Places where the College Students spending their Leisure Time?

Table 3: Shows the different Places of Spending Leisure Time, Frequency and Percentage of the College Students

Different Places of Spending Leisure Time	Frequency	Percentage (%)
Home	253	81.61
Sport Centre	138	44.51
College Common Room	74	23.87
Tuition	66	21.29
Garden	65	20.96
Park	60	19.35
Streets	50	16.12
Club	37	11.93
Field For Cultivation	36	11.61
Cultural Art Centre	35	11.29
Temple	29	9.35
College Campus	25	8.05
Coffee/Tea Shops	23	7.41
Centre for Recreation	21	6.77
Relative House	20	6.45
Hostel	20	6.45
Computer Centre	12	3.87
Cinema Hall	10	3.22
NCC/NSS Camp	9	2.9
Restaurants	8	2.58
Library	5	1.61

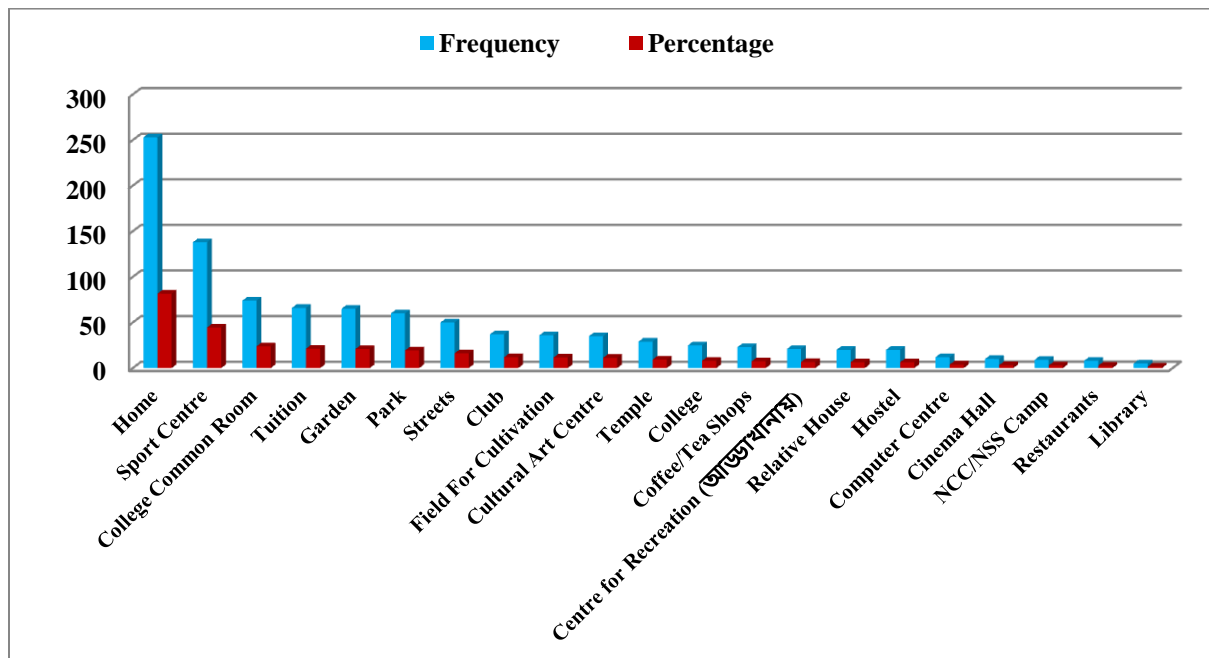


Figure 3: Graphical Representation of the different Places of Spending Leisure Time, Frequency and Percentage of the College Students

The above table and figure show that out of 310 College Students, 81.61%, 44.51%, 23.87%, 21.29%, 20.96%, 19.35%, 16.12%, 11.93%, 11.61%, 11.29%, 9.35%, 8.05%, 7.41%, 6.77%, 6.45%, 6.45%, 3.87%, 3.22%, 2.9%, 2.58% and 1.61% Students are spending their Leisure Time at the Different places namely Home, Sport centre, College Common Room, Tuition, Garden, Park, Streets, Club, Field for Cultivation, Cultural Art Centre, Temple, College, Coffee/ Tea Shops, Centre for Recreation, Relative House, Hostel, Computer Centre, Cinema Hall, NCC/NSS Camp, Restaurants and Library respectively. Therefore, we can say that the highest percentage (81.61%) of College Students is spending their Leisure Time at Home.

Research Question-4: What are the different types of activities through which the College Students spending their Leisure Time?

Table 4: Shows the Different Types of Activities, Frequency, and Percentage of the College Students on their Daily Leisure Time

Different Types of Leisure Time Activities	Frequency	Percentage (%)
Entertainment Activity	310	100
Others Activity	307	99.03
Extra Educational Activity	295	95.16
Creative Activity	248	80
Physical Activity	239	77.09
Social Activity	181	58.38

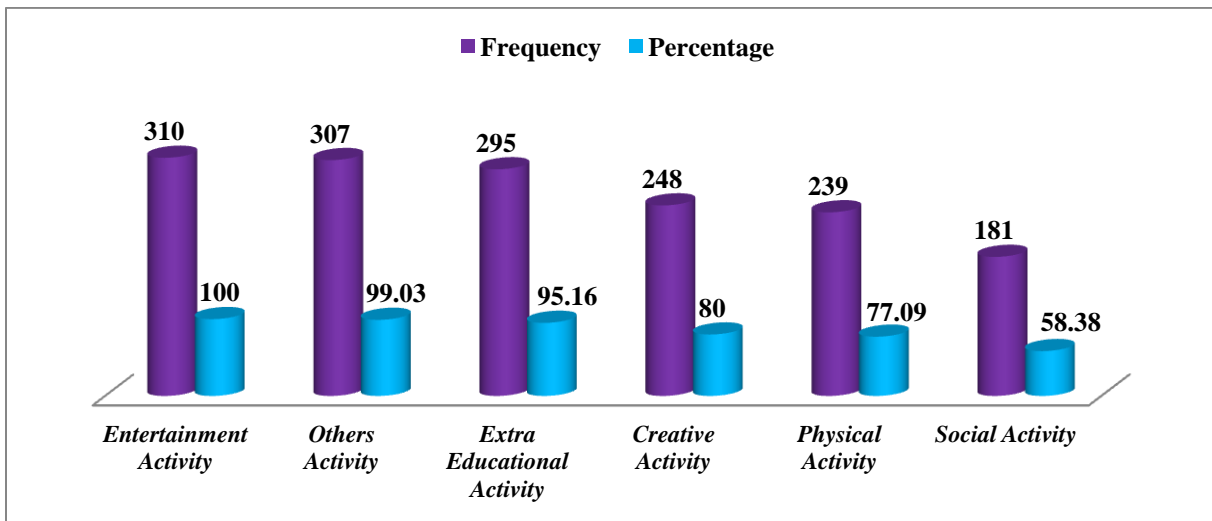


Figure 4: Graphical Representation of the Different Types of Activities, Frequency, and Percentage of the College Students on their Daily Leisure Time

The above table and figure show that out of 310 College Students, 100%, 99.03%, 95.16%, 80%, 77.09%, and 58.38% Students are spending their Leisure Time by doing the different types of Entertainment Activities, Others Activities, Extra-Educational Activities, Creative Activities, Physical Activities, and Social Activities respectively. Therefore, it can be said that the highest percentage (100%) of the College Students is spending their Leisure Time by doing the different types of Entertainment Activities.

Table 5: Results of t-Test between different groups of College Students regarding their Nature of Spending Leisure Time

Groups	N	Mean	S.D	Mean Difference	S _{ED}	df	t-value	Result
Pleasant Group	281	154.02	20.13	19.68	4.08	308	4.83**	S
Unpleasant Group	29	134.34	27.48					
Physical Activity Do	239	153.50	20.50	5.74	2.90	308	1.98*	S
Physical Activity Not Do	71	147.76	21.73					
Creative Activity Do	248	151.35	21.70	4.17	3.07	308	1.36@	NS
Creative Activity Not Do	62	155.52	21.29					
Social Activity Do	181	155.80	20.87	8.69	2.45	308	3.55**	S
Social Activity Not Do	129	147.11	21.79					
Extra Educational Activity Do	295	152.18	21.85	0.09	5.74	308	0.02@	NS
Extra Educational Activity Not Do	15	152.27	17.87					

*Significant at 0.05, ** Significant at 0.01 and @ Not Significant [Table Value of 't' against df-308 at 0.05 level and 0.01 level are 1.97 & 2.59 respectively]

Table 6: Shows the Number, Mean and S.Ds of different groups of College Students regarding their Nature of Spending Leisure Hours based on Time Duration

Spending Leisure Time			
	N	Mean	S.D
Less Than 2 Hours (Daily)	22	139.23	23.81
More than 2 Hours Less than 4 Hours (Daily)	95	147.85	19.45
More than 4 Hours Less than 6 Hours (Daily)	121	158.24	16.84
More than 6 Hours Less than 8 Hours (Daily)	54	156.44	23.26
More Than 8 Hours (Daily)	18	137.39	34.15
Total	310	152.18	21.65
Physical Activity			
Less Than 2 Hours (Daily)	110	152.11	19.98
More Than 2 Hours (Daily)	129	154.68	22.72
No Activity (Daily)	71	147.76	21.73
Total	310	152.18	21.65
Creative Activity			
Less Than 2 Hours (Daily)	208	152.65	21.34
More Than 2 Hours (Daily)	40	144.57	22.56
No Activity (Daily)	62	155.52	21.29
Total	310	152.18	21.65
Entertainment Activity			
Less Than 2 Hours (Daily)	89	154.42	19.75
More Than 2 Hours But Less Than 5 Hours (Daily)	147	159.10	17.22
More Than 5 Hours But Less Than 8 Hours (Daily)	56	139.20	21.40
More Than 8 Hours(Daily)	18	125.06	26.38
Total	310	152.18	21.65

Table 7: Shows the results of ANOVA on different groups of College Students regarding their Nature of Spending Leisure Hours based on Time Duration

Different aspects of Leisure Time	Sum of Squares		Mean Square		F-value
	Between Groups	Within Groups	Between Groups	Within Groups	
Spending Leisure Time	14833.06	129979.5	3708.27	426.16	8.70**
Time Duration on Physical Activity	2194.930	142617.6	1097.465	464.552	2.36@
Time Duration on Creative Activity	3050.18	141762.3	1525.09	461.77	3.30*
Time Duration on Entertainment Activity	30171.65	114640.9	10057.216	374.643	26.85**

*Significant at 0.05, ** Significant at 0.01 and @ Not Significant [Table Value of 'F' against df-305/4, 307/2, 306/3 at 0.05 and 0.01 level are 2.41, 3.03, 2.64 and 3.38, 4.68, 3.85 respectively]

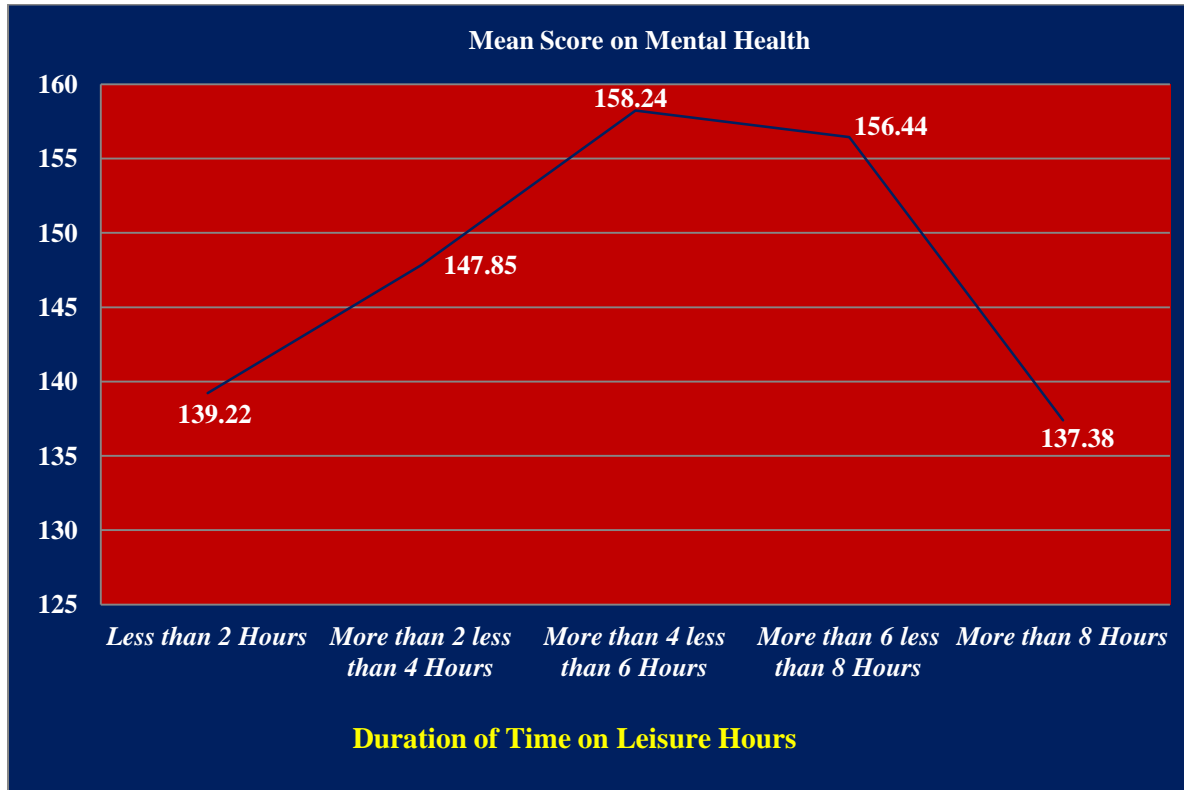


Figure 5: Graphical Representation of the effects of Spending Leisure Time on Mental Health of the College Students on the basis of Time Duration

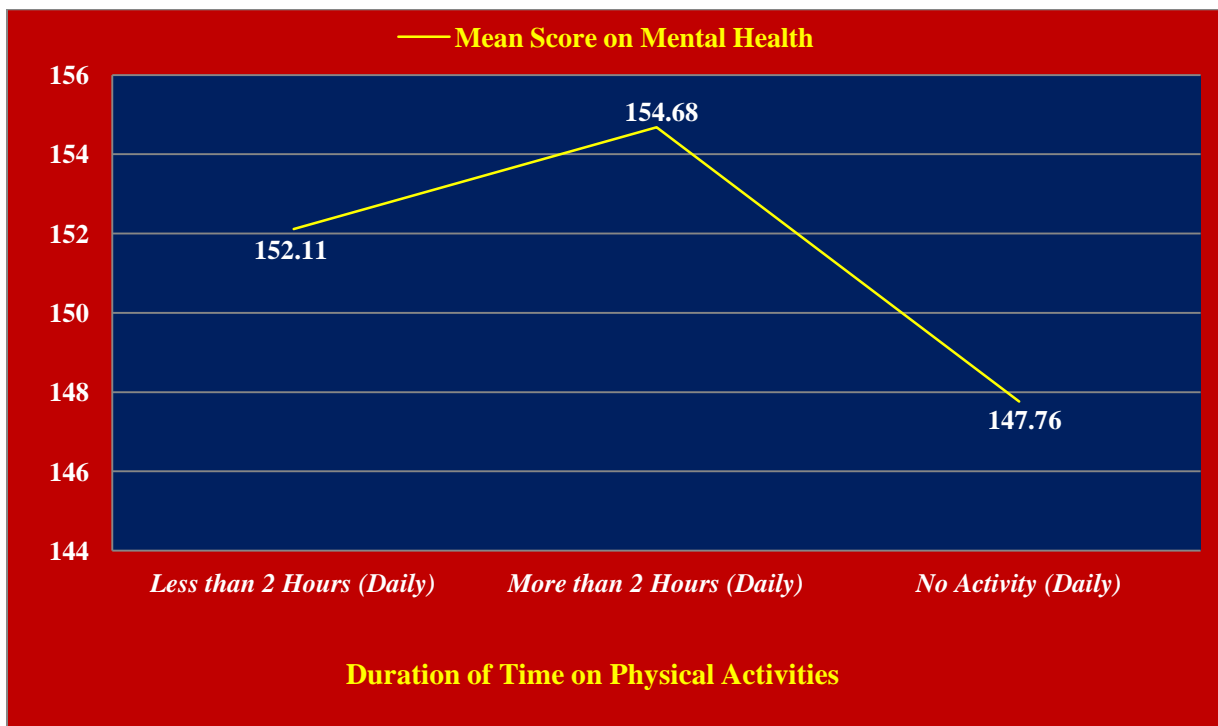


Figure 6: Graphical Representation of the effects of Physical Activities on Mental Health of the College Students on the basis of Time Duration

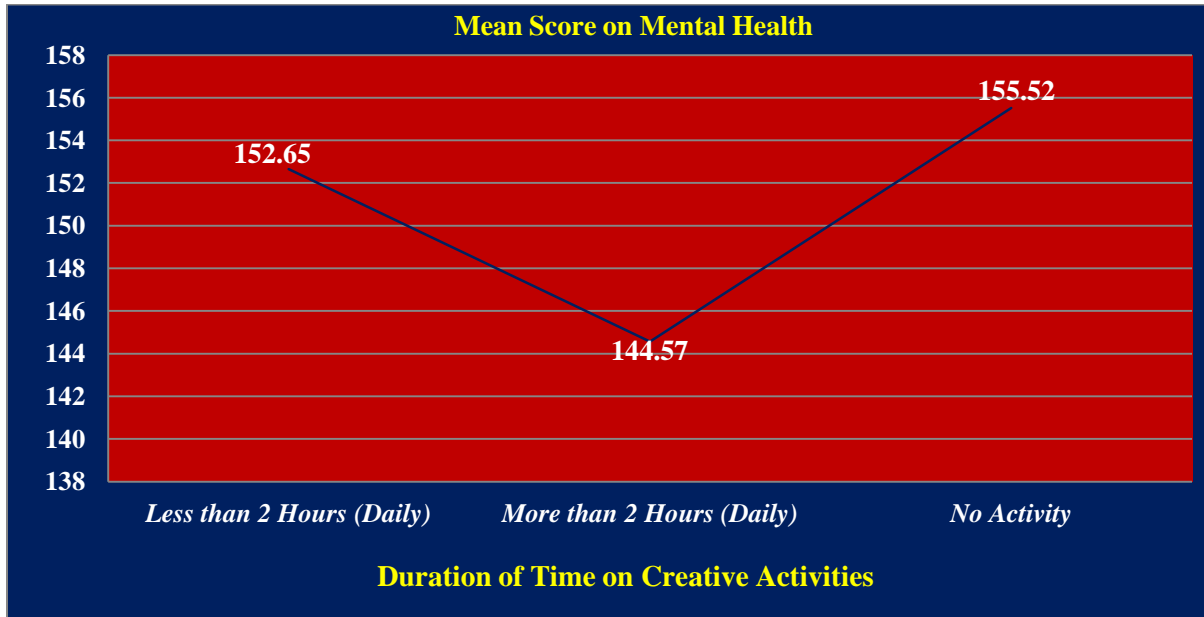


Figure 7: Graphical Representation of the effects of Creative Activities on Mental Health of the College Students on the basis of Time Duration

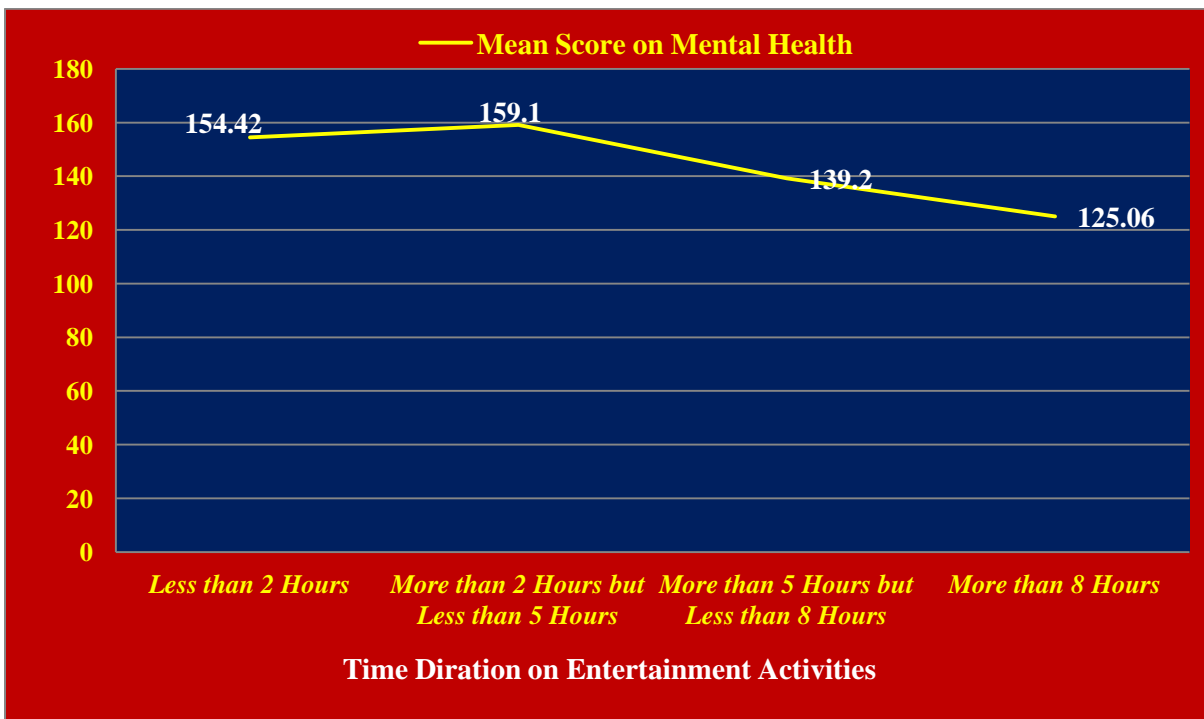


Figure 8: Graphical Representation of the effects of Entertainment Activities on Mental Health of the College Students on the basis of Time Duration

Testing of H_0 and Interpretation

From [table 5](#), it is observed that the calculated 't'-value (**4.83**) is greater than the table value at both levels of significance (1.97 at 0.05 and 2.59 at 0.01 level of significance) ([Barman & Bhattacharyya, 2015](#)). Therefore, the result is significant and it indicates that there have significant effects on the Condition of Spending Leisure Time on Mental Health of the College Students. Hence, the null hypothesis is rejected. On the other hand, on the basis of obtained Mean Scores it can be said that the Pleasant Group of Students were comparatively more mentally healthy than the Unpleasant Group of Students in the district of Hooghly, West Bengal.

Testing of $H0_2$ and Interpretation

From [table 5](#), it is observed that the calculated 't'-value (**1.98**) is greater than the table value at the 0.05 level of significance (1.97 at 0.05 level of significance). Therefore, the result is significant and it indicates that there have significant effects of Physical Activities on Mental Health of the College Students on the basis of Doing or Not Doing. Hence, the null hypothesis is rejected. On the other hand, on the basis of obtained Mean Scores it can be said that the Physical Activity Doing Group of Students was comparatively more mentally healthy than the Physical Activity Not Doing Group of Students in the district of Hooghly, West Bengal.

Testing of $H0_3$ and Interpretation

From [table 5](#), it is observed that the calculated 't'-value (**1.36**) is less than the table value at the 0.05 level of significance (1.97 at 0.05 level of significance). Therefore, the result is not significant and it indicates that there have not any significant effects of Creative Activities on Mental Health of the College Students on the basis of Doing or Not Doing. Hence, the null hypothesis is accepted.

Testing of $H0_4$ and Interpretation

From [table 5](#), it is observed that the calculated 't'-value (**3.55**) is greater than the table value at both levels of significance (1.97 at 0.05 and 2.59 at 0.01 level of significance). Therefore, the result is significant and it indicates that there have significant effects of Social Activities on Mental Health of the College Students on the basis of Doing or Not Doing. Hence, the null hypothesis is rejected. On the other hand, on the basis of obtained Mean Scores, it can be said that the Social Activity Doing Group of Students was comparatively more mentally healthy than the Social Activity Not Doing Group of Students in the district of Hooghly, West Bengal.

Testing of $H0_5$ and Interpretation

From [table 5](#), it is observed that the calculated 't'-value (**0.02**) is less than the table value at the 0.05 level of significance (1.97 at 0.05 level of significance). Therefore, the result is not significant and it indicates that there have not any significant effects of Extra Educational Activities on Mental Health of the College Students on the basis of Doing or Not Doing. Hence, the null hypothesis is accepted.

Testing of $H0_6$ and Interpretation

From [table 7](#), it is observed that the calculated 'F'-ratio is **8.70** which is greater than the table value at both levels of significance. Therefore, the result is significant and we can say that there have significant effects of Spending Leisure Time on the Mental Health of the College Students on the basis of Time Duration. Hence, the null hypothesis is rejected.

Testing of $H0_7$ and Interpretation

From [table 7](#), it is observed that the calculated 'F'-ratio is **2.36** which is less than the table value at the 0.05 level of significance. Therefore, the result is not significant and we can say that there have not any significant effects of Physical Activities on Mental Health of the College Students on the basis of Time Duration. Hence, the null hypothesis is accepted.

Testing of $H0_8$ and Interpretation

From [table 7](#), it is observed that the calculated 'F'-ratio is **3.30** which is greater than the table value at the 0.05 level of significance. Therefore, the result is significant and we can say that there have significant effects of Creative Activities on Mental Health of the College Students on the basis of Time Duration. Hence, the null hypothesis is rejected.

Testing of $H0_9$ and Interpretation:

From [table 7](#), it is observed that the calculated 'F'-ratio is **26.85** which is greater than the table value at both levels of significance. Therefore, the result is significant and we can say that there have significant effects of Entertainment Activities on Mental Health of the College Students on the basis of Time Duration. Hence, the null hypothesis is rejected.

Major Findings and Discussion of the Results:

Through the present study, it is examined that the highest percentage (39.03%) of College Students was spending their Leisure Time for more than 4 hours but less than 6 hours per day ([See Table 1](#)). The study explored that most of the College Students (90.64%) were spending their Leisure Time pleasantly ([See Table 2](#)). The present study also explored that the highest percentage (81.61%) of College Students was spending their Leisure Time at Home as the first place and sports center as the second place ([See Table 3](#)). It means that most of the college students were interested to spend their leisure time in their own homes as their first preference and sports center as their second. These findings of the present study are supported by [Masrour, Tondnevis & Mozaffari \(2012\)](#). They reported that the students of Iran had spent most of their leisure time at home in the first

place and at sports-recreational centers as second place. The present study explored that all the students (100%) were spending their Leisure Time by doing the different types of Entertainment Activities ([See Table 4](#)).

It is revealed that there was a significant difference between Pleasant and Unpleasant Groups of students with respect to their Mental Health ([See Table 5](#)). It means that the condition of spending leisure time has significant effects on the Mental Health of College Students. It is also found that the students, who were spending their leisure time pleasantly, were comparatively more mentally healthy than those students who were spending their leisure time unpleasantly. This is a unique finding of the present study and supported by [Kim et al., \(2015\)](#). The present study interestingly explored that leisure time Physical Activities have a significant effect on the Mental Health of the College Students ([See Table 5](#)). It is reported that the students who were doing different types of Physical Activities in their leisure time, were comparatively more mentally healthy than those students who did not. This finding of the present study is supported by [Rovio et al., 2005](#); [Hurwitz et al., 2005](#); [Wada et al., 2006](#); [Schnohr et al., 2006](#); [Teychenne et al., 2008](#); [Hamer et al., 2009](#); [Jonsdottir et al., 2010](#); [Goldfield et al., 2011](#); [Barbar, 2012](#); [Rocha et al., 2012](#); [Aliabadi, Zobair, & Zobiair, 2013](#); [Kim & McKenzie, 2014](#); [Stanton, Happell, & Reaburn, 2014](#); [Lahti et al., 2014](#); [Velten et al., 2014](#); [Gigantesco et al., 2015](#); [Toyoshima et al., 2016](#); [Ilieva & Ignatov, 2017](#); and [Pelias et al., 2017](#). They are all reported that leisure-time physical activities help to improve our mental and psychological health by reducing our stress, depression, anxiety, tension and so many mental as well as psychological disorders.

It is found that leisure time Creative Activities have no significant effect on the Mental Health of the College Students ([See Table 5](#)). But it is found that the Creative Activity Not Doing group of Students was comparatively more mentally healthy than the Creative Activity Doing group of Students on the basis of their obtained mean score. Another important finding has come out through the present study that leisure time social activities have a significant effect on Mental Health of the College Students ([See Table 5](#)). It is observed that the students, who were spending their leisure time by doing different types of social activities, were comparatively more mentally healthy than those students who did not. This finding of the present study is supported by [Honda et al. \(2010\)](#) and [Kuriyama et al. \(2009\)](#). They reported that the leisure time community activities were closely associated with psychological health. They stated that lack of participation in community activities was strongly associated with our psychological distress.

The present study revealed that leisure time Extra Educational Activities have no significant effect on the Mental Health of the College Students ([See Table 5](#)). But it is also found that the Extra Educational Activity Not Doing a group of Students was comparatively more mentally healthy than the Extra Educational Activity Doing group of Students on the basis of their obtained mean score.

The present study very interestingly explored that the duration of time for spending leisure hours has a significant effect on the Mental Health of the College Students ([See Table 7](#)). It is cleared that the College Students who were spending their Leisure Time for Less than 2 Hours; More than 2 Hours but Less than 4 Hours; More than 6 Hours but Less than 8 Hours; and More than 8 Hours, were comparatively less Mentally Healthy than the students who were spending their Leisure Time for More than 4 Hours but Less than 6 Hours ([See the Figure 5](#)). It means that very little or very long time spending on leisure negatively affects the mental health of college students. This is another important, significant and unique finding of the present study.

The present study revealed that leisure-time physical activities have no significant effect on the Mental Health of College Students on the basis of Time Duration ([See Table 7](#)). It is observed that the College Students who were doing physical activity for less than 2 hours (Daily) and Not Doing Physical activity, were comparatively less Mentally Healthy than the students who were doing Physical Activity in their Leisure Time for More than 2 Hours (Daily) ([See the Figure 6](#)).

It is explored that leisure time creative activities have a significant effect on the Mental Health of the College Students on the basis of Time Duration ([See Table 7](#)). It is observed that the College Students who were doing Creative activity for Less than 2 Hours (Daily) and More Than 2 Hours(Daily), were comparatively less Mentally Healthy than the students who were not doing Creative Activity in their Leisure Time ([See the Figure 7](#)).

Another important finding has come out through the present study that leisure time Entertainment Activities have a significant effect on the Mental Health of the College Students on the basis of Time Duration ([See Table 7](#)). It is observed that the College Students who were doing Entertainment activities for Less than 2 Hours; More Than 5 Hours but Less Than 8 Hours; and More Than 8 Hours (Daily), were comparatively less Mentally Healthy than the students who were doing Entertainment Activities in their Leisure Time for More than 2 Hours but Less Than 5 Hours (Daily) ([See the Figure 8](#)). Therefore, it can be said that more time spending on entertainment activities, adversely affects the mental health condition of college students. The condition of the mental health of college students decreases with increasing the time duration on entertainment activities in leisure hours.

CONCLUSION

Through the present study, it is proved that leisure time is a very important and valuable thing in our life. It helps us in numerous ways. That's why it is very much necessary to have a certain period of leisure time for everyone especially for our students who are future of our nation. One important thing is observed in the present study that insufficient time for leisure

negatively affects the mental health condition of college-level students. Similarly, it is found that spending leisure hours for a long time also negatively affects the mental health condition of college students. Therefore, it can be said that we have to provide sufficient time for each and every student so that they can get and enjoy their leisure hours adequately and appropriately. On the other hand, the present study showed that the condition of the mental health of college students depends on how they are spending their leisure time, pleasantly or unpleasantly. It is found that pleasantly spending leisure time positively affects the mental health condition of college students. So we have to give emphasis on this matter seriously. In this case, colleges can play a significant role in order to maintain and improve the mental health condition of the students. For this purpose, the colleges can arrange various types of recreational activities through which the students can enjoy their leisure hours by their own choices or preferences, can spend their leisure time pleasantly and thus can improve their mental health condition.

The present study explored that leisure-time physical and social activities positively affect the mental health condition of college students. That's why the colleges have to provide different types of physical and social activity related facilities to the students so that they can spend their leisure time by doing physical and social activities and make themselves as a mentally healthy person.

Lastly, another important finding has come out through the present study that more time spending on entertainment activities negatively affects the mental health of the college level students. It is observed that the condition of the mental health of college students decreases with the increasing time duration on entertainment activities in leisure hours. It means that spending a long time on entertainment activities in leisure hours is not a good sign for students' mental health at the college level. Therefore, the students have to be conscious regarding this matter. Not only that teachers at college and parents at home, can play a vital role in this concern.

Finally it can be concluded that leisure time undoubtedly have significant effects on mental health of the college students (Deci & Ryan, 1985; Ryan & Deci, 2000; Kleiber et al., 2002; Moloney, 2002; Hodgson & Lloyd, 2002; Caldwell, 2005; Depp & Jeste, 2006; Lloyd et al., 2007; Leung et al., 2011; and Sharma et al., 2015). But simultaneously it is also true that what types of activities are the students doing in their leisure time and how much time are the students getting to spend for their leisure hours, are the key important aspects in case of maintaining and improving the mental health condition of the college level students.

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REFERENCES

1. Aliabadi, S., Zobairy, M., & Zobairy, L. (2013). The Relationship between Depression and Leisure Time Activity in Female High School Students. *Procedia - Social and Behavioral Sciences*, 84, 256-258. <https://doi.org/10.1016/j.sbspro.2013.06.546>
2. Barbar, A. (2012). Effect of Morning Exercise on the Psychological Well-Being of High School Female Students. *Annals of Biological Research*, 3(12), 5681-5686. <http://scholarsresearchlibrary.com/archive.html>
3. Barman, P., & Bhattacharyya, D. (2015). Teaching Effectiveness of Teacher Educators in Different Types of B.Ed Colleges in West Bengal, India. *American Journal of Educational Research*, 3(11), 1164-1177. DOI: 10.12691/education-3-11-5
4. Caldwell, L. L. (2005). Leisure and Health: Why is Leisure Therapeutic? *British Journal of Guidance and Counselling*, 33(1), 7-26. <https://doi.org/10.1080/03069880412331335939>
5. Chang, P., Wray, L., & Lin, Y. (2014). Social Relationships, Leisure Activity, and Health in Older Adults. *Health Psychology*, 33(6), 516-523. <https://doi.org/10.1037/hea0000051>
6. Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior*. Plenum, New York. <https://doi.org/10.1007/978-1-4899-2271-7>
7. Depp, C. A., & Jeste, D. V. (2006). Definitions and Predictors of Successful Aging: A Comprehensive Review of Larger Quantitative Studies. *The American Journal Geriatric Psychiatry*, 14(1), 6-20. <https://doi.org/10.1097/01.JGP.0000192501.03069.bc>
8. Fullagar, S. (2008). Leisure Practices as Counter-Depressants: Emotion-Work and Emotion-play within Women's Recovery from Depression. *Leisure Sciences*, 30(1), 35-52. <https://doi.org/10.1080/01490400701756345>
9. Gautam, R., Saito, T., & Kai, I. (2007). Leisure and Religious Activity Participation and Mental Health: Gender Analysis of Older Adults in Nepal. *Bio Medical Central Public Health*, 7:299. <https://doi.org/10.1186/1471-2458-7-299>

10. Ghanbari, A., Shahboulaghi, F. M., Mohammadi, M., & Vahidi, A. (2015). Leisure Activities and Mental Health among Aging People in Tehran, Iran. *Elderly Health Journal*, 1(2), 62-67. URL: <http://ehj.ssu.ac.ir/article-1-42-en.html>
11. Gigantesco, A., Ferrante, G., Baldissera, S., Masocco, M., & PASSI coordinating group (2015). Depressive symptoms and behavior-related risk factors, Italian population-based surveillance system, 2013. *Preventing Chronic Disease*, 12, E183. <https://doi.org/10.5888/pcd12.150154>
12. Goldfield, G. S., Henderson, K., Buchholz, A., Obeid, N., Nguyen, H., & Flament, M. F. (2011). Physical Activity and Psychological Adjustment in Adolescents. *Journal of Physical Activity and Health*, 8(2), 157-163. <https://doi.org/10.1123/jpah.8.2.157>
13. Hamer, M., Stamatakis, E., & Steptoe, A. (2009). Dose-Response Relationship between Physical Activity and Mental Health: The Scottish Health Survey. *British Journal of Sports Medicine*, 43(14), 1111-1114. <https://doi.org/10.1136/bjsm.2008.046243>
14. Harvey, S B., Hotopf, M., Overland, S., & Mykletun, A. (2010). Physical Activity and Common Mental Disorders. *British Journal of Psychiatry*, 197(5), 357-364. <https://doi.org/10.1192/bjp.bp.109.075176>
15. Hodgson, S., & Lloyd, C. (2002). Leisure as a Relapse Prevention Strategy. *British Journal of Therapy and Rehabilitation*, 9(3), 86-91. <https://doi.org/10.12968/bjtr.2002.9.3.13609>
16. Honda, H., Ueki, S., Okada, T., Ebata, S., Kasai, T., Takato, J., Inuzuka, G., Arayama, N., & Haga, H. (2010). Relationships between Participation in Community Activities and Psychosocial and Physical Health of Community-Dwelling Elderly. *Nihon Koshu Eisei Zasshi (Japanese Journal of Public Health)*, 57(11), 968-976. https://doi.org/10.11236/jph.57.11_968
17. Hurwitz, E. L., Morgenstern, H., & Chiao, C. (2005). Effects of Recreational Physical Activity and Back Exercises on Low Back Pain and Psychological Distress: Findings from the UCLA Low Back Pain Study. *American Journal of Public Health*, 95(10), 1817-1824. <https://doi.org/10.2105/AJPH.2004.052993>
18. Ilieva, I., & Ignatov, G. (2017). Physical Activity during Leisure Time of Students from Ruse University Angel Kanchev and Sofia University St. Kliment Ohridski, Bulgaria. "Mircea cel Batran" Naval Academy Scientific Bulletin, 20(2), 31-34. <https://doi.org/10.21279/1454-864X-17-12-008>
19. Janssen, I., Carson, V., Lee, I. M., Katzmarzyk, P. T., & Blair, S. N. (2013). Years of Life Gained Due to Leisure-Time Physical Activity in the U.S. *American Journal of Preventive Medicine*, 44(1), 23-29. <https://doi.org/10.1016/j.amepre.2012.09.056>
20. Jonsdottir, I. H., Rodger, L., Hadzibajramovic, E., Borjesson, M., & Ahlberg, G. (2010). A Prospective Study of Leisure-Time Physical Activity and Mental Health in Swedish Health Care Workers and Social Insurance Officers. *Preventive Medicine*, 51(5), 373-377. <https://doi.org/10.1016/j.jpmed.2010.07.019>
21. Kim, J. H., & McKenzie, L. A. (2014). The Impacts of Physical Exercise on Stress Coping and Well-Being in University Students in the Context of Leisure. *Health*, 6(19), 2570-2580. <https://doi.org/10.4236/health.2014.619296>
22. Kim, S., Sung, J., Park, J., & Dittmore, S. W. (2015). The Relationship among Leisure Attitude, Satisfaction, and Npsychological Well-Being for College Students. *Journal of Physical Education and Sport* ® (JPES), 15(1), 70-76. <https://doi.org/10.7752/jpes.2015.01012>
23. Kleiber, D. A., Hutchinson, S. L., & Williams, R. (2002). Leisure as a Resource in Transcending Negative Life Events: Self-Protection, Self-Restoration, and Personal Transformation. *Leisure Sciences*, 24(2), 219-235. <https://doi.org/10.1080/01490400252900167>
24. Kuriyama, S., Nakaya, N., Ohmori-Matsuda, K., Shimazu, T., Kikuchi, N., Kakizaki, M., Sone, T., Sato, F., Nagai, M., Sugawara, Y., Akhter, M., Higashiguchi, M., Fukuchi, N., Takahashi, H., Hozawa, A., & Tsuji, I. (2009). Factors Associated with Psychological Distress in a Community-Dwelling Japanese Population: The Ohsaki Cohort 2006 Study. *Journal of Epidemiology*, 19(6), 294-302. <https://doi.org/10.2188/jea.JE20080076>
25. Lahti, J., Holstila, A., Lahelma, E., & Rahkonen, O. (2014). Leisure-Time Physical Activity and All-Cause Mortality. *PLoS One*, 9(7), 1-7. <https://doi.org/10.1371/journal.pone.0101548>
26. Leung, G. T., Leung, K. F., & Lam, L. C. (2011). Classification of Late-Life Leisure Activities among Elderly Chinese in Hong Kong. *East Asian Archives of Psychiatry*, 21(3), 123-127.
27. Lloyd, C., King, R., McCarthy, M., & Scanlan, M. (2007). The Association between Leisure Motivation and Recovery: A Pilot Study. *Australian Occupational Therapy Journal*, 54(1), 33-41. <https://doi.org/10.1111/j.1440-1630.2006.00648.x>
28. Masrour, F. F., Tondnevis, F., & Mozaffari, A. A. (2012). Investigating of Leisure Time Activities in Male Students at Iran's Islamic Azad University: An Emphasis on Sports Participation. *European Journal of Experimental Biology*, 2(4), 1053-1061.
29. Minato, M., & Zemke, R. (2004). Time Use of People with Schizophrenia Living with the Community. *Occupational Therapy International*, 11(3), 177-191. <https://doi.org/10.1002/oti.205>
30. Moloney, T. (2002). My Journey of Recovery. *New paradigm*, 5th December.

31. Moore, S. C., Patel, A. V., Matthews, C. E., Berrington, G., Park, Y., Katki, HA., Linet, MS., Weiderpass, E., Visvanathan, K., Helzlsouer, KJ., Thun, M., Gapstur, SM., Hartge, P., & Lee, IM. (2012). Leisure Time Physical Activity of Moderate to Vigorous Intensity and mortality: A Large Pooled Cohort Analysis. *PLoS Medicine*, 9(11), 1-14. e1001335. <https://doi.org/10.1371/journal.pmed.1001335>
32. Paggi, M. E., Jopp, D., & Hertzog, C. (2016). The Importance of Leisure Activities in the Relationship between Physical Health and Well-Being in a Life Span Sample. *Gerontology*, 62(4), 450–458. DOI: 10.1159/000444415, Behavioural Science Section. <https://doi.org/10.1159/000444415>
33. Peleias, M., Tempiski, P., Paro BMS, H., Perotta, B., Mayer B, F., Enns C, S., Gannam, S., Pereira D M, M., Silveira, S.P., Santos S, I., Carvalho RF, C., & Martins A, M. (2017). Leisure time physical activity and quality of life in medical students: results from a multicentre study. *BMJ Open Sport and Exercise Medicine*, 3(1), e000213 <https://doi.org/10.1136/bmjsem-2016-000213>
34. Ponde, M. P., & Santana, V. S. (2000). Participation in Leisure Activities: Is It a Protective Factor for Women's Mental Health? *Journal of Leisure Research*, 32(4), 457-472. <https://doi.org/10.1080/00222216.2000.11949927>
35. Pressman, SD., Matthews, KA., Cohen, S., Martire, LM., Scheier, M., Baum, A., & Schulz, R. (2009). Association of Enjoyable Leisure Activities with Psychological and Physical Well-Being. *Psychosomatic Medicine*, 71(7), 725–732. <https://doi.org/10.1097/PSY.0b013e3181ad7978>
36. Rezaei, S., Salehipour, M., & Bastami, H. (2016). Investigating Patterns of Spending Leisure Time with Emphasize on Physical Activities and Sport (The Case Study: Female Professors, Students, and Staffs at Ilam University). *International Journal of Science Culture and Sport*, 4(3), 326-338. <https://doi.org/10.14486/IntJSCS523>
37. Rocha, S. V., Araújo, T.M.D., Almeida, M. M. G. D., & Júnior, J. S. V. (2012). Practice of Physical Activity during Leisure Time and Common Mental Disorders among Residents of a Municipality of Northeast Brazil. *Revista Brasileira de Epidemiologia (Brazilian Journal of Epidemiology)*, 15(4), 871-883. <https://doi.org/10.1590/S1415-790X2012000400017>
38. Rovio, S., Kareholt, I., Helkala, E. L., Viitanen, M., Winblad, B., Tuomilehto, J., Soininen, H., Nissinen, A., & Kivipelto, M. (2005). Leisure-Time Physical Activity at Midlife and the Risk of Dementia and Alzheimer's Disease. *The Lancet Neurology*, 4(11), 705–711. [https://doi.org/10.1016/S1474-4422\(05\)70198-8](https://doi.org/10.1016/S1474-4422(05)70198-8)
39. Ryan, K. (2002). Road to Recovery. *New paradigm*, 4th December.
40. Ryan, R., & Deci, E. L. (2000). Self-Determinism Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist*, 55(1), 68-78. <https://doi.org/10.1037/0003-066X.55.1.68>
41. Schnohr, P., Lange, P., Scharling, H., & Jensen, J. S. (2006). Long-Term Physical Activity in Leisure Time and mortality from coronary Heart Disease, Stroke, Respiratory Diseases, and Cancer: The Copenhagen City Heart Study. *The European Journal of Cardiovascular Prevention and Rehabilitation*, 13(2), 173–179. <https://doi.org/10.1097/01.hjr.0000198923.80555.b7>
42. Sharafuddin, S. H. (2016). Manner of Prophets in the Entertainment and Leisure Time. *Journal of Studies in Islam & Psychology*, 9(16), 27-54.
43. Sharma, N. K., Kumar, P., & Jena, P. C. (2015). Effect of Leisure Time Activities on Mental Health of Orphan Children. *International Journal of Sport Studies*, 5(1), 12-18. Available online at <http://www.ijssjournal.com>.
44. Singh, A.K. (2009). *Tests, Measurements and Research Methods in Behavioural Sciences*. Bharati Bhawan, New Delhi.
45. Stanton, R., Happell, B., & Reaburn, P. (2014). The Mental Health Benefits of Regular Physical Activity and Its Role in Preventing Future Depressive Illness. *Nursing: Research and Reviews*, 4, 45–53. <https://doi.org/10.2147/NRR.S41956>
46. Teychenne, M., Ball, K., & Salmon, J. (2008). Physical Activity and Likelihood of Depression in Adults: A Review. *Preventive Medicine*, 46(5), 397–411. <https://doi.org/10.1016/j.ypmed.2008.01.009>
47. Toyoshima, M., Kaneko, Y., & Motohashi, Y. (2016). Leisure-Time Activities and Psychological Distress in a Suburban Community in Japan. *Preventive Medicine Reports*, 4, 1-5. <https://doi.org/10.1016/j.pmedr.2016.04.007>
48. Velten, J., Lavallee, K.L., Scholten, S., Meyer, AH., Zhang, XC., Schneider, S., & Margraf, J. (2014). Lifestyle Choices and Mental Health: A Representative Population Survey. *BMC Psychology*, 2(58), 1-11. <https://doi.org/10.1186/s40359-014-0055-y>
49. Wada, K., Satoh, T., Tsunoda, M., Aizawa, Y., & Japan Work Stress and Health Cohort Study Group (2006). Associations of Health Behaviors on Depressive Symptoms among Employed Men in Japan. *Industrial Health*, 44(3), 486–492. <https://doi.org/10.2486/indhealth.44.486>