CHAPTER 7

DISCUSSION

Mental health is one of the major factors responsible for the well-being of an individual. World Health Organization has defined mental health “as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (WHO, 2014). According to The World Health Report (2001) the concept of mental health incorporates “subjective well-being, perceived self-efficacy, autonomy, competence, intergenerational dependence, and self-actualization of one’s intellectual and emotional potential, among others.”

Through various studies it was observed that student population suffer poor mental health as compared to general population of the same age (Roberts Golding, Towell, & Weinreb, 1999; Adlaf, Demers, & Gliksman, 2005; Nerdrum, Rustøen, & Rønnestad 2006; Blanco, Okuda, Wright, Hasin, Grant, & Liu, 2008; Walsh, Feeney, Hussey, & Donnellan, 2010; Moreira & Telzer, 2015). Mental health difficulties among students are a critical issue (Castillo & Schwartz, 2013; Milojevich & Lukowski, 2016). As students move in higher classes, the work load and academic responsibilities increase which adversely affects the mental well-being of the students. A recent study reported that research students suffer from poor mental health as compared to post graduate students (Parthi & Rohilla, 2017). Several researches have also reported that, in comparison to general population, student population suffers from poorer mental health (Bayram & Bilgel 2008; Benderma, 2013).

Doctoral degree is one of the highest academic degrees in which extraordinary adherence, persistent efforts and consistency is needed in order to get fruitful results. To pursue a doctoral research huge investment is also required in terms of time and money, shortage of which can obstruct the progress of research work. Lack of financial resources adversely affects the work progress, work quality and ultimately the health of the individual (Hyun, et al., 2017).

Keeping in view the above facts, the present study was designed to investigate the mental health of research students in Punjab University, Chandigarh. The aim of
the study was to study the differences on mental health, depression, anxiety, stress, quality of life, self-esteem and social support among fellowship holder and non-fellowship holder research students. Further, the research was designed to study the gender differences, and correlates and predictors of mental health among research students. To fulfill the objectives of the investigation, the sample of the study comprised of 400 research students within the age range of 23-33 years (mean age 26 years). 200 research students were fellowship holders (100 males and 100 females) and 200 were non fellowship holders (100 males and 100 females).

The data was collected using survey method with purposive sampling technique. All the scales were personally administered to each participant. GHQ-12 (Goldberg & Williams, 1988) was used to measure mental health. Beck Depression Inventory (Beck, 1996) to assess the symptoms of depression. Hamilton Anxiety Rating Scale (Hamilton, 1959) was used to measure symptoms of anxiety. Perceived stress was studied using Perceived Stress Scale (Cohen & Williamson, 1988). The Quality of Life Scale (Burckhardt & Anderson, 2013) was applied to measure quality of life. Self-Esteem Scale by Rosenberg (1965) was used to measure self-esteem. For social support, Social Support Questionnaire (Nehra, Kulhara & Verma, 1987) was used. An attempt was also made to measure the performance with mental health of the students using a rating scale. For this purpose, the responses regarding the performance were to be given by the research supervisors. However, the research scholars were apprehensive of sharing any information, if their respective supervisor was involved. Therefore, the performance assessment was not conducted in the present study.

The raw scores were analyzed by using statistical techniques and methods viz. descriptive statistics, t-test, analysis of variance, inter-correlation and regression analysis. All the results are shown in the form of tables.

**Descriptive Statistics**

Mean and standard deviations were calculated for all the measured variables. Descriptive statistics were calculated and are shown in the form of tables (From Table 6.a.1 to Table 6.a.5). Descriptive statistics are shown for total sample of research
students (Table 6.a.1), fellowship holders (Table 6.a.2), non-fellowship holders (Table 6.a.3), male research students (Table 6.a.4) and female research students (Table 6.a.5).

**Comparison between Means: t-test analysis**

T-test was applied in order to make comparison between the means of various groups on all the measured variables. Table 6.1 is showing comparison between fellowship holder and non-fellowship holder research students on all the measured variables viz. mental health, depression, anxiety, perceived stress, quality of life, self-esteem and social support. Table 6.2 (viz. Table 6.2.1, 6.2.2, 6.2.3) is showing mean differences with respect to the gender. Table 6.2.1 is showing comparison between male and female research students. Table 6.2.2 is showing gender comparison between fellowship holder research students and Table 6.2.3 is showing gender comparison between non-fellowship holder research students.

**Analysis of Variance (ANOVA)**

Analysis of variance was conducted (Table 6.3) for financial support and gender as independent variables. The two way analysis (2×2) was tabulated with two levels of treatment for gender (male and female) and two levels of treatment for financial support (fellowship holders and non-fellowship holders). The main effects and the interaction effects were assessed for all the dependent variables viz. mental health (Table 6.3.1), depression (Table 6.3.2), anxiety (Table 6.3.3), perceived stress (Table 6.3.4), quality of life (Table 6.3.5), self-esteem (Table 6.3.6) and social support (Table 6.3.7).

**Inter-correlation Analysis**

Inter-correlation analysis was done in order to assess the relationship between measured variables under study (Table 6.4). Inter-correlation matrix was calculated for total sample (Table 6.4.1), fellowship holders (Table 6.4.2), non-fellowship holders (Table 6.4.3), male research students (Table 6.4.4) and female research students (Table 6.4.5)
Regression Analysis

Stepwise regression analysis was done in order to derive the significant predictors of mental health (Table 6.5). Regression analysis was tabulated for total sample of research students (Table 6.5.1-6.5.3), for fellowship holders (Table 6.5.4-6.5.6), for non-fellowship holders (Table 6.5.7-6.5.9), for male research students (Table 6.5.10-6.5.12) and for female research students (Table 6.5.13-6.5.15).

Figures and Graphs

Figure 6.1.1 shows the graphical representation of mean difference of all the measured variables under study for fellowship holder and non-fellowship holder research students. Graphical representation of gender wise mean difference among total population of research students (Figure 6.2.1), fellowship holders (Figure 6.2.2) and for non-fellowship holders (Figure 6.2.3) were also shown.

Figure 6.3.1 to Figure 6.3.7 show graphical representation of interaction effect under analysis of variance on all the measured variables viz. mental health (Figure 6.3.1), depression (Figure 6.3.2), anxiety (Figure 6.3.3), perceived stress (Figure 6.3.4), quality of life (Figure 6.3.5), self-esteem (Figure 6.3.6) and social support (Figure 6.3.7).

7.1 Comparison with respect to Financial Support

t-test was applied to find out the mean differences among fellowship holder and non-fellowship holder research students (Table 6.1.1). Findings of the study indicated statistically significant differences exist on the dimensions of mental health among fellowship holders and non-fellowship holders (t=7.33**). Mean score for non-fellowship holders came out to be 16.40 while for fellowship holders mean score was 11.34. For mental health, high score is indicative of poor mental health. This indicates that non-fellowship holder research students suffer from poor mental health than fellowship holder research students.

Statistically significant results also emerged on depression (t=8.36**) where non-fellowship holders exhibit more depression symptoms (M= 12.09) than fellowship holders (M= 5.46).
Similar findings can be seen for anxiety where statistically significant differences emerged between fellowship holder and non-fellowship holder research students \((t=8.04^{**})\). Mean score showed that non-fellowship holder group \((M= 14.19)\) suffer from more anxiety than fellowship holder group \((M= 7.96)\).

On perceived stress dimension, it was observed that fellowship holder and non-fellowship group are statistically different \((t= 8.20^{**})\). Mean score for non-fellowship holder research students emerged to be 22.00 and for fellowship holders research students mean score come out to be 16.76. This clearly indicates that fellowship holders perceive lesser stress than non-fellowship holder research students.

Similarly, on quality of life, significant differences were found between fellowship holders and non-fellowship holders \((t=4.34^{**})\). Mean score reveal that fellowship holders experience better quality of life \((M=85.85)\) as compared to non-fellowship holders \((M=79.41)\).

Findings of the study show that statistically significant results also emerged on self-esteem \((t=4.34^{**})\). Obtained results reveal that fellowship holder research students possess higher self-esteem \((M=31.50)\) than non-fellowship holder research students \((M=29.16)\).

Results indicated statistically no significant differences on social support among fellowship holder and non-fellowship holder research students.

Overall findings of the study on the basis of financial support showed statistically significant differences. This clearly reveals that non-fellowship holder students suffer poor mental health as they have higher mean scores on depression, anxiety and perceived stress. They also report poor quality of life and low self esteem. However, on the social support dimension, no significant differences were observed.

There are numerous researches which support the findings of the present investigation. Woosley (2003) reported that financial difficulties are the most common issues of concern among students. Higher education is highly expensive and can cause financial pressure to the students (Deb, Bhanu, Thomasa, Vardhan, Rao & Khawaja, 2016). As an individual moves upward in academic hierarchy, financial burden and financial difficulties creates barriers and results in physical and mental
health problems (Parthi & Rohilla, 2017). Research students lack in confidence due to their financial condition and are often worried about money related issues (Graduate Student Happiness & Well-being Report, 2014). Trombitas (2012) also reported that out of the top five most common stressors, four were related to their financial condition.

Sharma and Gulati (2015) investigated self-esteem and happiness among adolescents. They found that economic hardship adversely affect the self-esteem, happiness and overall wellbeing of the individuals. Fosnacht (2013) also reported that seventy percent of the sample in study shows symptoms of financial stress. Several researchers observed that students who experience financial difficulty are more likely to show symptoms of depression, anxiety and suicidal thoughts (Eisenberg, Gollust, Golberstein & Hefner, 2007; McPherson, 2012); poor academic performance (Ross, Cleland, & Macleod, 2006); and low self-esteem (Crocker & Luhtanen, 2003). Pritchard and Wilson (2003) found that financial difficulties also influence students’ emotional health. Hodgson and Simoni (1995) found a significant relationship between financial difficulties and psychological distress.

There are several other researches which confirm the findings of present investigation. Richardson et al. (2017) conducted a longitudinal study to investigate how mental health of students gets affected by financial difficulties over time. The data was collected from the sample four times with a gap of three to four months. Results evince that financial difficulty predicted elevated anxiety, higher depression, stress, alcohol dependence and poorer mental health among students at base line which increased across all the four point of times. Gender differences also emerged in the study where higher anxiety, stress and lower dependence on alcohol were predicted among female students than male students.

Benson-Egglenton (2017) investigated one thousand one hundred seventy one students to study the financial circumstances and its effect on health and well-being. Study revealed that the bottom twenty percent students on well-being criteria suffer more financial difficulties than the top twenty percent individuals. The study clearly indicated the stark relationship between students’ financial state and their mental well-being.
Parthi and Rohilla (2017) studied the impact of financial difficulties on mental health in research students. The sample consisted of one hundred twenty doctoral students out of which sixty were those who are getting fellowship to pursue their research and sixty were those who were not getting any kind of financial support. GHQ-12 by Goldberg and Williams (1988) was used to study mental health, perceived stress scale by Cohen and Williamson (1988) was used to measure perceived stress, Beck depression inventory by Beck (1966) was used to analyze depressive symptoms and Hamilton anxiety scale by Hamilton (1959) was used to assess anxiety symptoms among students. Results show significant mean differences between fellowship holders and non-fellowship holder on mental health ($t=7.39^{**}$), stress ($11.14^{**}$), depression ($15.81^{**}$) and anxiety ($t=16.58^{**}$). It was found that non-fellowship holders suffer poor mental health, demonstrate more stress, depression and anxiety symptoms than non-fellowship holders.

Robb (2017) conducted a study on how financial stress influences subjective well-being of students. The sample consisted of three hundred twenty four students (N=324) from Midwestern University. Findings of the study indicated that financial stress, financial self efficacy, and feeling financially restricted predicted health and subjective well being of the students. Financial stress had statistically significant impact on overall perception of life of students. Individuals who scored higher on financial self-efficacy were found to be higher on subjective well-being also.

In 2016, Ross, Cleland, and Macleod confirmed the findings of their previous study that the students who receive funding, scholarships or grants for their education expenses were lower on stress. One of the main sources of stress due to financial difficulty was not being able to participate in the activities as their peers did. The students who were high on self-efficacy, optimistic about their future financial conditions, and were confident that after completion of degree they would be able to support themselves financially were less likely to show financial stress.

Findings from another study conducted on three hundred ninety (N=390) British students by Richardson et al. (2015) showed that financial difficulties and the tuition fees adversely affect mental health of students. It was found that when the fee
was lowered anxiety, depression and stress decreased and global mental health improved.

According to the survey conducted by the Graduate Assembly (2014) for the Graduate Student Happiness and Well-being report it was found that financial difficulty is one of the major factors for adversely affecting the wellbeing of the students. In the survey, it was found that most of the students who experienced lack of financial confidence were less satisfied with their life. Students were reported to experience depression because of the financial stress.

Heckman, Lim, and Montalto (2014) investigated four thousand four hundred and eighty eight students (N=4488) from various colleges and universities of Ohio State. Researchers found that 91.4 percent of the students responded positively to financial stress, and 85.2 percent of students reported that they were not able to pay their bills on time. 80 percent of the students strongly disagreed when asked about whether they are optimistic about their financial situation. Overall, approximately 3204 of the students reported that they were stressed about their financial condition. Logistic regression analysis revealed financial stressors contributed approximately twenty percent in the prediction of stress. Findings of the study confirmed the fact that because of the financial difficulties students were not able to indulge in the activities like their peers, which emerged as another major source of stress. It was also found that females were financially more stressed than male students.

Pariat, Rynjah, Joplin and Kharjana (2014) conducted a study on five hundred thirty seven students (N=537). The sample comprised of 50.1 percent males and 49.9 percent females selected from various colleges of Shillong city. They reported statistically significant correlation between academic stress and financial stress (0.212**) among students.

Fosnacht & Dong (2013) investigated five thousand four hundred and ninety (N=5490) students. Findings of the study revealed that students who were more financially stressed experience high levels of academic challenges. Financial difficulties adversely affected their academic performance. It was also found that financially stressed students use problem focused coping strategy in order to deal with
financial difficulties. Financially stressed students reported that their institution did not provide adequate support for their academic and social success and progress. Academically stressed students were lower on maintaining quality relationships with people at their institutions.

Taft, Hosein, Meheizi and Roshan (2013) did another study among students and found that male students suffer more financial issues than female students. Statistically no significant difference emerged on financial well-being among male and female respondents.

Britt, Ammerman, Barrett and Jones (2012) also found in their study that financial difficulty increased the likelihood of discontinuing of studies among students which leads to financial stress. Researchers observed that with one percent increase in the financial stress an increase in the tendency to discontinue their college increased by nine percent. In other words, students are more likely to discontinue their studies owing to financial difficulties.

Brougham, Zail, Mendoza and Miller (2009) carried out an investigation on one hundred and sixty six college (N=166) students to assess the sources of stress and health difficulties among them. Revised Cope Inventory by Zuckerman and Gagne (2003) was used to measure coping responses to stress. Student Stress Assessment scale was used to measure sources of stress. The sources include “academic”, “familial relationship”, “finances”, and “daily hassles”. The results showed significant gender differences among students on the sources of stressors. It was found that females suffer more financial difficulties (M= 2.66) than males (M=2.15). Results also show statistically significant correlation between financial difficulties and academic pressure (0.40**), and daily hassles (0.30**) in male population whereas among females statistically significant correlation emerged between financial difficulties and accommodation (0.29*) and avoidance (0.26**) coping responses. Statistically significant differences were also found on financial difficulties among males and females. Females were found to perceive more financial difficulties than males.
Joo, Durband and Grable (2009) surveyed five hundred three students (N=503) and found statistically significant relationship between financial difficulty and academic performance of the students. Researchers observed that financial concerns negatively impact academic performance.

Ross, Cleland, and Macleod (2006) surveyed a sample of three hundred fifty two students (N=352) from University of Aberdeen. In the survey one hundred twenty five students (N=125) reported that their studies got affected because of worry about monetary resources. Nearly one fifth (19.2 percent) of the students daily think about lack of money. Two hundred twenty one students mentioned that the major source of stress and worry was the financial difficulties they were dealing with.

Jessop, Herberts, and Solomon (2005) studied how financial circumstances effects mental and physical health of students. The researchers selected a sample of one hundred eighty seven students (N=187) including fifty-seven males and one hundred thirty females. They assessed financial difficulty, mental health, physical health, smoking habit, and drinking behavior among students. Findings show that statistically significant correlation emerged between financial difficulty and mental health (-0.41***), physical health (-0.27**), general health perception (-0.30***), limited performance because of emotional problems (-0.37***), smoking (0.20**), social functioning (-0.37***), level of energy (-0.42**), feeling pain (-0.20**), and perceived control (0.18*). Financial concern also came out as predictor of physical and mental health among students.

Overall, from the existing literature, it can be observed that financial difficulty negatively affect mental health of the students. More symptoms of depression, anxiety, stress can be found among the students who face financial difficulties. Similar findings emerged in the present study where students who are receiving financial help from the University Grant Commission (UGC), University or any other institutions were found be better on mental health. They showed fewer symptoms of depression and anxiety, perceived lower stress than those students who were not getting any kind of financial help in terms of fellowship. It was also observed that fellowship holder research students were higher on self-esteem and quality of life than non fellowship holder students.
7.2 **Comparison with respect to Gender**

In the present investigation, t-test was applied to study the mean differences among various groups of research student’s viz. total sample (Table 6.2.1), fellowship holders (Tables 6.2.2) and non-fellowship holder (Table 6.2.3) research students on the basis of gender on all the measured variables.

**Mental Health**

In the total sample, fellowship holder and no fellowship holder research students, results showed statistically significant difference on mental health ($t=2.47^*$). Mean score of male research students was found to be 12.97 and that of female research students come out to be 14.77. The findings clearly indicated that female students suffer poor mental health as compared to male research students. Similar findings were obtained in case of fellowship holder research students which indicate statistically significant gender difference on mental health ($t=3.37^{**}$). It was found that female research students suffer from poor mental health ($M=12.92$) than male research students ($M=9.76$). Among non-fellowship holder research students it was observed that statistically no significant gender difference emerged on mental health. However, mean score showed that male research students enjoy marginally better mental health ($M=16.18$) than female research students ($M=16.62$). **Thereby suggesting that, female students whether getting fellowship or not getting fellowship, suffer from poor mental health as compared to the male students.** This may be due to the additional social pressures that females have to face in the Indian society. Some of these may be getting married, adjusting to the married life, and/or managing the household.

**Depression**

Depression scores revealed no statistically significant gender differences in the total sample of research students, fellowship-holder research students and non-fellowship holder research students. However, in the total sample, female research students had higher mean for depression score ($M=8.84$) than male research students ($M=8.71$). Similar observations were confirmed in fellowship holder group where mean score of females (6.02) was higher than males (4.90). However, mean score of
Male research students was higher (12.52) than female research students (11.65) in non-fellowship holders group. **Thus, indicating that preponderance of depression among female than male students. However, males not getting fellowship show higher scores on depression as compared to females.** This might be because the males are under greater pressure of financial responsibility of running the household or settling down and becoming financially independent.

**Anxiety**

Similar findings were obtained on anxiety where gender based comparison indicated statistically no significant difference among total sample of research students, fellowship holder research students and among non-fellowship holder research students. The mean scores showed that in the total sample of research students female suffer more anxiety (M=11.29) than male research students (M=10.86). Similarly in the sample of fellowship holders, females scored higher (M=8.64) than males (M=7.27). In the sample of non-fellowship holder research students, it was observed that males scored higher (M=14.44) than females (M=13.94). **Thereby, reflecting the effects of financial crisis.**

**Perceived stress**

Statistically no significant gender difference emerged on perceived-stress among total sample of research students and non-fellowship holder research students. In case of fellowship holders, it was found that **fellowship holder males and females significantly vary on perceived stress** (t=2.91**). It is evident that female research students perceive more stress (M=17.94) than male research students (M=15.57). Again, balancing between family and household responsibilities alongside studies can be assumed to be the reason for females perceiving more stress than males.

**Quality of life**

Mixed results were obtained on QOL. Statistically significant difference was obtained among fellowship holder research students (t=3.53**). Male research students were more satisfied with their quality of life (M=89.19) than female research students (M=82.50). **Males and females belonging to the group of total sample of research students and non-fellowship holder research students statistically did not differ on QOL.**
Self-esteem

On self-esteem also findings showed no significant gender difference among total sample, fellowship holders and non-fellowship holder research students. This indicated that both male and female research students share similarities on the level of self-esteem.

Social support

On social support, it was observed that research students from total sample statistically significantly differs on social support ($t=3.07^{**}$) where males perceive more social support ($M=49.97$) than females ($M=47.21$). Similarly non-fellowship holder male ($t=3.89^{**}$) research students perceive more social support ($M=50.78$) than female research students ($M=45.10$). On the contrary, no statistically significant gender difference emerged among fellowship holder research students.

Overall findings of the present investigation on the basis of gender revealed that statistically no significant difference emerged on most of the measured variables except mental health. Obtained results are consistent with some of the previous researches which show that males and females significantly differ on mental health wherein females often suffer poor mental health as compared to males.

There are numerous researches which confirm similar findings that male and female students significantly differ on mental health (Gupta & Kumar, 2010; Pathak, 2014; Rajkumar, Sooraj, Sandeep, & Harish, 2015; Vivekanandan, Aswini & Parthasarathy, 2016; Alimohammadzadeh et al., 2017; Parthi & Rohilla, 2017). Some other studies indicated that females suffer from poor mental health than males (Kumar, Talwar & Raut, 2013, Arumugam, Rajendran, & Nagalingam, 2013; Deka, Deka, Choudhary, Kalita, & Buragohain, 2014). On the contrary Dhuria, Sharma and Taneja (2009) and Zulkefly (2010) reported that males suffer poor mental health and show more mental morbidity than females.

Mahaur, Jain and Jain (2017) investigated mental health using GHQ-12 for one hundred seventy students ($N=170$) out of which eighty six were males and eighty were females. Results revealed a significant difference among male and female students. It was observed that females scored significantly higher than males on
GHQ-12 which clearly indicated that females suffer poor mental health than male students. Researchers found that the prevalence of the symptoms associated with psychological morbidity in females were approximately twice as in males. Researchers opined that the level of stress among individuals can be attributed to the huge academic curriculum, competitive environmental conditions, lack of participation in social and personal recreational activities, lack of perceived social support, financial difficulties, and adjustment issues in hostels which were the major contributory factors for the poor psychological health of the students (Wolf, 1994). It was also observed that the concerns about their psychological wellbeing were attempted to be addressed effectively.

Deasy, Coughlan, Pironom, Jourdan and Mcnamara (2014) examined one thousand five hundred fifty seven students (N=1557) and the GHQ score shows that female students were prone to mental health difficulties as compared to male students. Overall, 41.9 percent of the sample showed elevated level of psychological distress. Researchers observed that improper diet, lack of physical activities, intake of alcohol and tobacco smoking are some of the significant factors that contribute to the chronic disease development and premature mortality. Researchers stated that these risk behaviors highly prevail among students in higher education and can be associated with psychological difficulties.

Ohtsu et al. (2014) assessed mental health status of Japanese medical students. For the purpose, researchers selected a sample of one thousand six hundred eighty three students (N=1683) including one thousand seventy four males and five hundred forty five females from twenty universities in Japan. Findings showed that the mean scores of males and females on GHQ-12 were 3.00 and 3.84 respectively. The prevalence rate of poor mental health among males and females were 36.6 percent and 48.8 percent respectively. Results indicated significant gender differences on GHQ-12 scores and the prevalence of poor mental health among students. According to Ohtsu et al. (2014), on the basis of the findings gathered from overseas studies it can be stated that the faculty members of the universities are required to become more supportive and helpful so that the mental health of the university students could be maintained in good form consequently students can maximize their capabilities and learning potentials.
However, there are several researches which contradict with the results of present investigation. Farahangiz, Mohebpour and Salehi (2016) conducted a cross-sectional study in order to assess mental health of two hundred forty students (N=240) of Shiraz University of Medical Sciences. Persian version of General Health Questionnaire (GHQ-28) was administered to assess mental health of the students. Obtained results showed statistically no significant gender difference on any of the four subscales of GHQ. However, more males scored above the cut-off point than females, hence, getting categorized as abnormal on mental health status. Damodaran and Varghese (2016) also reported similar observations in their study. The researchers investigated two hundred eleven undergraduate students (N=211) and found that there was no statistically significant gender difference on mental health among their sample.

Similarly, Shafiq, Naz, Ansar, Nasrulla, Bushra and Imam (2015) conducted a research on a sample of hundred students (N=100) from University of Gujrat to assess their happiness and mental health. Findings of the study revealed a significantly moderate correlation between happiness and mental health (GHQ-12). Results also show statistically no significant gender difference on mental health and level of happiness among students.

Zulkefly (2010) also reported in his study of psychological health on a sample of three hundred eighty six (N=386) college students including one hundred seventy seven female and two hundred nine male students using GHQ-12 that there was statistically no significant gender difference among college students.

Most of the existing literature revealed similar findings in case of depression, anxiety and perceived stress. Mir and Akram (2018) conducted an investigation to assess depression and functional impairment among students of Mangalore University, Karnataka. The sample comprised of three hundred twenty six students (N=326) selected from various departments of the university. Findings of the study showed that male students had more depression than female students.

Hajare (2018) assessed the level of depression among the students of University of Pune. The sample comprised of twenty female and twenty five male
students. Results indicate that female participants showed higher depression than male participants. Das (2018) studied anxiety among university students in West Bengal. The sample comprised of ninety students including equal number of male and female participants. Gender wise analysis indicated no statistically significant difference among students.

Sravani, Doshi, Kulkarni and Reddy (2018) assessed depression, anxiety and stress in a sample of eight hundred forty-five (N=845) dental students selected from Hyderabad city, Telangana. Results indicated statistically no significant gender difference on depression, anxiety and stress among students.

Madhuchandra (2017) investigated anxiety and depression in a sample of one hundred thirteen students (N=113) selected from various colleges and schools in Mysore. The sample comprised of fifty two male and sixty one female participants. Results indicated statistically no significant gender differences among students on anxiety and depression.

Similar findings were obtained from the study conducted by Shete and Garkal (2015) on depression, anxiety and stress among fifty post graduate medical students from Maharashtra. Researchers found statistically no significant gender differences on depression, anxiety and stress among students.

Kumar and Akoijam (2017) examined the prevalence of depression, anxiety and stress among students. The sample included eight hundred thirty respondents (N=830) from higher secondary schools of Imphal, Manipur. Overall prevalence rates of depression, anxiety, and stress were more among female students. The researcher reasoned for this significant gender difference the fact that females are more communicative about the symptoms of depression and anxiety they experience than males (Noble, 2005).

Chowdhury (2017) investigated the relationship between gender and depression in a sample of hundred students (N=100) with equal number of males and females. Results indicated statistically significant gender difference among students where females scored higher than males on depression.
Kumar, Kattimani, Sarkar, and Kar (2017) assessed the prevalence of depression in relation to stress in a sample of five hundred students (N=500) from a Medical Institute, Puduchery, India. Results showed similar prevalence of depression and stress among male and female students.

Karmakar and Behera (2017) conducted a study to assess depression among a sample of students selected from three colleges of West-Bengal. The sample consisted of one hundred sixty (N=160) participants including sixty eight males and ninety two females. Results indicated that there was no statistically significant gender difference among students. Das, Singh, Goel, Sharma, and Bakshi (2017) examined the prevalence of depression, anxiety and stress in a sample of four hundred students (N=400) studying under various faculties in Panjab University Chandigarh. Results indicated that females were comparatively higher on depression, anxiety and stress than male students.

Anbumalar, Dorathy, Jaswanti, Priya, and Reniangelin (2017) examined the gender difference on perceived stress among students. The sample comprised of eighty students with equal number of male and female participants. Findings of the study show statistically no significant gender differences among students.

Deb, Parveen, Thomas, Vardhan, Rao, and Khawaja (2016) also studied depression among university students. The sample comprised of seven hundred seventeen university students (N=717) from various faculties of Pondicherry University, Puduchery. Results indicated that statistically no significant gender difference existed among students. Similar findings were observed in the study carried out by Manjari (2016) to assess the depression in a sample of sixty four students with equal number of males and females selected from various colleges in Delhi. Results indicated no statistically significant gender difference on level of depression among students.

A cross-sectional study was conducted by Yadav, Gupta and Malhotra (2016) to assess depression and anxiety among three hundred thirty college students (N=330) in Jhansi, Uttar Pradesh. Obtained results showed that females were higher on
depression than males whereas males were found to be higher on anxiety than females.

Ramteke and Ansarl (2016) assessed stress and anxiety in a sample of two hundred under-graduate students selected from Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur. The sample comprised of ninety three female and one hundred seven male participants. Analysis of variance shows statistically no significant effect of gender on levels of stress anxiety.

Yadav, Gupta and Malhotra (2016) conducted a cross-sectional study on depression and anxiety in a sample of three hundred thirty students selected from M. L. B. Medical College, Jhansi, India. Results show statistically no significant gender difference on depression and anxiety.

Touseef (2015) examined depression, anxiety and religious orientation among students in Kashmir University, India. The sample consisted of two hundred students (N=200). No statistically significant gender difference existed among students on depression and anxiety.

Sharma, Gupta, Khare, and Agarwal (2015) assessed depression among three hundred ninety six university students (N=396) in Bhopal, India. Results showed thirty one percent prevalence of depression among students. Further it was found that six percent of the students met the criteria of severe and extremely severe level of depression. Findings of the study also revealed that there was no statistically significant gender difference among students on depression.

Tabalipa, Souzal, Pfützenreuter, Lima, Traebert, and Traebert (2015) conducted a cross-sectional study on a sample of two hundred sixty two students (n=262) including one hundred forty seven female and one hundred fifteen female participants selected from the university in Brazilian Southern State of Santa Catarina to assess the level of depression and anxiety. Findings of the study revealed statistically significant gender difference on anxiety and depression. Researchers observed that females suffer more anxiety and depression than males. Researchers reported that high parental pressure, tensions and concerns about future could be the contributory factors for elevated level of depression and anxiety. Other reasons can be
more social freedom than men to express feelings, wider exposure to situations causing depression, hormonal and physiological factors (Andrade, 2006; Zender, 2009).

Yeun and Jeon (2015) assessed the level of depression and anxiety in a sample of four hundred thirty one students from university in Gyeonggi Province, South Korea. Results indicated that statistically no significant gender difference emerged on depression whereas significant differences were observed on anxiety. Females were found to be higher on anxiety than males. Study also showed the positive correlation between depression and anxiety among students.

Sharma and Kirmani (2015) conducted a study to assess depression and anxiety among students. The sample consisted of two hundred eighteen students (N=218) including one hundred twenty three males and ninety five females selected from State University Bangalore. Findings show statistically significant gender difference on depression and anxiety. It was observed that females were higher on depression and anxiety than males.

Similar findings were obtained from a cross-sectional study opined by Iqbal, Gupta, and Venkatarao (2015) on depression, anxiety and stress in a sample of three hundred fifty three (N=353) undergraduate students. The sample was selected from Institute of Medical Sciences at Bhubaneswar, Odisha, India. Univariate analysis showed that female students showed higher tendency of depression, anxiety and stress. Researchers attributed this gender difference to the fact that females articulate even minor difficulties and symptoms of the problems they are experiencing more easily than males (Nobel, 2005).

Ahmadi, Ahmadi. Soltani, and Bayat (2014) conducted a study among Iranian and German Medical students and found statistically no significant gender difference among students. Sharma (2014) examined the effect of gender on depression among the sample three hundred students (N=300) including equal number of male and female students. Results showed statistically significant gender differences on depression. Females were found to be higher on depression than males. Saravana and Wilks (2014) also observed the levels of stress, depression and anxiety on a sample of
three hundred fifty eight (N= 358) students from a private university. Researchers found statistically no significant relationship between gender and depression. Statistically significant relationship existed between gender and anxiety. Stress was also found to be the significant predictor of depression and anxiety.

Bhattachargee (2011) conducted a gender based study on depression and anxiety on a sample of two hundred (N=200) college students. The sample comprised of equal number of males and female participants. It was found that males were less depressed as well as less anxious than females.

Bitsika, Sharpley and Melhem (2010) studied gender differences on depression and anxiety on a sample of two hundred (N=200) Australian university students. Findings indicated significant gender difference on depression as well as on anxiety. Results also reveal that females were higher on depression and anxiety and showed more symptoms like emotional and cognitive arousal, psychomotor agitation, fatigue, confusion, pessimism, rapid heartbeat and restlessness than male participants. Yao and Chen (2009) assessed depression among five hundred twenty five (N=525) university students. Results indicated no significant gender differences.

Kelly and Brown (1999) investigated gender differences on depression among one hundred forty three (N=143) university students. The sample comprised of seventy four males and sixty nine females. Analysis of variance indicated statistically significant effect of gender where females score higher on depression than males. Results indicated no significant effect of race on depression.

Page (1999) conducted two systematic studies to investigate the gender differences using Beck Depression Inventory. The sample consisted of one hundred seventy five students (N=175) including sixty five males and one hundred ten females studying at the University of Windsor. Findings of the investigation indicated no gender difference on depression among students.

Wiseman, Guttfreund and Lurie (1995) studied gender based difference on depression and loneliness among a sample of three hundred twenty five (N=325) students including one hundred seven males and two hundred females in Israel University who were seeking counseling. Results indicated that female students were
significantly higher on depression than males while male students were significantly higher on loneliness than female students.

The Quality of life was assessed among students in the present investigation. Previous studies also show similar findings. Griffiths, Murry, Bentley, Gratwick-Sarll, Harrison and Mond (2017) investigated gender differences on quality of life among adolescents. They found statistically significant differences among male and female participants. Significant gender differences were observed on psychosocial quality of life and physical quality of life. Males scored higher than females. On the contrary, Andre, Pierre, and McAnndrew (2017) found different results in their investigation on quality of life among students. Researchers found that females were higher on quality of life than males.

Chraif and Dumitru (2015) assessed gender difference on quality of life among the sample of students selected from University of Bucharest. Results showed statistically significant gender difference among students. Males were higher on quality of life than females.

Mixed results were obtained in the study conducted by Paro et al. (2014). Researchers found statistically significant gender difference on physical and psychosocial dimension of quality of life where males scored higher than females. Statistically no significant gender differences were observed on ‘social relationships’ and ‘environment’ dimensions of quality of life.

Tayyeba and Jahanian (2014) examined the quality of life in a sample of one hundred forty (N=140) students of Khwarizmi University and found no statistically significant gender difference among them. Suleiman, Alghabeesh, Jassem, Abu-Shahroor and Ali (2013) also found statistically no significant gender difference in their study of quality of life on a sample of university students in Jordan. Overall findings showed that males are higher on quality of life than females.

In the present study, male and female students show no significant difference on self esteem. The results fall in line with previous researches which reported similar observation (Olea, Bernal & Hernandez, 2012; Saadat, Ghasemzadeh & Soleimani, 2012; Bibi, Saqlain & Mussawar, 2016) and some of them showed contradictory
findings (Mustafaa, Melonashib, Shkembib, Besimic, Fanajb, 2015; Ümmet, 2015). Moshahid (2017) also conducted a study to assess self-esteem in a sample of one hundred twenty (N=120) education students including forty males and eighty females selected from Malappuram, Kerala. Results showed statistically no significant gender difference among the participants on self esteem.

On the other hand, Bhatt (2017) investigated self-esteem in a sample of seventy five students (N= 75) selected from Srinagar and reported males to be higher on self-esteem than females. Further, significantly positive correlation also emerged between self-esteem and perceived social support among students.

Rashid, Bukhari, Fatima, Saba and Afzal (2017) in their study found significant gender difference of self-esteem among two hundred participants (N=200) with equal number of males and females. Researchers found that males were higher on self-esteem than females. Similar findings were obtained from the study conducted by Nupur and Mahapatro (2016) on a sample of two hundred three (N=203) participants selected from Raipur, Uttar Pradesh. Study revealed that males were significantly higher on self-esteem than females.

Arshad, Zaidi and Mahmood (2015) assessed self-esteem and academic performance of university students. The sample of four hundred students (N=400) was selected from G.C University Faisalabad. Findings of the study showed statistically significant gender difference on self-esteem and academic performance of the students. Males had higher self-esteem and were higher on academic performance than female students. Significantly positive correlation was also observed between self-esteem and academic performance.

Tajeddini (2014) conducted a comparative study on self-esteem and emotional intelligence in a sample of four hundred students (N=400) with equal number of male and female participants. Researchers found that there was no gender difference in the self-esteem and emotional intelligence of the subjects.

Agrawal and Bhardwaj (2014) investigated gender differences on self-esteem among college students. Result indicated a significant difference among the male and female students. Whereas, in a previous study, Bharwaj and Agarwal (2013) found no
significant difference on total self-esteem score, social self-esteem, academic self-esteem and parental self-esteem among the sample of hundred adolescent (N=100) participants.

Al Khatib (2013) assessed gender differences on self-esteem, life satisfaction and depression among United Arab Emirates college students. They observed statistically significant gender difference on self-esteem, life satisfaction and depressive symptoms. Researchers found that males were higher on self-esteem and life satisfaction whereas females showed more depressive symptoms than males.

In 2011, Padhy, Rana and Mishra found interesting results in their investigation on gender differences in self-esteem and subjective well-being in a sample of one hundred twenty participants (N=120) selected from Hyderabad University, Andhra Pradesh. Researchers found that females were significantly higher on self-esteem and life-satisfaction than male students. Researchers suggested that family pressure, academic workload, personal and social responsibilities could be the possible factors for low self-esteem among male participants.

The present study also assessed perceived social support among the students. Gender differences were also studied. There are numerous studies which also investigated the same concept and found similar findings (Yasin & Dzulkifli, 2010; Mahanta & Aggarwal, 2013; Ramezankhani et al., 2013; Zhou, Zhu, & Cai, 2013; Talwar, 2016; Tamannahifar & Behzadmoghaddam, 2016; Ullah, 2017; Bukhari & Afzal, 2017; Gulaçt, 2017; Aydin, Kahraman, & Hicdurmaz, 2017; Vungkhanching, Tonsing & Tonsing, 2017). Social support is the “nature of the interactions occurring in social relationships, especially how these are evaluated by the person as to their supportiveness” (Mak & Kim, 2011). Healthy social relationships enhances tolerance on empathy in an individual which facilitates the adjustment and adaptation in a changing environment (Garcia, Al Nima & Kjell, 2014) and gender plays an important role in maintaining social relationships.

In 2018, Batool and Zubair conducted a study and found statistically significant gender difference on perceived social support in a sample of three hundred eighty university (N=380) students. Researchers found that males perceived more
social support than female students. It was also observed that perceived social support was negatively associated with shyness.

Maheshbabu, Chandrkanth and Chengti (2017) found similar results. They assessed social support and levels of adjustment among one hundred twenty pre-university students (N=120) selected from Kalaburgi District, Hyderabad. Researchers found statistically significant gender differences. It was observed that males perceive more social support from friends, and others than females. Males were also higher on overall social support whereas no gender differences were obtained on family support. Significant correlation was also observed between social support and level of adjustment which indicates that there will be better adjustment with increase in social support.

Bukhari and Afzal (2017) investigated the role of perceived social support in predicting psychological problems in a sample of hundred university students (N=100) selected from Karachi, Pakistan. Researchers found that psychological problems like depression, stress and anxiety is negatively associated with perceived social support. Students who were getting instrumental support from friends, family and community were better in handling stressors like lack of academic resources, work load, financial difficulties, and accommodation related difficulties.

Prabhu and Shekhar (2017) found significant gender difference on perceived social support among students. Researchers found girls perceive more social support from friends and significant others where as no significant difference was observed on social support from family. Researchers attributed this difference to ways of socialization and differences in social roles (Talwar, Kumaraswamy & Fadzil, 2013).

Kumar et al., (2016) investigated the gender differences in social relationship in a sample of two hundred seventy nine university students (N=279) and found statistically no significant gender difference. They observed that students who were getting instrumental support from friends, family and community were better in handling stressors like lack of academic resources, work load, financial difficulties, and accommodation related difficulties.
Rani (2016) conducted a study on gender differences, Perceived Social Support and Psychological Well-being in a sample of two hundred eighty six young adults (N=286). Researchers found statistically significant gender difference where females perceive more social support than males. It was also found that females perceive more social support from family and friends.

Devi and Jyotsana (2016) studied the role of social support in self-esteem in a sample of one hundred fifty adolescent (N=150) students selected from various educational institutions of Hisar, Haryana. Researchers found statistically no significant difference on perceived social support and self-esteem among male and female participants. Yusuf and Ghayas (2015) also found no significant gender difference on perceived social support in the sample of one hundred seventy seven university students (N=177).

Mahanta and Aggarwal (2013) in their study found that males and females significantly differed on overall social support, and perceived social support from friends where females scored higher than males. There was no significant gender difference observed on perceived social support from family. Females also emerged to be more satisfied with their lives than males.

Pfeifer and Asberg (2011) supported the findings of the current investigation. Researchers conducted an investigation among Psychology undergraduates and found no gender differences in perception about availability of social support. On the other hand Tam and Har (2011) in their study on four hundred sixty university (N=460) students found significant gender differences on perceived social support.

7.3 Two-way ANOVA Analysis

Analysis of variance was conducted (Table 6.3) for financial support and gender as independent variables. The two way analysis (2X2) was tabulated with two levels of treatment for gender (male and female) and two levels of treatment for financial support (fellowship holders and non-fellowship holders). The main effects and the interaction effects were assessed for all the dependent variables viz. mental health (Table 6.3.1), depression (Table 6.3.2), anxiety (Table 6.3.3), perceived stress (Table 6.3.4), quality of life (Table 6.3.5), self-esteem (Table 6.3.6) and social support
(Table 6.3.7). Furthermore, Figure 6.3.1 to Figure 6.3.7 show graphical representation of interaction effect under analysis of variance on all the measured variables viz. mental health (Figure 6.3.1), depression (Figure 6.3.2), anxiety (Figure 6.3.3), perceived stress (Figure 6.3.4), quality of life (Figure 6.3.5), self-esteem (Figure 6.3.6) and social support (Figure 6.3.7).

Findings of the study indicate significant interaction effect of financial support and gender on dependent variables viz., mental health (Table 6.3.1), perceived stress (Table 6.3.4), quality of life (Table 6.3.5) and social support (Table 6.3.7). However, statistically no significant interaction effect emerged on depression (Table 6.3.2); anxiety (Table 6.3.3), and self-esteem (Table 6.3.6).

According to the survey conducted by American College Health Association (2013), thirty five percent of the students reported that their financial condition was “Traumatic” or “very difficult” to handle. In the study carried out by Backović, Maksimović, Davidović, Zivojinović and Stevanović (2013) using GHQ-12 on seven hundred seventy-five students (N=775) in Belgrade, it was found that females suffer poor mental health than males.

Jafari, Loghmani and Montazari (2017) assessed mental health of one hundred ninety two students in Isfahan University of Medical Sciences (IUMS), Isfahan, Iran. Researchers found that males and females students significantly differ on mental health where GHQ-12 mean scores showed that females suffer poor mental health (M=4.43) than males (M=3.25).

Hishan, Jaiprakash, Ramakrishnan, Mohanraj, Shanker, and Keong (2018) studied the prevalence of depression, anxiety and stress among students. The sample comprised of one hundred forty three university students (N=143) from Johor Bahru, Malaysia. Findings of the investigation indicated statistically no significant gender difference on stress, anxiety and depression. Shareef et al. (2015) observed similar results in their study on quality of life among a sample of three hundred thirty (N=330) students. Study revealed that males scored higher on physical and psychological health dimension of quality of life than female students.

Jain and Dixit (2014) conducted a gender based comparison on self-esteem on a sample of one hundred fifty (N=150) college students and found statistically no
significant gender difference between male and female participants on self-esteem. Researches stated that females are now getting more and more opportunities to develop academically and professionally, to explore their potential, and to make choices about their life partner. They also claimed that as India is developing, women are empowered and enjoying equal status. Therefore, they have higher self-esteem. Parkash (2016) assessed the gender differences on social support in a sample of one hundred sixty-five adolescents (N=165) and found a statistically significant difference on social support among students. It was observed that males perceived higher social support than females.

7.4 Correlates of Mental health

Pearson’s Correlation method was applied in order to find out the correlates and predictors of mental health among the total sample of research students (Table 6.4.1), fellowship holders (Table 6.4.2), non-fellowship holders (Table 6.4.3), male research students (Table 6.4.4) and female research students (Table 6.4.5). In the case of total sample of research students, statistically significantly positive correlation emerged between mental health score and depression (0.59**), anxiety (0.56**), and perceived stress (0.55**) whereas statistically significantly negative correlation emerged between mental health score and quality of life (-0.48**), self-esteem (-0.51**) and social support (-0.14**).

In case of fellowship holders, similar findings were obtained where statistically significantly positive correlation emerged between mental health score and depression (0.65**), anxiety (0.56**), and perceived stress (0.59**). Statistically significantly negative correlation found between mental health score and quality of life (-0.44**) and self-esteem (-0.43**). No significant correlation emerged between mental health and social support.

Similar findings were obtained among non-fellowship holder research students. Mental health scores came out to be positively related with depression (0.48**), anxiety (0.45**), perceived stress (0.39**) and negatively related with quality of life (-0.45**), self-esteem (-0.52**) and social support (-0.18*).
Correlation analysis among male research students showed that mental health scores were significantly positively related with depression (0.65**), anxiety (0.63**), perceived stress (0.53**), and negatively correlated with quality of life (-0.43**) and self-esteem (-0.54**).

Similarly, mental health score found to be significantly positively correlated with depression (0.51**), anxiety (0.46**), perceived stress (0.56**) and significantly negatively correlated with quality of life (-0.53**), self-esteem (-0.49**) and social support (-0.19**) in the sample of female research students.

The findings of the present investigation fall in line with previously conducted numerous researches. Sravani, Doshi, Kulkarni, Reddy and Reddy (2018) assessed depression, anxiety and stress among students selected from Hyderabad city, Telangana. Researchers found statistically significant correlation between all the three measured variables among students. In the study conducted by Guruprakash et al. (2018) similar findings were observed. It was found that there was statistically significant relation existed between mental health and perceived stress among the sample of postgraduate medical students.

Parthi and Rohilla (2017) conducted a study on a sample of two hundred (N=200) doctoral and masters degree students selected from Panjab University, Chandigarh. Researchers found statistically significant correlation between mental health, perceived stress and self-esteem among students. Perceived stress and self-esteem also emerged to be the predictors of mental health.

Saleh, Camart and Romo (2017) conducted an investigation on a sample of four hundred eighty three (N=482) students from University Paris Ouest Nanterre La Defense and other universities in the Parisian. Results indicated that there was statistically significant correlation between perceived stress, psychological distress, somatic symptoms of mental health, anxiety and insomnia, and severe depression. Zakiei, Ghasemi, Gilan, Reshadat, Sharifi, and Mohammadi (2017) observed similar results in their cross-sectional study on four hundred forty students (N=440) from Kermanshah University of Medical Sciences. Findings of the study indicated
statistically significant correlation between mental health difficulties, depression, anxiety, somatic symptoms of health, and perceived stress.

Parthi and Rohilla (2017) investigated mental health difficulties among doctoral students in Panjab University Chandigarh and observed statistically significant correlation between mental health, depression, anxiety and stress among students.

Mutalik, Moni, Choudhari and Bhogale (2016) conducted an investigation among one hundred thirty three students from Bagalkot and found that depression and anxiety scores were significantly correlated with mental health scores.

Yeun and Jeon (2015) assessed level of depression and anxiety among the sample of four hundred fifty university students (N=450). Researchers found statistically significant correlation between depression and anxiety scores.

Jahanara (2014) conducted a study on a sample of one hundred fifty two (N=152) students selected from Polytechnic University in Kabul. Results showed statistically significant correlation between perceived stress and mental health of the students. Lim, Tam and Lee (2013) also found similar findings in their investigation among one thousand seven hundred eighty five students (N=1785). Results showed significant correlation between mental health and perceived stress scores among students.

Augustine, Vazir, Rao, Rao, Laxmaiah and Nair (2011) found statistically significant correlation between mental health and perceived stress in their study among the sample of two hundred fifty six students (N=256) selected from Andhra Pradesh.

Morrison and O’Connor (2005) conducted an investigation to study the predictors of psychological distress among the sample of college students. Findings of the study showed that total GHQ score was statistically significantly correlated with the subscales viz. somatic symptoms, anxiety & insomnia, social dysfunction, extreme depression and perceived stress.

Similar findings can also be observed in previous researches on the relationship between mental health and quality of life. Hassanzadeh, Asadi-Lari,
Baghbanian, Ghaem, Kassani and Rezaianzadeh (2016) studied the association between mental health and quality of life among the sample of thirty one thousand five hundred nineteen (N=31519) respondents in Tehran. Results showed that there were statistically significant correlation between mental health, quality of life, depression, anxiety/sleep problems and somatic symptoms of health.

Bastaminia, Dastoorpoor, Omidipoor and Tomaj (2016) assessed mental health and quality of life in a sample of three hundred thirty eight students (N=338) from State University of Yasuj. Results indicated that statistically significant correlation existed between mental health, overall quality of life, general health, physical health, social relationships and environmental health scores.

Deka, Jangid, Deka, Choudhary, Kalita and Bouragohain (2014) conducted an investigation to assess the mental health and quality of life among students selected from Assam Medical College. Results showed that mental health and quality of life was significantly correlated. Yarmohammadi, Rahaei, Mirzaeian, Fattahi, Mehr and Sharifi-Rad (2014) found that poor mental health was associated with lower quality of life and depression risk in their study on two hundred students (N=200) from Islamic Azad University of Sabzevar. Statistically significant correlation was found between mental health, physical problems, anxiety/sleep disorders, social dysfunction, depression, and social relationships.

Khan (2013) studied the relationship between mental health and quality of life among students in Pakistan. Findings of the study reported statistically significant correlation existed between mental health, quality of life, physical health and psychological distress.

Self-esteem was also found to be positively correlated with mental health. Demir (2017) conducted an investigation among eighty university students (N= 80) selected from center of Ankara, Turkey. Results indicated statistically significant correlation between mental health and self esteem among students.

Ali and Malik (2014) investigated relationship between mental health and self-esteem among University of Karachi students and found statistically significant correlation among measured variables. Rafati, Rafti, Mashayekhi, Pilehvarzadeh and
Mashayekh (2014) assessed the mental health and self-esteem of adolescent students in Jiroft and reported similar results.

Moshki and Ashtarian (2010) found similar findings in their investigation on one hundred fifty four students (N=154) selected from Gonabad University of Medical Sciences, Iran. Results showed that mental health was statistically significantly correlated with self-esteem, anxiety, and depression scores.

Aarif and Mishra (2009) assessed mental health and self esteem of four hundred medical students (N=400) of Ahmednagar district, Maharashtra. Findings of the study indicated statistically significant relationship between self esteem and sub scales of mental health tool viz. anxiety, depression, somatic symptoms and social dysfunction.

Veselska, Geckova, Gajdosova, Orosova, Dijk, and Reijneveld (2009) in their study on three thousand six hundred ninety four (N=3694) students from Slovakia found a statistically significant correlation between sub dimensions of mental health tool viz. depression, anxiety, and perceived social support sub dimensions viz. family, friends, significant others, and self-esteem.

Significant association was also observed between mental health and social support in the present study. The findings of the meta-analysis on the relationship between mental health and social support conducted by Harandi, Taghinasab and Nayeri (2017) support the findings of the present investigation. Researchers concluded that the positive correlations existed between the measured variables.

Harikandei (2017) investigated the relationship between mental health and social support among the sample of two hundred seven students selected from Universities of Mazandaran. Results indicated statistically significant correlation between mental health, social support and its sub dimensions viz. social support from friends, family, significant people in life.

Amirsardari, Karimi, Fathizadeh and Khatti (2017) observed similar results in their study on two hundred twenty seven (N=227) students from Tehran. Researchers observed that there was statistically significant correlation between social support and
mental health. Maredepour (2017) also found significant correlation between mental health and social support in their study among two hundred one students (N=201).

Shahdadi, Mansouri, Nasiri and Bandani (2017) obtained similar results in their study among one thousand nine hundred students (N=1900) of Zabol University of Medical Science. Statistically significant correlation emerged between mental health and total social support, support by family, friends and from significant others.

Another study conducted by Lakzaei, Vahed, Mansouri, Bamari and Borhan (2016) assessed the relationship between mental health and social support among students of Kerman University of Medical Sciences. Researchers found statistically significant correlation between mental health, resilience, social support and its sub dimensions viz. family support, friends’ support, significant other’s support.

Bíró, Ádány and Kósa (2011) conducted a cross-sectional study on one hundred ninety four students selected from University of Debrecen, Hungary. Findings of the study showed a significant correlation between mental health and social support.

7.5 Predictors of Mental health

Stepwise Regression Analysis was applied in order to find out the predictors of mental health among the total sample of research students (Table 6.5.3), fellowship holders (Table 6.5.6), non-fellowship holders (Table 6.5.9), male research students (Table 6.5.12) and female research students (Table 6.5.15).

Regression analysis (Table 6.5.1 to Table 6.5.3) shows that all the measured variables viz., depression, anxiety, perceived stress, quality of life, and social support emerged to be predictors of mental health. Regression coefficients for fellowship holders, as presented in Table 6.5.6, shows that depression, anxiety, perceived stress and quality of life found to be the predictors of mental health among students.

Similarly, from Table 6.5.9, it can be observed all the measured variables came out to be the predictors of mental health for the non-fellowship holder research students. In case of male research students (Table 6.5.12), depression, anxiety, perceived stress, self-esteem and quality of life emerged as the predictors of mental
health. Regression coefficients for female research scholars (Table 6.5.15) show that depression, anxiety, perceived stress, self esteem, and quality of life were the significant predictors of mental health.

Li, Chan, Chung and Chui (2010) conducted a study on mental health and self-esteem in a sample of one thousand nine hundred forty five (N=1945) Chinese students. Findings of the study showed statistically significant relationship between mental health and self-esteem scores. Multiple regression analysis also showed that self-esteem predicted mental health, psychological distress, depression risk and physical health among students.

Krok (2014) conducted a similar study on two hundred six participants (N=206) from Poland. He reported significant correlation between total mental health score including its sub dimensions viz. somatic symptoms, anxiety/sleep problems, social dysfunction, severe depression and social support including sub dimensions viz. perceived available support, actual received support and protective buffering support. Need for support and protective buffering support emerged to be the predictors of negative mental health consequences whereas actually received support come out to be the predictor of better mental health.

Rezaee (2016) assessed the relationship between mental health and self-esteem among the students from University of Payame Noor, Mahabad center. Correlation analysis indicated statistically significant relationship between mental health and self-esteem among students. Self-esteem was also found to be the predictor of mental health according to the Regression analysis findings.

Dalia, Nathalie, and Lucia (2016) found similar results in their study on a sample of four hundred thirty one university students. Regression analysis indicated that self-esteem scores statistically negatively predicted mental health.

7.6 Conclusion

The objective of the present research was to study the mental health of the research students in relation to financial support and gender. Tabulated mean differences using t-ratio, 2X2 ANOVA, inter-correlational values and step-wise
regression analysis support the hypothesis of this investigation in majority of the cases. Researchers found significant difference between fellowship holder and non fellowship holder research students whereas fewer gender differences were observed on various measured variables. Depression, anxiety, perceived stress, quality of life, self-esteem and social support emerged to be the significant predictors of mental health in most of the sub-group. All the findings of the present investigation are discussed and supported by various researches conducted by various researchers across the globe.