CHAPTER 2
REVIEW OF LITERATURE

This chapter proffers a review of related literature panoramic outlook of certain prior hallmark empirical studies in these fields. Some of the research studies that were reviewed concerning to the agenda of the current research are given below.

2.1 Facebook Usage and Personality

In one empirical examination Bachrach, Kosinski, Graepel, Kohli and Stillwell (2012) studied shows how users’ activity on Facebook relates to their personality, as measured by the standard Five Factor Model. The dataset consists of the personality profiles and Facebook profile data of 180,000 users. The researchers examined correlations between users’ personality and the properties of their Facebook profiles such as the size and density of their friendship network, number uploaded photos, number of events attended, number of group memberships, and number of times user has been tagged in photos. The results showed significant relationships between personality traits and various features of Facebook profiles. Multivariate regression allows prediction of the personality traits of an individual user given their Facebook profile. The best accuracy of such predictions is achieved for Extraversion and Neuroticism, the lowest accuracy is obtained for Agreeableness, with Openness and Conscientiousness lying in the middle.
In another investigation Skues, Williams and Wise (2012) explored the relationship between three of five personality traits (neuroticism, extroversion and openness), self esteem and loneliness and narcissism on Facebook use among Australian university students. 393 first year psychology students took the online questionnaire. Negative regression models were used for analysis of data. The result outcomes indicated that extroverts tend to engage more in social activities on Facebook and use the site to enhance and maintain social ties. Extroverts do not use the site as alternate to social activities but as a means to enhance their social relationships. Students high in openness use Facebook to connect with others in order to discuss a wide range of interests. Students high in loneliness use the site to compensate for their lack of offline relationships.

An online research survey done by Hughes, Rowe, Batey and Lee (2012) to find whether and how the way people use Twitter and Facebook sites is related to personality and whether there are personality differences between people who prefer one site over the other. 300 people online 70% based in Europe and others in North America, Asia and beyond were the respondents. 207 respondents were women. The age ranges from 18 to 63 years. They answered questions about the way they used Facebook and Twitter and which site they preferred. Questions were around Big Five as well as the dimensions of sociability and "need for cognition." The results have shown that personality explained little of the variance. The researchers said “different people use the same site for different purposes." Facebook is more social than Twitter for information. Facebook users use and share information to avoid cognitive demanding sources such as journal articles and newspaper reports. Twitter is used for cognitive stimulation. People who used
Facebook for socializing tended to score more highly on sociability and neuroticism which consisted with past research. Twitter and sociability and openness have lower scores.

Correa, Bachmann, Hinsley and Zúñiga (2013) undertook a research to study more stable psychological characteristics such as users’ personality traits, as they may significantly affect how people use the Web to communicate and socialize. Based on the “Big Five Framework” an online survey was conducted among the adults, to study the effect of the use of social networking sites on personality. 959 respondents were selected through random sampling. The national sample comprised 67% males and 33% females. The average age of the participants is 18-84 and the ethnicity of the sample is 84.4% white. The respondents had 2 year college degree with an income of $50-60 thousand. The 10 point scale survey questionnaire had questions dealing with social networking sites, video chat and instant messaging concentrating on three personality traits - extroversion, emotional stability and openness. The analysis of data revealed that personality traits are positively correlated with each other. Extraverted people are more likely to use social networking sites, instant messaging, and video chats, while those more open to new experiences tend to use social networking sites more frequently. Besides, emotional stability is a negative predictor of social networking site use. Individuals who are more anxious and unstable tend to rely on these sites. When looking at a specific use of social media— to create political content— emotional stability was a negative predictor, whereas extraversion is the strongest predictor for social media use.
Kosinski, Bachrach, Kohli, Stillwell and Graepel (2013) observed how Facebook features relate to their personality as measured by the standard Five Factor Model (FFM). The data involves the personality profiles and Facebook profiles of over third of a million (350, 000) users. Correlations between users’ personality features and the properties of their Facebook profiles are scrutinized in terms of the size and density of their friendship network, number of uploaded photos, number of events attended, number of group memberships and number of times user has been tagged in photos. The results showed significant relationships between users’ personality traits, their website preferences and various features of Facebook profiled. Facebook audiences differ in terms of their personality. Multivariate regression allows prediction of the personality traits of an individual user given their Facebook profile features. Outcomes revealed that Liberal and open to experiences individuals tend to like more items on Facebook, post more status updates and join more groups, which is consistent with personality trait.

A quantitative study by Kashif (2013) assessed the impact of using Facebook on academic performance among master degree students of the University of Eastern Finland and the significant difference between Facebook users and non-users. The sample of respondents was chosen through the responses from online survey. The Online survey questionnaire was sent by email to 3722 students and 344 (122 males and 221 females) students completed the survey. The respondents were from three campuses, Joensuu, Kuopio and Savonlinna. The research dealt with following questions. Do students' involvement in Facebook use impact academic performance and extracurricular activities? What are the perceptions about Facebook use? What is the contribution of Facebook to social
capital? Is there any significant difference between male and female Facebook users in Facebook use? What is the status of non-Facebook users? Descriptive Analysis revealed that Facebook does not distract students and Facebook is used for relaxation. Facebook use does not impact extracurricular activities. "Don't consider Facebook as a dominant phenomenon over their studies". Non-Facebook users have slightly higher grades. Facebook is an effective tool for Social capital. Female (64.2%) students use Facebook more than their counterparts.

The study carried out by Koc and Gulyagci (2013) explored FB addiction among Turkish college students and its behavioural demographic and psychological predictors. FB addiction scale was developed FAS and its construct validity was assessed through factor analyses. A total of 447 students reported their personal information and FB usage and completed FAS and general health questionnaire GHQ 28. The findings revealed that weakly commitment social motives severe depression anxiety and insomnia positively predicted FB addiction. Neither demographic variables nor interactions of gender by usage characteristics were found to be significant predictors.

In an research investigation to find the possible relationships among personality traits, Facebook usages, and leisure activities Kuo and Tang (2014) selected 500 college students in Taiwan through convenient sampling technique and collected data from them using a 30 items questionnaire which was developed by the researchers. Statistics methods such as descriptive statistics, independent t-tests, ANOVA were used to analyze the data. It was found that participants with high extraversion, low agreeableness and high openness tended to spend more times on Facebook and have more number of friends and photos. The findings also
confirmed that high extraversion and high openness people liked to socialize on Facebook (more time, more friends, more photos) also liked to socialize in real life (more time on team sports and recreational activities), but low agreeableness and low emotional stability people liked to use Facebook for socializing in lieu of real life socializing.

Sala, Skues and Grant (2014) made an attempt to study the influence of Big Five personality traits on Facebook usage and examined the interactions of traits in this context based on Torgersen’s (1995) typological approach. The effect of self-esteem, narcissism, loneliness, shyness and boredom proneness on Facebook usage was also investigated. The sample included both student (N = 190) and (N = 184) non-student samples. 71.8% participants are females. The investigation made use of the following measures - Australian Personality Inventory, Rosenberg’s Self-Esteem Scale, Narcissism Personality Inventory, UCLA Loneliness Scale, Boredom Proneness Scale, Revised Cheek and Buss Shyness Scale (RCBS) and Facebook Questionnaire—Adapted from Ross et al. Narcissism was the strongest predictor of time spent on Facebook per day for both students and non-students. Narcissism was also the strongest predictor of number of daily logins for non-students; however, agreeableness was the strongest predictor of logins for students. Extraversion was the strongest predictor of number of Facebook friends for both students and non-students; however the interaction of Extraversion and Neuroticism was also a predictor of Facebook friends for students, and the interaction of Extraversion and Conscientiousness for non-students. Future research should consider the combined effect of personality traits on overall Facebook use.
Zhang (2015) conducted an research with the goal to investigate individuals’ expressions through social media in order to determine if they reflect the author’s gender, personality, and levels of self-esteem. A total of 459 participants took the online survey. The sample included 314 women (68.41%) and 143 men (31.15%). Participants ranged in age from 18 to 58 years old. Participants answered a survey questionnaire that included four parts. The first part was demographic questions concerning age, gender, education, and employment information. The second part featured social media usage questions concerning participants’ social networking sites use and online activities. The third part was the 44-item inventory that measures an individual on the Big Five Factors of personality (Benet-Martinez & John, 1998). The last part was levels of self-esteem questions derived from Rosenberg Self-Esteem Scale (Rosenberg, 1965). Quantitative analysis was used in this study through survey and SPSS content analysis. The findings revealed that women post more Facebook profile pictures than men do and more gender role expressions on Facebook than men. Further it was found that individuals who are higher in agreeableness have more friends on Facebook. The research has two findings related to neuroticism. Individuals who are high in neuroticism expressed more about gender roles and did more self-presentation on Facebook. Personality traits were generally shown to be a stronger predictor of self-presentation on social media than gender or self-esteem, because the big five personality traits correspond well with functions of social media.

In one study Yao (2015) focused on investigating the relationship between personality and Facebook usage. Sample population was current students of Hanover college, US. 39 (26 females and 13 males) participants (N=39) were
conveniently sampled and took an online survey through emails and the study sign-up sheet. The 10-item of the Big Five Inventory (BFI) and the Facebook Intensity Scale (FBIS) were used to assess participant’s personality and record their Facebook usage. The finding showed there was significant correlation between conscientiousness and time spent on Facebook. No correlation between openness to experience, neuroticism, extraversion or agreeableness and Facebook time, dependency or friends.

In a pioneering study aimed at understanding how personality traits and online sociability impacts the use of Facebook as a Site of information was done by Pillai, Ashok and Gunasekar (2015). This is one of the first studies focusing on this aspect of Facebook in the context of an Indian social networking population. The results indicate that online sociability, gender, conscientiousness, neuroticism and frequency of Facebook usage significantly impacts the usage of Facebook as a site of information. The parameter estimates of online sociability, conscientiousness, neuroticism and frequency of Facebook usage were all found to be positive indicating that the more a person embodied these characteristics/habits, the more likely he is to use Facebook for sharing links on current affairs and thereby as a site of information.

Stronge et al (2015) tested a novel Facebook feedback hypothesis and social belonging and showed that Facebook is not beneficial to everyone. The national probability sample had 6248 respondents. A questionnaire based on international personality item pool IPIP was used. Demographic variables such as gender, age, ethnicity, marital status, education, religiosity and employment were
included for data collection. The findings showed that introverts with a Facebook profile had lower levels of social capital (felt belongings) than those without a profile. Extroverts were higher in social capital regardless of whether or not they used Facebook. Other dimensions of personality interacted with Facebook usage. Facebook use differed on personality traits and demographic variables.

Brailovskaia and Margraf (2016) investigated the differences in various personality traits and mental health variables between Facebook users and people who do not use this platform. The data of 945 participants (790 Facebook users, 155 Facebook non-users) were collected through online self-report questionnaire. For narcissism, Narcissistic Personality Inventory (NPI), and for personality Big Five Inventory 10 (BFI-10) was used. Single Item Self Esteem Scale (SISE) was used for self esteem. In order to measure depression, anxiety and stress symptoms, Depression Anxiety Stress Scale 21 (DASS – 21) was used. To assess happiness, Subjective Happiness Scale (SHS) was used. Satisfaction with Life Scale (SWLS) was used to measure life satisfaction. To measure resilience, the General Resilience Scale II (RS-II) was used. General Support questionnaire is applied to measure support. Results indicate that Facebook users score significantly higher on narcissism, self-esteem and extraversion than Facebook non-users. Furthermore, they have significantly higher values of social support, life satisfaction and subjective happiness. Facebook non-users have (marginally) significantly higher values of depression symptoms than Facebook users. In both groups, extroversion, self esteem, happiness, life satisfaction, resilience and social support, on the one hand, and depression, anxiety and stress symptoms, on the other hand, are negatively correlated. Neuroticism is positively associated with depression, anxiety
and stress symptoms. However, significant differences exist between Facebook users and Facebook non-users regarding some associations of personality traits and mental health variables. Compared to Facebook non-users, the present results indicate that Facebook users have higher values of certain personality traits and positive variables protecting mental health. These findings are of particular interest considering the high importance of social online-platforms in the daily life of many people.

An empirical study was attempted by Alan and Kabadayi (2016) to find answer for how is the personality affect generation Y's social media usage and Big Five personality traits and social media usage. A field survey was conducted to 108 members of generation Y. Undergraduates and graduates were from Turkey who completed online questionnaire and the respondents had an account either on Facebook or Twitter or both.

The findings revealed that individuals with high level of extroversion personality characteristic and high level of openness personality characteristic are more inclined to social media platforms. Individuals with high level of neuroticism, agreeableness and conscientiousness personality characteristics were prone to reject social media platforms. Longitudinal usage of technology might affect mental health and so social media platforms are rejected to avoid mental health problems.

Leonidas et al (2017) carried out a research on the effects of personality traits on Facebook use among the college students of two large public universities in Northern Greece. A structured questionnaire was sent online to students and 367 students completed the survey. Among the respondents 59% (217) were females
and 41% (151) were males. 357 students belong to age group below 30 years and above thirty were 10 participants. The sample included mostly undergraduates and holding master's degree were 20 students and doctoral students were only two. 82.1% Students were urban 12.5% semi urban and 5.2% were rural students. Budget Five Inventory (BFI) adapted from John and Srivastava (1999) with 44 items was used for data collection. Mean, SD and correlation for call variables were calculated. Findings revealed that extroversion is associated positively with increased Facebook Intensity. Extroverts used to share more photos through Facebook, commented more frequently in photos, write on others' Facebook wall, checked their own wall and sent more messages than introverts. Agreeableness shared others' content frequently but negatively associated in photo sharing, exerted no influence on Facebook use and checked their wall less frequently. Openness neither used Facebook frequently nor spent more time and shared content. Openness was positively related to people’s tendency to share private messages. Neuroticism had positive effect on Facebook Intensity. Conscientiousness had no effect on dependent variables.

The investigation by Biolcati, Mancini, Pupi and Mugheddu (2018) tried to deepen the understanding of the relationship between personality traits, social and emotional loneliness, life satisfaction and Facebook addiction within the Italian population. A total of 755 participants including 80.3% females completed the questionnaires online. The age of the participants ranged from 18 to 40 years. The questionnaires were in Italian and the respondents 63.8% were from South of Italy. The remaining was from North and Central Italy. The instruments for Data collection were Bergsen Facebook addiction scale (BFAS), the Big Five (BFI), the
short version of Social and Emotional Loneliness Scale for Adults (SELSA-S) and the Satisfaction with Life Scale (SWLS). A regression analysis was used with personality traits, social, family and romantic loneliness, life satisfaction as independent variables to explain variance in Facebook addiction. The findings showed that conscientiousness, extroversion, neuroticism and loneliness (social, family and romantic) were strong significant predictors of Facebook addiction. Age, openness, agreeableness and life satisfaction, although Facebook related variables were not significant in predicting Facebook overuse.

Brailovskaia and Margraf (2018) attempted an investigation of the relationship between personality traits, mental health variable and media use among German students. Data from 633 students, 419 females and 214 males were collected online through email and participation invitation with online link to German language self report survey. Media use habits on 7 point Likert scale were collected. Narcissism was assessed by Narcissistic personality inventory NPI-13. Self esteem was measured by Single Item Self-esteem Scale (SISE). Big Five Inventory was used (BFI). For assessment of mental health Satisfaction with Life Scale (SWLS) for life satisfaction, Subjective Happiness Scale (SHS) for happiness, German Resilience Scale (RS -11) for resilience , questionnaire for Social Support (F-SozU K - 14) and Depression, Anxiety and Stress Scale 21 (DASS 21) were used for data collection. For data analysis SPSS 24, bivariate correlation and regression were used. The findings revealed a positive association between narcissism, extroversion and Facebook membership. Facebook is most popular and offers its members various functions for self-presentation. Narcissistic and extroverted people use these possibilities to get attention, to gain new social
interaction partners and especially narcissists to gain popularity and admiration. Facebook membership is positively related to self esteem. The positive mental health variables, life satisfaction and resilience and social support were positively associated with Facebook membership.

In an Indian context Halder and Khatun (2018) explored the relationship between personality and attitude towards the use of Facebook among the Postgraduate students. 400 postgraduate students were selected from seven departments in the faculties of Arts and Humanities. Two instruments were used as instruments for data collection. NEO Five Factor Personality Inventory (McCrae and Costa, 1989) and Test of Attitude with 35 statements developed by Halder were used. The variables were personality, attitude and gender and locality of residence. For analyzing data descriptive analysis and Cronbach’s Alpha were used. The findings showed significant positive correlation between personality and use of Facebook, gender and locality of residence of the respondents.

### 2.2 Facebook Usage and Mental Health

Pantic, Damjanovic, Todorovic, Topalovic, Bojovic-Jovic, Ristic, and Pantic (2012) explored the association between online social networking and depression in high school students in Pozarevac, Central Serbia. Frequent use of Facebook and other social networks is thought to be associated with certain behavioral changes, and some authors have expressed concerns about its possible detrimental effect on mental health. Pantic et al investigated the relationship between social networking and depression indicators in adolescent population. Total of 160 high school students were interviewed using an anonymous,
structured questionnaire and Back Depression Inventory - second edition (BDI-II-II). Apart from BDI-II-II, students were asked to provide the data for height and weight, gender, average daily time spent on social networking sites, average time spent watching TV, and sleep duration in a 24-hour period. Average BDI-II-II score was 8.19 (SD=5.86). Average daily time spent on social networking was 1.86 h (SD=2.08 h), and average time spent watching TV was 2.44 h (SD=1.74 h). Average body mass index of participants was 21.84 (SD=3.55) and average sleep duration was 7.37 (SD=1.82). BDI-II-II score indicated minimal depression in 104 students, mild depression in 46 students, and moderate depression in 10 students. Statistically significant positive correlation (p<0.05, R=0.15) was found between BDI-II-II score and the time spent on social networking. The findings indicated that online social networking is related to depression.

In another study Chou and Edge (2012) examined the impact of using Facebook on people's perceptions of others' lives. Questionnaire including items measuring years of using Facebook, time spent on Facebook each week, number of people listed on Facebook as their "friends" and perceptions about others' lives. 425 students of the University of Utah from various disciplines participated in the survey. Questionnaires were collected during class time and online. Multivariate analysis was used for data analysis. Findings revealed that longer time Facebook users agreed more that others are happier and agreed less that life is fair. Users who spent more time each week agreed that others are happier and had better lives. Users who do not know others personally but agreed as friends agreed others had better lives.
Simoncic (2012) investigated association between Facebook use depression and Personality factors of extroversion and neuroticism. The sample comprised of 245 undergraduate university students (115 female). Data collection instruments were Facebook questionnaire, centre for epidemiologic studies depression scale (CES-D) and extroversion and neuroticism components of the revised NEO personality inventory (NEO.PI-R). The average age of the respondents was 18. 76.3% were white. The sample consisted of a diverse array of major subjects, economics, nursing, mechanical engineering and psychology. Descriptive statistical analysis and multivariate analysis were used. Facebook attachment is related to depressive symptoms, in Facebook use depression is stronger with low levels of extroversion and high levels of neuroticism.

A quantitative study was conducted by Meador (2013) to explore the relationship between social media use and mental health within a college population. A web-based survey gathered retrospective data on students’ moods, mental status, and behaviors related to social media use. 297 college students responded to the survey. Questions were related to Internet and social media use, overall mood, mental well being. (Pew Internet and American Life Survey (2013), Mental Health and well being Patient Health Care Questionnaire and Diener’s Flourishing Scale were used. One-way ANOVA analyses and independent-sample t-tests were used to determine any statistical relationships between variables. Results of an independent-samples t-test indicate that students do perceive overuse of social media as detrimental to mental health. Although, results of one-way ANOVA procedures suggest no relationship between Facebook use—both frequency and amount of time spent—and mental health within the study population
Krasnova, Wenninger, Widjaja and Buxmann (2013) attempted to explore the scale, scope and nature of envy incidents triggered by Facebook and identifies the role of envy in users' life satisfaction. 584 respondents as Facebook users participated in the German study. The average age of participants is 24 years. 93.8% respondents are German youth, and some are employed and others are studying literature, law and cultural studies. 50% of them spend more than five hours daily using Facebook. The study involved an online survey with close and open ended questions. The survey elicited answers and five positive and eight negative emotional outcomes emerged. The respondents did not admit envy feelings directly but expressed as feelings of anger, exhaustion, frustration and irritation due to cultural stigma. For the second part a 9- item Envy scale reflecting Facebook context was self-developed and administered. Another revelation is that passive following triggers invidious emotions on expensive vacations and how they socialize. Ever-present presence of envy undermines users' life satisfaction. It was found that three causes trigger envy - 'travel and leisure', 'social interactions' and 'happiness'.

A research attempt was made by Park, Lee, Kwak, Cha and Jeong (2013) to explore the relationship between Facebook features and symptoms of depression among Korean University students. 55 Facebook users (40 male and 15 female) with an average age of 24.43 were the respondents in the study. An Emotion Diary was developed in relation to Facebook application to examine depressive symptoms. Centre for Epidemiological Studies Depression (CES-D) Scale was used. The respondents were given tips and facts about depression. Responses were obtained and correlation analysis was done. Results have shown that more the depression more the reading of tips and facts about depression occurred. It resulted in fewer social interactions and the number of Facebook friends has declined.
In another study Tandoc, Ferrucci and Duffy (2015) investigated the relationship between Facebook use, envy and depression among college students. 736 college students participated in the study. It was found that some of those who engage in "surveillance use" of Facebook experience symptoms of depression while those who use the site simply to stay connected to see how their friends are doing compared with their own lives. The researchers also found that the Facebook postings about expensive vacations, new houses or cars or happy relationships can evoke feelings of envy among surveillance users. The feelings of envy in turn lead the Facebook users experiencing symptoms of depression.

Vivekanandan, Aswini and Parthasarathy (2016) studied influence of social networking and mental health of students in higher education in the Indian context. The study was conducted to deal with the usage of social networking and how it affects the mental health of among college students in Tiruchirappalli, Tamilnadu, India. Hence, this study is mainly aimed at presenting usage pattern of social networking and the mental health among select college students. For the said purpose a study has been conducted among 100 (50 males and 50 females) students in various colleges and universities in Tiruchirappalli. The usage of social networking scale was used to measure the level of use on social networking among students and the mental health scale was also used to measure the level of psychological aspects pertaining to mental health among students. In the study survey method and design used is descriptive in nature.
The findings of this study revealed that there was a significant negative relationship between social networking and mental health among the respondents. Furthermore, the gender of students who do social networking has little influence on the psychological attitude and mental health. Age influences mental health. It causes change in mental health. Social network use influence psychological attitude and mental health.

The findings of the study will be useful in assisting educators, researchers, etc., to develop strategies to enhance student psychological well-being.

An interesting study was carried out by Bedas and Hencianos (2016) prompted by the number of Filipino youth using Facebook and the number of suicides in the Philippines. Out of the population of 93.39 million 44.2 million Filipinos have internet access. In 2012 WHO declared the Philippines as one of the top five countries plagued by suicides in the world. Filipinos are very active in posting pictures on the Facebook. 90 % suicides are caused by mental illness the most distressing factor being depression. The researchers tried to ascertain whether the social media especially Facebook contributes to the depression of the Filipino youth the primary users who are prone most to depression. The other objectives are: to determine the factors Facebook make depressing the youth and to determine the negative effects of Facebook on a user's mentality contributing to depression. 736 Filipino youth aged between 15-30 participated in the study. Quantitative and qualitative methods were used for the study. Under quantitative methods survey questionnaire was administered on motivations of use, consumption patterns, views, perceptions and factors that cause depression. The questionnaire was of
Likert type scale on depression. Qualitative data includes group discussions, focus interviews and key-informants interviews. Dependence theory and Social information processing theory were used as framework for the study. The respondents expressed envy in different terms, viz., feelings of anger, exhaustion, frustration and irritation as socially acceptable terms carrying less social stigma. The findings revealed five factors that cause depression- envy, number of comments, likes, followers etc., seen or ignored messages; negative content and inner-psycho emotional conditions. Feelings of neglect or isolation engendered affect mentality. Absence of contextualization leads emotional distress. Ignored messages cause emotional distress that leads to depression.

Knight -McCord et al. (2016) undertook and investigation to determine what social media sites college students use most. College students rely on the Internet generally and social media sites specifically to connect with others. Students from South Eastern University in the US (N=363) completed a survey which assessed personal use of social media. Surveys were distributed face-to-face (n=236) and online (n=127) via Survey Monkey. Most of the respondents were female (59%) and most were (78%) 18-23 years old. The sample consisted of freshmen, sophomores, juniors and seniors. Response options included Facebook, Twitter, Linkedin, Pinterest, YouTube, Instagram and Snapchat. Results had shown that overall, Instagram was the most used social networking site followed by Snapchat and Facebook. The least used social networking sites were Linkedin and Pinterest. Most (76%) use social networking sites 1-10 hours each day and a slightly larger proportion (80%) indicated they use the sites more on the weekend.
In an Indian context, Norman, Elavarasan and Dhandapani (2017) attempted to determine the effect of Facebook addiction and depression among Facebook users in a longitudinal study for a year 2016-2017. The age of the respondents from 19 to 64 years and 469 adults participated in the investigation. 253 were males and 216 were females. A questionnaire including questions on Facebook addiction, depression and frequency of use was mailed to the respondents. For measuring addiction, Bergsen Facebook Addiction Scale (BFAS) was used. Depression was measured by Depression Somatic Symptoms scale (DSSS) was used. The study was conducted from April 2016 to April 2017. The findings revealed that 64% of the respondents were addicted to Facebook. 40.66% (122) had signs of depression. The researchers suggested simple measures like spending time with friends and loved ones, going out for a ride, attending social gatherings, doing activities that release endorphins and decreasing the time spent on social networking sites could help prevent Facebook addiction and depression.

2.3 Facebook Usage and Self Esteem

A research investigation by Kalpidou, Costin and Morris (2011) studied how Facebook use and attitude relate to self esteem and college adjustment. The researchers examined first year and upper class students and expected to find differences between groups. 70 undergraduate students completed Facebook measures (time, number of friends, emotional and social connections to Facebook) the Rosenberg self esteem scale and the student adaptation to college scale. First year students had a stronger emotional connection to and spent more time on Facebook while they reported fewer friends than upper class students did. The
groups did not differ in the adjustment scores. The number of Facebook friends potentially hinders academic achievement and spending a lot of time on Facebook is related to lower self esteem. The number of Facebook friends was negatively associated with emotional and academic adjustment among first year students but positively related to social adjustment and attachment to institution among upper class students. The results suggest that the relationship becomes positive later in college life when students use Facebook effectively to connect socially with their peers. The same study found that college students who spent more time on Facebook reported having lower self esteem than those who spent less time.

In an experimental study Gonzales and Hancock (2011) tested the effect of Facebook exposure on self esteem. Objective self awareness (OSA) from social psychology Hyper-personal model from computer mediated communication was placed for comparison. In this experiment 63 North East university (16 males and 47 females) students participated. The study made three conditions - exposure to a mirror, exposure to one's own Facebook site and exposure to a control condition in which the participants used the same room without any treatment. The online group is asked to open their Facebook site and present information they preferred. One of the offline groups was taken to the same room. Mirror was placed instead of computer screen. They were given a survey questionnaire. The second offline group was given the questionnaire without a mirror and computer and asked to complete the questionnaire. Self esteem was measured by using Rosenberg self esteem scale. 10 items with 4 point Likert scale were given and half items were reverse coded. The findings revealed that Facebook is a unique source of self awareness stimuli and it enhances awareness of optimum self. Digital self
presentation can shape self assessment. High visibility of one's own Facebook profile adds to a sense of objective self awareness. Facebook allows a more optimal self to be evaluated. This effect of self esteem is positive. Participants that updated their profiles and viewed their own profiles during the experiment also reported greater self esteem which lends additional support to the Hyper-personal model. These findings suggest that selected self presentation in digital media which leads to intensified relationship formation also influences impressions of the self.

Pettijohn II, Lapiene, Pettijohn and Horsting (2012) examined relationships between Facebook Intensity, Friendship Contingent Self-Esteem, and Personality of U.S. College Students. University Ohio and South Carolina were the participants. Among them 65 % were females. The age of students ranges from 18 to 40 years. The College students (N = 200) completed measures of Facebook use, friendship contingent self-esteem, personality, and narcissism. Facebook Intensity Scale was used to assess active management and emotional connection with Facebook. Besides, Friendship Contingent Self Esteem Scale (FCSES), Narcissist Personality Inventory (NPI 16) and 10- item Personality inventory (TIPI) were used. Those who strongly connected their self-esteem with their quality of friendship relationships were predicted to be more active Facebook users. As predicted, a significant positive relationship between Facebook intensity and friendship contingent self-esteem was found. No significant relationships between Facebook use and personality or narcissism were discovered. Implications for how and why college students use social networking media are discussed, including connections to previous research which discuss the relationship between high friendship contingent self-esteem and risk for depressive symptoms.
In Sweden the number of Facebook users approximately amount to half of the population. Denti et al (2012) had two aims for the investigation. They want to determine areas of Facebook usage that Swedish Facebook users consider more important and less important and how the Facebook users convey their persona through their status updates. Secondly the researchers wanted to identify what psychological effects Facebook may induce, more specifically the psychological constructs, self esteem and well being in relation to Facebook usage. The study surveyed 1011 Swedish Facebook users with questions measuring respondents' Facebook usage patterns, well being and social esteem. Analyses revealed that only average Swedish women spend 81 minutes per day on Facebook whereas men are logged on to the site about 64 minutes per day. Generally it is used for maintaining contact with people one does not meet people so often. However Facebook is seldom is used for meeting new people. Facebook users tend to update past events and major events when they are feeling well rather than negative feelings when they are feeling bad. Women seem to be more active and engaged on Facebook rather than men agreeing that vast number of uses are important. Women tend to write more thoughts and feelings than men whereas twice of men provoke others on Facebook. Pertaining to the psychological effects of Facebook, the study found that the amount of time spent on Facebook had no relationship with self esteem when controlling for gender, age, education and income. This result runs counter to previous findings. However women who spent more time on Facebook reported feeling less happy and less content with their lives. For men this relationship was not evident. The study teaches that Facebook is used as a tool for affiliating with friends and family as well as a personal showcase where users show their positive
sides. When Facebook users compare their own lives with others' seemingly more successful careers and happy relationships they may feel that their own lives are less successful in comparison.

Kross et al, (2013) investigated the relationship between Facebook use and subjective well being in young adults. 82 respondents participated in the study which includes 53 women. The design of this research was based on text messaging the participants five times per day for 2 weeks in order to evaluate their mood, feeling of loneliness, social interactions, and social Facebook use. This approach was combined with the application of a conventional set of questionnaires, such as the Beck Depression Inventory, Rosenberg Self-Esteem Scale, Social Provision Scale, and Revised UCLA Loneliness Scale. Effects of Facebook on subjective well being were tested by two components i) affective well being ii) cognitive well being. People felt worse the more they used Facebook but people don't use Facebook any more or any less depending on their emotions or mood. It was also discovered that there is a link between more Facebook usage and a decline in life satisfaction. Loneliness is the significant contributor to Facebook use. The more people felt lonely the more they used Facebook. The results indicated that users' subjective perception of well-being and life satisfaction may be undermined. It goes without saying that any decline of this sort may increase depressive signs and symptoms. Kross et al had shown how Facebook is linked to declines in subjective well being including how people feel from moment to moment and how satisfied they feel with their lives.
Tazghini and Siedlecki (2013) in a study involving college age students (n=201) investigated the Facebook use and its relationship to self esteem. Online methods were used for data collection. The examination revealed the relationship between Facebook use and low self esteem as well as high self esteem. Facebook use among individuals with low self esteem: Facebook and social capital which is the benefits of or resources available through social relationships. It was found that those with lower levels of self esteem benefited more and had great social capital due to Facebook use than those with higher levels of self esteem. However those with lower self esteem tend to accept more friend request from people they do not know very well. Facebook allows creating an image of them that they want others to perceive. They tend to frequently "untag" themselves from unflattering pictures in order to preserve this image. Facebook use with individuals with high esteem: Individuals with high esteem like the ability to share the pictures, thoughts and ideas with others compared to individuals with low self esteem. Furthermore individuals with high self esteem tend to find what others post become annoying. Tazghini and Siedlecki posited that this may be that those with higher self esteem place less importance on Facebook interaction.

O’Hanlon (2014) explored Facebook intensity and its relationship with personality traits, self-esteem, and internet self-efficacy in Irish context. The study used non-experimental quantitative design using correlation. Data were collected from a sample of 80 undergraduate students (38 male, 42 female) between the ages of eighteen and twenty six. The instruments for data collection were Facebook Intensity Scale, Big Five Inventory, Rosenberg Self Esteem Scale and Internet Self Efficacy Scale. Descriptive statistics was applied for data analysis. A negative
significant relationship was established between Facebook intensity and self-esteem. Results also indicated that Facebook intensity had a positive significant relationship with personality traits. In addition, when the five personality traits were tested in a separate test, without self-esteem and self-efficacy, no correlation was found. Lastly, no relationship was found between internet self-efficacy and Facebook intensity. These results highlight the role self-esteem, personality traits, and internet self-efficacy has on Facebook usage.

Faraon and Kaipainen (2014) carried out a research study aimed to examine the relationship between Facebook use and self-esteem. The study made use of Survey method. 107 participants (28 males and 73 females) responded and their age range is from 20 to 66 years. The research instruments were the Facebook Intensity Scale and Rosenberg's Self-Esteem Scale. Data were imported into SPSS and analyzed. The analysis of data confirmed that there is a relationship between Facebook usage and self-esteem, but the applied scales allowed a more refined assessment of it. The results showed, after controlling for demographic variables, that participants with low Facebook intensity reported on average higher self-esteem than those who did not use Facebook or those with high Facebook intensity, while those with medium Facebook intensity had significantly higher self-esteem compared to the participants with high Facebook intensity. Future studies should address the underlying causal relations using a time-bound observation method.

Labrague (2014) attempted to explore the effects of Facebook usage on adolescents' emotional states of depression, anxiety and stress. In the Philippines 12 million Filipinos use Facebook in the age group 18-24 years. A cross sectional
design was used in the investigation. Population included 76 enrolled in BSc Nursing programme from a government university, Sanmar, Philippines. 80% were females among the respondents in the study. Data collection included the application of the instruments: Facebook Intensity Scale (FIS), Depression, Anxiety and Stress Scale (Das primary instruments. The findings showed that more than half of the respondents 51.32% had at least one or more symptoms of negative emotional states. Prevalence rates of depression, anxiety and stress among respondents were 28.05%, 48.68% and 25% respectively. Time spent on Facebook correlated significantly with depression and anxiety. Similarly the three emotional states (depression, anxiety and stress) correlated significantly.

Raymer (2015) investigated the effects of social media sites on self esteem among the college students for his Master's thesis at Rowan University at Glassboro, NJ. The study focussed on the effect of more time spent on social networking sites as face to face communication and with family declined leading to loneliness and depression. Undergraduate students participated in the anonymous survey online. The study was a bivariate correlational study. Data collection was done using Facebook Intensity Scale, Rosenberg Self-esteem Scale, Body Esteem Scale and Eating Attitude Test. Data was analysed applying bivariate correlational test and independent samples t-test. The Findings revealed that female students have large number of friends than male counterparts and tend to spend more time on Facebook than male students. Female students have lower body image satisfaction and greater drive for thinness than males. Frequent Facebook use is correlated to psychological distress, as communication overload is ever-increasing and in turn reducing self esteem.
Young (2015) made an attempt to explore the relationship between friendships, self esteem and experience using Facebook among college students who maintain Facebook account throughout their adolescence. The respondents of the study were the undergraduate psychology students using Facebook and they participated in the online survey. The questionnaires were based on the instruments- Rosenberg self esteem scale, Facebook Intensity Scale and Friendship questionnaire. The findings revealed that more the number of friends on Facebook the higher was the self esteem of Facebook users. Facebook users never allowed negative effects on them. Low esteem Facebook users are not able to acquire more friends on Facebook because of the difficulties in online and face to face communication.

In one study by Jakobsdottir (2016) the association between Facebook use with depression and self-esteem among University students was examined. The participants were 157 undergraduate psychology students including 143 females from Reykjavik University in Iceland. Their age ranged from 20-30 years. Data collection was done using Rosenberg Self Esteem scale. DASS-42 was used to measure depression, anxiety and stress. The analysis of data showed that students who often changed their profile picture have lower levels of self esteem and the students scored very low on the scale of depression. The results showed that depression, stress and self-esteem all had significant association with how often students changed their profile picture. The more stress participants showed and the lower their depression and self-esteem scores were, the more often students changed their profile picture. The results also indicated that students who spent more time on Facebook did not show greater depression symptoms, as hypothesized.
In a pioneering study Blachnio, Przepiorka and Rudnicka (2016) examined whether narcissism and self esteem are predictors of Facebook use in the Polish context. 653 Polish Facebook users took part in the research from paper-and-pencil study. Data collection was done using Facebook Motivation and Importance Scale, Facebook Intensity Scale, Narcissistic Personality Inventory Scale and Self-esteem Scale. Analysis revealed that low level of self esteem and high level of narcissism can be predictors of Facebook use.

Jan, Soomro and Ahmad (2017) investigated the impact of social media on self esteem among the Pakistani students of business management especially the Facebook. Comparison of make use of social networking sites among college students caused to have low self esteem. 150 students of Business Management were the respondents in the study. The survey involved questionnaire and interview. Correlation and regression model with the help of SPSS were used firbtesting Facebook and self esteem. Findings showed that 88% make social comparison on Facebook and 98 % out of 88% make upward social comparisons. Strong relationship exists between social media and self esteem. When social media usage increases the self esteem of individuals tends to decrease. One hour spent on Facebook daily decreases 5.574 in self esteem score of an individual.

Sisode (2018) explored the correlation between Facebook use and self esteem. The participants were selected randomly from colleges and universities. 200 female respondents participated in the study. The participants have good education and were aged above 25 years. Employed women were excluded from the investigation. The instruments for Data collection were Rosenberg self esteem
scale and Facebook intensity scale for Facebook use. Rosenberg Self-esteem Scale had 10 items measuring both negative and positive feelings about the self. Facebook questionnaire had questions on time used on Facebook every day, the number of friends, status updates and frequency of updates per week. 70% respondents had 500-1000 friends on Facebook. They usually spend 30 minutes to 1 hour per day. Most of them rarely changed their profile picture. Data Analysis showed that the correlation between Facebook use and self esteem was found to be negative (-0.802) and the correlation is very high. It was discovered that Facebook use was higher and self esteem was low. Face to face communication declined leading to feelings of loneliness and depression.

### 2.4 Summary

This chapter presented a panoramic view of the studies carried out on Facebook usage investigating its relationship with personality, mental health and self esteem. The review is the source for the impetus gained for the present study. The review enabled the researcher to formulate the hypotheses, and the research questions, determine the tools for data collection, and decide on the methodology and the process of data collection and the methods of data analysis for the present study.

The ensuing chapter will provide the objectives, research problems and questions, the sample selected and the methodology chosen and the process of data collection and analysis.