

CHAPTER 2: REVIEW OF LITERATURE AND ASSESSMENT MEASURES

2.1 Review of literature

2.1.1 Internet addiction disorder

Internet overuse is a new concept compare to other establish addictive disorders like alcohol and drugs. Most of the disorders in the DSM have been studied and researched deeply and thoroughly. Professionals treat them for at least fifty years, and the disorders like depression are in the literature for more than a century. In contrast, internet is in its inception, available for around twenty years only. The high speed websites and applications have not yet penetrated the market. In many countries, internet is not available or accessible; individuals are not educated enough to use internet. Internet overuse needs to be studied thoroughly and for a longer time by researchers to give it an official disorder status (Griffiths, 2001).

The vast information technology revolution has made some individuals overwhelmed, and it seems very hard to get off. They are getting addicted, just like gambling disorder. The concept of "Internet addiction disorder" (IAD) is recently introduced, which could be called a kind of behavioural addiction or technological addiction. Many psychologists have been attracted to this concept (Griffiths, 1997), and it also got a place in the medical dictionary (O'Reilly, 1996). Young has set up the first center for internet addiction. She said that internet addiction is a legitimate clinical disorder as individuals who are addicted to internet spend about 40 to 80 hours on internet per week. They experience the consequences like lack of sleep, fatigue, deteriorating work or academic performance, relationship difficulties as well as physical symptoms because of spending long hours on internet (Young, 1999).

2.1.2 Important researches on internet addiction

Few researchers researched internet overuse from 1996 to 2006, like Young (1996, 1997), and try to investigate whether or not internet could be addictive. Griffiths (2000) believes that technological addictions are like behavioral addictions that satisfy six criteria for addiction: salience, mood modification, tolerance, withdrawal, conflict, and relapse. He

argued that any behavior, for example, internet overuse, fulfills these criteria can be operationally defined as addiction. It also has psycho-physiological effects like disturbances of cognitive functions like thoughts, emotions and withdrawal symptoms (Douglas et al., 2008). Chou (2001) investigated the reasons for and effects of internet overuse on college students through online interviews. Chou and Hsiao (2000), after studying internet overuse in Taiwanese college students, found that the high communication pleasure score significantly predicts dependence. Aspects of relationship, hours of internet use, using emails, and sex are not related to internet overuse. Tsai and Lin (2003) studied the effects of IAD through online face-to-face interviews. The effects of internet overuse on relationships, academic performance, game-induced seizures, and psychological motivations of online game addicts, were thoroughly studied through online survey and semi-structured interviews. Wang (2001) in his Australian study found, opposite to what he expected, that there is no correlation between internet dependency, psychosocial maturity, and self-efficacy. Morahan-Martin and Schumacher (2000) found that many students in their research had four or more symptoms on PIU. Treuer, Fabian, and Furedi (2001) concluded that internet addiction was an impulse control disorder (Johansson & Götestam, 2004).

2.1.3 Internet overuse as addiction/not an addiction/ compulsion

2.1.3.1 Internet overuse as an addiction.

The idea of addiction, in general, means physical dependence on a substance (Holden, 2001). "Internet Addiction" is a new term based on the DSM-IV criteria for pathological gambling, according to which internet addiction is an impulse-control disorder that mainly involves psychological dependence on internet (Young, 2004). Interacting with other individuals through online chatting and other such interactive applications and escaping from real-life problems could be the addictive properties of internet. Researchers have adopted different terminologies for heavy internet use, such as internet addiction, internet addiction disorder, internet dependence, problematic internet use, or pathological internet use to describe the consequences of internet overuse on personal and professional lives (Chou & Hsiao 2000; Davis 2001; Goldberg 1995; Griffiths 1998; Kandell 1998; Morahan-Martin & Schumacher 2000; Shaffer 1996; Young 1998).

Excessive internet use is a kind of syndrome which includes greater preoccupation with internet (Chou, 2001; Treuer, Fabian, & Furedi, 2001), longer hours on internet, use

internet compulsively, difficult to manage time, feeling of boredom without internet, getting irritated if someone disturbs when engaged online, social interaction decreasing day by day with individuals in real offline life (Kraut et. al 1998), and increased loneliness and depression. Internet addiction is still not an official psychiatric diagnosis. Despite a growing demand to include obsessive computer and internet use in the Diagnostic and Statistical Manual of Mental Disorders (DSM), it has not yet entered in DSM officially. So many researchers support to call internet overuse an addiction because internet negatively affects human emotions and modifies our perception for our self and makes us little more anxious. A British psychologist, Griffiths studied "Internet addiction" by comparing it with the definitions of other established addictions. He defines "technological addictions" as "non-chemical (behavioural) addictions which involve interaction between humans and machines like computer. They can either be passive like watching television or active like playing computer games or usually have reinforcing features which may promote addictive tendencies. He gave another new definition of internet addiction where online activity is the most important part of the user's life; mood modifications during and after the online activity, gradual increase in tolerance level and need to spend more time online to get the same effect or enjoyment, withdrawal symptoms, and relapse when the activity is discontinued, or internet is not available (Griffiths, 2001).

Davis (2001) noted that "addiction" is an inappropriate term to describe unhealthy, non-productive internet use. The main criterion of addiction is the physiological dependence of a person on some substance. The term addiction is not used in DSM-IV to describe pathological use of any stimulus. Instead, in DSM-IV the terms 'dependence' and 'pathological' are used for chemical misuse, and excessive gambling, respectively. Therefore, pathological internet use (PIU) is the most suitable term to describe internet overuse (Davis, 2000). Young (1996) agreed with Davis and suggested that the criteria of internet overuse are quite similar to impulse control disorders rather than addictions. Hall and Parsons (2001) noted that previous definitions of internet addiction were based on DSM-IV criteria for either pathological gambling or substance dependence, but they did not pay attention to other important issues like co-morbid mental health issues, separating normal behavior from unhealthy one, time spent for productive work and work which is pathological in nature. These issues are related to the disorder, and they need attention from researchers. One's curiosity to use internet can be healthy, unhealthy, or pathologically addictive or both.

Kandell (1998) suggested that college students are particularly vulnerable to internet addiction because of the psychological and developmental characteristics of young adults and easy accessibility of internet. Anderson (2001) conducted one of the largest studies of PIU among college students. He tried to answer specific questions like how much time students spend online, does internet overuse cause difficulties in the academic and social life of the students. Schener & Bost (1997) also conducted a study of PIU on college students and noted that internet-dependent students spend more time on internet than non-dependents. One important point is if the criteria of internet overuse are influenced from the criteria of pathological gambling in DSM-IV, then the issue is partially attended after the publication of DSM-5 in 2013. In DSM-5, gambling disorder is in the chapter of substance-related and addictive disorders under the sub-category of non-substance related disorders, and under this sub-category, only gambling disorder is included. Other behavioural disorders like internet overuse demand more research to get an official entry in the DSM.

Studies available on internet usage of college students reveal that even though internet addiction disorder is asymptomatic when the study was conducted, it is not guaranteed that in the future internet overuse would not be a matter of concern for college students. It is possible that certain students may experience problems because of spending more time on internet, but the time they spent online might be far less required to decide the level at which internet users experienced consequences. It doesn't mean there is no relation between internet overuse and academic impairment (Kandell, 1998; Morahan-Martin & Schumacher, 1998). Kubey, Lavin, & Borrows, (2001) found that academically impaired students, who are dependent on internet, use internet applications more than other students. They also agreed with previous research that there is a strong possibility of an association between significant psychological issues and internet overuse.

Some researchers say that definition of addiction should also include those behaviours which are not the result of intoxicants, like pathological gambling, playing video games, love relationships, overeating, exercise and television watching (Griffiths, 1995). Demand is growing to accept 'internet addiction' as an official disorder, as many peer-reviewed works of literature have started using it (Greenfield, 1999). All these researchers agree on one point that there is a need for further research. Person to person internet usage and time duration varies so calling internet overuse an "addiction" or a "compulsion" is still a question mark. It is a disputed disorder because though internet addiction has been accepted as a valid clinical

disorder, which often requires treatment, but whether internet overuse is a separate disorder itself or a symptom of other underlying disorder is a question unanswered among the researchers. It is also debatable whether it should be accepted as an impulsive-control disorder or obsessive compulsive disorder rather than addiction because 25% of users show internet overuse criteria in first six months of using internet, some of them even feel competency and exhilaration. There is so much debate on the nomenclature of internet overuse, what we should call it and why, but it is not so important. Important is, if a person exceeds the so-called healthy limits of internet use, he could suffer from its severe consequences (Griffiths, 2000).

2.1.3.2 Causes and effects of internet addiction.

No area of an individual's life is left without the effects of internet overuse, it has affected socially, psychologically, and occupationally. Young (1998) said individuals who overuse internet spend 38 hours a week on average, and they use it for non-productive purposes, which results in occupational and relationship impairment. Some of them were also getting the treatment for different disorders like alcoholism, drug dependency, chronic overeating, or compulsive gambling. They see the same excessive behavior, the need for a stimulant, which can make them calm as they had exhibited in prior addictions. It can be said that existing psychosocial problems could be the cause of internet addiction. Psychosocial issues and internet overuse are very much related to each other, but which is the cause and which is the effect is still not proved. Loneliness and depression are also related to internet addiction.

Kraut et al. (1998) suggested that individuals who spend more hours on internet do not interact much with family members, have few social relationships, and also suffering from depression and loneliness than those who spend less time on internet. Many individuals have reported that they are experiencing the consequences of internet overuse, and many researchers have studied and accepted the negative side of internet, so now it can't be denied that the problem of internet overuse persists. It is true that internet overuse doesn't cause the same physical problems which we perceive in other established addictions like alcohol and drug abuse, but it shows similar effects like loss of control, withdrawal, craving, social isolation, relationship issues, and poor work or academic performance (O'Reilly, 1996). Individuals who suffer with IAD are under the severe negative influence of internet. Internet

affects a person's productivity at job and education, and also affects his personal life (Soule, Shell, & Kleen, 2003; Young, 1996). These negative outcomes can be classified into five categories; academic, social, financial, occupational, or physical (Young, 1996). In academic field, students use internet excessively by surfing the websites which give entertainment, engage in online chatting, and playing online games. Internet is more for recreation less for studies. Relationships are also affected as a person reduces the interaction with family and friends and spending less time with them as his time for online relationships increases (Douglas et al, 2008). He feels greater bond, stronger relations with online friends rather than offline ones. The most shattering destructive effect of internet overuse is on one's social life and relationships. A person with IAD suffers with withdrawal which is similar to other addictions. IAD is not just a disorder on its own, it also shows co-morbidity with other psychiatric disorders like pathological gambling and compulsive shopping, and this is the reason why it is needed to understand and study IAD (Shapira et al., 2003). Eventually the problem is, using internet for recreation, for fun, to kill the time rather than using it for productive reasons. That actually makes individuals getting addicted to internet. It could be possible that the person doesn't get enough motivation to fulfill his responsibilities at home and at workplace. Internet increases an employee's efficiency at workplace and increases over all productivity of an organization but at the same time it is a legitimate distraction for employees, which could decrease an employee's productivity and leads to addictive behavior.

There are some general signs that warn against a person's problematic internet use. They are, spending more time on internet than intended to, not able to complete tasks at work or home, isolating from family and friends, being defensive for the use of internet, lie to family members, therapists, or others, feeling euphoric while involved in internet activities, occupied with online activities, need to increase the time on internet to get the same level of satisfaction, repeated unsuccessful efforts to control internet use, feelings of restlessness, moodiness, depression, irritability when stop or cut down internet use, jeopardized or risked relationships, job, education, or career opportunities.

2.1.3.3 Internet overuse NOT an "Addiction".

There are different opinions among researchers about the existence of "internet addiction". But no official diagnosis is available for internet addiction yet. If the word "addiction" is even acceptable and suitable, it is important to note that individuals get

"addicted" to the activities on internet and not to internet itself (Holden, 2001). There are few arguments why internet overuse should not be called an addiction. Researchers who oppose this term say that internet addiction disorder is not a true addiction and maybe it is no more than a symptom of other, existing disorder. For many individuals, overuse of internet is a sign which indicates that they could be suffering with depression, anxiety, impulsive control disorders, or pathological gambling. Another possibility is they suffer with internet overuse without any underlying disorder. It will become clear with time and with more research conducted on the same. A layman person uses the terms "addiction" and "overuse" interchangeably but medical definition is based on 'use despite one's best interest,' and there is no place for the quantity of use as substance use disorder talks about quantity while internet overuse mainly involves the kind of activities individuals do on internet which signals the quality. If an individual spends lot of time watching pornography on internet, he is bound to get addicted to internet but if someone spends time for productive work like office work or academic assignments, his chances of getting addicted are negligible. Another argument is it is possible that a person could have a pathological relationship with a specific aspect of internet such as chatting or pornography, but that does not make internet itself addictive.

The diagnostic criteria for internet overuse, so far, are inspired from the diagnostic criteria for pathological gambling in DSM-IV but it is observed that there are significant differences between online activities and pathological gambling. Internet is pro-social but it also hampers social life of the user, it is interactive but if used for longer time, it can lead to addiction. Internet is a medium which gives lot of information but at the same time it distracts a lot. In short, internet has its own merit and de-merits and one cannot deny the benefits, while gambling is seen as an anti-social behavior which doesn't have much value in the society and there are no benefits of consuming substances like alcohol and drugs. It is not possible to quit internet in today's information technology driven age. Individuals who overuse internet do not experience the same effects on their health and relationships which the individuals with substance use disorder exhibit. Chemical dependency has many disadvantages, in fact there is no advantage in getting addicted to a substance but internet is a technological achievement of this age and it offers several direct benefits. Moreover internet itself is not addictive (Levy, 1996). Furthermore, it is argued that the term addiction should be used only for those individuals who consume or inject a substance and meet the criteria of substance use disorders (Rachlin, 1990; Walker, 1989).

There are certain findings and views which question why internet overuse should not be called an addiction. Starcevic (2013) highlighted that there is no clear agreement over the existence of internet addiction, the terminology, methodology, and psychometric measurement used in various studies. According to him, another important issue is that internet addiction is a misleading term because it refers addiction to a 'delivery medium'. Most addictive disorders consider the characteristics to determine the addictive behavior (King et al., 2011). Addictive disorder is not diagnosed on the basis of substance but the behavior an individual exhibits after consuming the substance. Davis (2001) agreed that internet users are addicted to the content they find on internet, not to the medium itself. He has described "pathological internet use" and has distinguished between specific and general pathological internet use and overuse of internet with no specific purpose. He also noted that there are few common characteristics between internet overuse and impulse control disorders, and shows co-morbidity with other disorders like mood disorders, bipolar disorders, and social anxiety disorder. Some researchers have proposed a term "impulse control disorder not otherwise specified" (NOS) with excessive internet use (Yellowlees & Marks, 2007). According to Block (2007), the abnormal relationship and over reliance on technology is the fundamental issue, not the internet. He also notes that behavioural addictions do not cause death while drug addictions could be fatal, a person could die when he is intoxicated. Marks (1990) points out that behavioral addictions are compulsions which indicate that a person feels force from a discomfort that has to be diminished, whereas addiction is a kind of attraction towards something. He describes compulsion as a push to relieve discomfort, while addiction as a pull toward a good feeling. For example, an act of washing hands is a push to get relief from feeling uncomfortable while alcohol addiction is a pull towards good feeling which a person gets after consuming alcohol. According to him, there is no difference between addiction and compulsion. Impulse-Control Disorders are considered by the DSM-IV, (1994) as an inability or failure to resist an impulse, drive, or temptation to perform an act that is harmful to the person or others. In addictive disorders, compulsion and impulse-control disorders, the person feels tensed before performing the activity and experiences pleasure, gratification, or relief after the act. The DSM-IV (1994) notes such similarities between substance and behavioural addictions but restrict the usage of the terms dependence and abuse for a drug, medication, or toxin. Instead of "addiction", the terms "problematic" or "maladaptive" are most appropriate to describe internet overuse (Brenner, 1997).

There are different opinions on two things: first, how far internet overuse is an addiction? Second, internet overuse is a sign or effect of an underlying disorder or is it a cause? Some psychiatrists have argued that internet overuse shares many characteristics of other substance use disorders like excessive use, withdrawal, tolerance, and negative consequences. However, if the subjects of internet overuse and drug dependency are compared on physiological measures, common, general symptoms like “withdrawal” and “tolerance”, have not been exhibited by the subjects of internet overuse. Furthermore, if “tolerance” is considered to measure the need where an individual needs intense internet-based activities and more time to spend on internet to get the same effects over time, then there is no study which provides concrete parameters to measure the level of tolerance in the individuals who overuse internet. Thus, in internet addiction the terms “withdrawal” and “tolerance” are used either metaphorically or are used as common behavioral criteria which talk about the feelings of irritability or anxiousness. Models on internet overuse emphasize on internal suffering and a person’s inability to resist internet. There are very few overt symptoms of internet overuse. Based on such models and data showing course, prognosis, and treatment of internet overuse, considering it as a separate disease or disorder is quite premature (Pies, 2009).

2.1.3.4 Compulsive and excessive internet use.

Compulsive and excessive usages of internet are very similar, but at the same time conceptually quite different, behavioral patterns. Internet overuse involves number of hours spent online that crosses the limits of the so-called normal amount of time a person has actually planned to spend online whereas compulsive use means the user is not able to control his impulses (Caplan, 2002). Spending longer hours on internet is not an indication of a problem – many professions require spending lot of time on internet. For example, IT professional needs to spend a lot of time online to finish his project before the deadline, or a student needs to use internet excessively to complete his assignment which possibly will not make them addicted to internet. This could mean that compulsive internet use is more likely to produce negative outcomes rather than excessive internet use.

There are individuals who use internet compulsively for various activities like chatting, watching pornography, or playing games. Many researchers have agreed that PIU primarily talks about compulsive internet use (Beard & Wolf, 2001; Caplan, 2003; Davis, 2001; Griffiths, 2000; Shapira et al., 2000; Young, 1998; Young & Rogers, 1998). Caplan

(2003) in his study found that both overuse and compulsive use of internet significantly predicted the negative outcomes of internet use but overuse of internet was one of the weakest predictor of negative outcomes while socialization, compulsive use, and withdrawal were the strongest predictors of negative outcomes of internet overuse. Shapira et al. (2000) in her study defined PIU which includes occupation with internet for longer hours and causation of negative consequences. They concluded that it is better to classify problematic internet use as impulse control disorder because at present not much evidence is available.

2.1.4 Perception of internet overuse as a disease

“Disease” is basically a condition of suffering with certain physical, social, or professional impairment. This indicates that “suffering” doesn’t mean how society responds to the patient’s behavior, it also includes some internal suffering because of the condition. In line with this, if a patient diagnosed with IA by some specific criteria of measurement and he experienced both suffering and impairment, and mainly if the suffering was because of, at least partially, internal aspects of the condition, then it can be said that the individual would be having a disease. On the other hand, if an individual diagnosed with IA is suffering only because of the sanctions imposed by the law or society at large, for example, a person is punished for watching pornography then the criteria of internal suffering would not meet. In such cases, it can be said that an individual exhibited socially unacceptable behaviors on the basis of which he cannot be labeled a “patient” of some disease (dis-ease). So far enough data are not available to conclude that IA is a “disease” but just because someone does not show the symptoms of a disease, irrespective of its definition, does not mean that he or she doesn’t deserve professional help. Before considering IA as a separate disorder, extensive research is needed (Pies, 2009).

Regardless of calling internet overuse an addiction or not, it is true that individuals who overuse internet become dependent on it with passing time, and many factors are responsible for that. Criticisms in previous paragraph are serious limitations which prevent researchers from building detailed theories on addictive nature of internet overuse. Further research is required to build a theory of internet overuse and detailed descriptions of crucial processes involved in internet overuse (Caplan, 2002). There is a slender distinction between IAD and other psychiatric disorders. Again, as discussed above, it is still not clear whether IAD is just a behavior or a part of some psychiatric disorder like addictive disorder, compulsion or an impulse control disorder, as suggested by some studies (Shapira et al,

2003). Irrespective of what internet overuse is called or how it is defined, some individuals with internet overuse are suffering with negative outcomes and need professional help and treatment. Detailed studies are required to solve these disputes and answer the queries about internet overuse.

2.1.5 Addiction in DSM-5

The word “Addiction” is not used as a diagnostic term in this classification of DSM-5, although it is commonly used in many countries to describe severe problems related to compulsive use of substances. The more natural term substance use disorder is used in DSM-5 to describe mild form to a severe form of chronically relapsing, compulsive drug taking. Some clinicians will use the word “Addiction” to describe more severe symptoms of substance use but the word is omitted from the official DSM-5 substance use disorder diagnostic terminology because of its uncertain definition and its potentially negative connotation.

In addition to the substance-related disorders, this chapter (Substance-related and Addictive Disorders) also includes gambling disorder, reflecting evidence that gambling behaviors activate reward systems similar to those activated by drugs of abuse and produce some behavioral symptoms that appear comparable to those produced by substance use disorders. Other excessive behavioral patterns, such as internet gaming, have also been described, but the research on these and other behavioral syndromes is less clear.

2.2 Assessment

The assessment of the individuals by diagnosing possible internet overuse is very important because a reliable assessment technique will help the professional to design an effective treatment model. The same format of standard psychiatric interview is used at present for assessment interview of the individual with internet overuse. The clinician will have to take the history of the client which comprises present complaints, past and present psychiatric history of the client as well as his family. While taking the history of present difficulties the person is going through because of internet overuse, it is important to pay attention in getting a clear idea of the nature of internet overuse and to what extent the person uses it at least in terms of time and activities. It is best to take the history chronologically,

when the person starts using internet, how it has been progressed, factors responsible for internet use and the attempts, successful or unsuccessful; he made to control his internet use.

Information like how much time a person spends on the internet per day or per week, what applications he surfs, activities he is engaged in and how internet use has affected various aspects of his life like interpersonal, social and vocational, is important for assessment (Murali, & George, 2007). Young (1998) recommended exploring the areas of applications, emotions, cognitions, and life events while conducting the clinical interview. Applications mean the source through which the user access particular activities of his interest. For example, applications for games, chatting, search engines, and pornography to which the person is occupied most of the time. It is also paramount to know how an individual feels when he is online and offline. Some individuals use internet to block negative emotions; others use it for gratification and pleasure. Once it is identified what triggers the emotions on internet, appropriate intervention programmes could be designed. Individuals, who are not able to describe their emotions and feelings, can write them down in a diary. Low self-esteem and depressive thoughts are other possible triggers of internet overuse. Therefore, it is important to identify underlying thought disturbances and attend them properly as part of the treatment. A person can overuse internet because of stressful situations or to escape events or to reduce pain. Hence the person's present life situations should be explored to formulate the intervention programmes. Psychiatric co-morbidity should also be suspected as internet addiction is hardly the only psychiatric disorder a person suffers with. Individuals use internet to get pleasure or to avoid unpleasant situations. It could be possible that they are experiencing some mental issues which is creating disturbance in their daily lives. The most common are affective disorders, other addictive disorders, impulse control disorders and personality disorders. It is equally important that before labeling someone as an internet addict, it should be investigated that the symptoms of internet overuse are not the effects of some underlying psychiatric disorder such as bipolar or psychotic disorder (Murali & George, 2007). If the symptoms of internet overuse are the cause of the distress and consequences one is experiencing in his life, then only it can be called an addition.

2.2.1 Diagnostic and assessment tools

The concept and study of internet addiction is in the infant stage. Griffiths (1995, 1998), who has done research on gambling, talked about the problems of internet overuse.

Goldberg (1995) was the first researcher who specifically focused on the potential of internet as an addictive and dependence medium. He constructed a rating scale, Internet Addictive Disorder (IAD) with seven diagnostic criteria, mainly adapted from DSM-IV (1994). Brenner (1996) developed a scale, Internet-Related Addictive Behavior Inventory (IRABI), with 32 true-false questions about excessive internet use, to survey world-wide internet users. Morahan-Martin and Schumacher (2000) introduced their scale Pathological internet Use (PIU), with 13 questions, mainly similar to the DSM-IV criteria. Young (1998) introduced a Diagnostic Questionnaire (YDQ) for 'Internet addiction', with eight items, partly adapted from DSM-IV. Later she revised the tool and gave internet addiction test which measures the level of addiction. It consists 20 items based on DSM-IV criteria for pathological gambling. According to her, a person could be diagnosed as dependent if he or she meets four or more of those criteria over a twelve month period. Young (1999) used an electronic survey and a phone interview and found differences in frequency of use and types of activities. Internet overuse shows high correlation with academic achievement, relationships, and work-related issues, as well as with substance abuse. Davis (2001) developed Online Cognitions Scale (OCS) which is a 36 item assessment and it is developed to measure problematic internet use. The validation of OCS supported the idea that PIU has more dimensions of internet use apart from spending excessive amount of time online.

2.2.2 Criticisms of diagnostic instruments

Beard (2005) summarized the important criticisms of above mentioned diagnostic instruments. First, as they are based on various theories which do not have much consensus on the factors of internet overuse. Most instruments are self-report where it is very important for the respondent to answer the questions honestly, but none of those studies used a 'lie scale' to detect whether the responses are given genuinely or not. Neither have they identified the specific internet applications to which the user is addicted like chat rooms nor have they tested reliability and validity rigorously. No instrument mentions all possible factors of internet overuse and its various consequences. Keeping in mind these limitations, it is better to depend on the clinical interview and to use diagnostic tools only within the set rules of clinical assessment (Murali, & George, 2007).

An instrument is needed which can diagnose additive properties of internet use as well as the impairment in various areas of life. Such instrument will help to specify the diagnostic

criteria and the consequences of internet overuse. This can further help to develop a model of treatment to deal with this condition. This research has tried to develop an instrument which will incorporate all possible diagnostic criteria of internet overuse and impairments it causes.

2.2.3 Treatment of internet addiction

Researchers suggest that a person will not experience negative effects of internet overuse if online friendship is very much similar to offline friendships; this shows the impact of internet overuse. The person's real self and virtual self should have minimum difference to mitigate the effects of internet on one's life. A person should not give fake identity online and shares only those things online which he would like to share offline. Internet is used mainly to maintain relationships not to make new relationships. When the person uses internet otherwise, to get pleasure online, and for that giving up most of the offline pleasurable activities, addictive tendencies start developing and gradually problems related to internet overuse start showing (Chou, 2001; Tsai & Lin, 2003). Furthermore, when real life recreational activities are replaced by online activities then we can say that a person is overusing internet.

There is not enough awareness about internet overuse. More educational programs are needed to create awareness and knowledge about the same. Like other addictive disorders, to stop using internet completely is not possible; rather it is better to learn to use internet in a productive and healthy way. A person has to learn to control his internet usage rather than quitting it altogether. Development of effective treatment methods is equally important to tackle the increased cases of internet overuse. Proper clinical assessment is needed before starting the treatment; this includes time spent on internet, involvement in specific online activities and level of impairment in various areas of one's life, social support, and interpersonal relationships (Chou, 2001; Young, 1997).

2.2.3.1 Coping activities & strategies

A person can regulate his internet overuse by indulging in productive use of internet. Individuals are using coping activities to prevent internet overuse, but the greatest challenge for them is their inability to limit or control the time they spend online. According to the researchers, coping activities are short-lived; they help to kill the time until the user logs in again. There are certain offline activities or coping activities which help the users to control their addictive tendencies, like shopping, reading books (printed), chatting through phone

calls, and visiting friends in person. Internet users are mostly not aware that internet overuse could be a disorder so who will help them to cure this, is also unclear. Some individuals consider overuse of internet as a personal trivial problem which doesn't need treatment (Chou, 2001) but there are certain coping strategies for pathological internet use. For example, practice the opposite, external stoppers, setting goals, reminder cards, personal inventory, abstinence, support groups, family therapy, and cognitive therapy. These strategies address major interventions utilized within the experimental online consultation service (Young & Suler, 1997).

2.2.3.2 Cognitive behavior therapy- internet addiction (CBT-IA)

Cognitive behavior therapy (CBT) is recommended by many researchers. The basic idea behind all cognitive therapies is: many mental disorders stem from faulty or distorted modes of thought. Change these, and the disorders, too, can be alleviated. Beck (1976) devised a CBT for relieving depression. Beck assumes that depressed individuals are engaged in illegal thinking and that this underlies their difficulties. According to Beck, such distorted thinking leads to negative moods which further increase the negative thinking. How can a therapist break this vicious circle? Opposite to rational-emotive therapy, Beck's cognitive approach accepts the ideas of depressed persons. The therapist and client work together to identify the individual's beliefs and expectations and to develop the ways of testing those beliefs and assumptions.

This very idea of CBT is used to treat internet addiction. It is called Cognitive Behavior Therapy- internet addiction (CBT-IA). When CBT is used to treat internet overuse, the initial stage should be behavioral where focus should be on specific behaviors and situations which create maximum problems. In the next stage, the focus should be on the distorted thoughts which are developed and affect the behavior. CBT-IA is a new therapy which is not much tested yet. Research on treatment methods for internet addiction is needed but so far the therapy outcomes have not been studied much (Young, 2013). Individuals with internet overuse are not able to find the professionals or support groups specially trained to treat internet overuse. Traditional abstinence models of addiction are not working to treat internet overuse as there are many academic and professional benefits of internet. Some researchers even feel that internet addiction is self-corrective. Researchers said that internet addiction is just a craze among individuals. TV addiction is more harmful. Individuals

sometimes reduced their time on the computers sharply without any efforts, treatment or strategies which indicates that even problematic internet use doesn't need treatment; it is self-corrective (Starcevic, 2012).

Internet addiction is prevailing all over the world but some of the most interesting research on internet overuse has been published in South Korea. Internet overuse is a very serious public health issue in South Korea. The government estimates that approximate 210,000 South Korean children are overusing internet and require treatment. An average South Korean high school student spends about 23 hours each week gaming and so many are at the risk of addiction and need counseling. China is also worried about internet overuse. About 10 million teenagers meet the criteria for internet addiction. As a result, China has started to curb computer games; current laws allow only 3 hours of game use per day. In the United States, to estimate the accurate number of individuals suffering with internet overuse is difficult. In Asia individuals use internet cafes to surf the net while in the United States, internet is accessed from home only to play games and to enjoy other online activities. It is very difficult to measure internet overuse and its effects as individuals deny and feel shameful for spending longer hours on internet. They will not admit certain activities they use internet for like pornography and virtual sex. Another issue is co-morbidity. About 86% of internet overuse cases have some other DSM-IV disorder. In the United States, maximum patients are suffering with co-morbid conditions so it is very crucial for the therapist to specifically look for internet overuse, otherwise it will not be diagnosed. In Asia, however, therapists are given training to diagnose internet overuse specifically as internet users generally do not show co-morbidity (American Journal of Psychiatry, 2008).

There are gender differences in internet addiction. Many studies reported that there are more male internet addicts than females but other psychologists like Young (2004), find that both men and women are same in number but they prefer different sites according to their behavioral stereotypes. Women like to spend time on internet for flirting or having cybersex, while men were attracted to porn websites. In an American study in 2005, the percentage of men using internet was very high than of women. Among the participants under the age of 30, it is observed that women are using internet more than men. Men have more log-ins and spent more time online to pay the bills and to download music and movies whereas women tend to look for more opportunities to communicate and use internet to watch streaming content but for shopping and banking both are genders equal in number.

Studies in 2008 show that women use Facebook and MySpace significantly higher than men, although the ratios of males and females varied with age (Moreno, Jelonek & Christakis, 2013).

There are, in fact, so many questions about internet addiction, starting from the term itself to its emotional, psychological and social effects on human beings, purposes to use internet, gender differences, co-morbid relationships of internet with other disorders, diagnostic criteria, different applications of internet, and whether internet overuse itself is a disorder or it is a symptom of other underlying disorder and many more. All these questions will remain unanswered until more controlled studies are done. This research will try to understand the difference between two genders on internet overuse and will examine how much time individuals spend on internet, which websites/applications they use and for what purpose they use internet. It will also examine the difference in internet overuse on the basis of age, occupation, education, and marital status.

2.2.4 Co-morbidity of internet overuse with other disorders

There is a relationship between internet overuse and other psychiatric disorders so when a person overusing internet comes for treatment, a psychiatrist should first decide whether the symptoms of internet addiction (IA) represent some underlying disorder like bipolar disorder, major depressive disorder, schizophrenia, or OCD. It should be decided carefully which came first, the disorder or internet overuse? Family history can give an idea, for example if the family has a history of mood disorder, then internet overuse could be the effect of mood disorder, not a disorder in itself. Some individuals with severe internet overuse could suffer with serious emotional and physical problems. However, it is premature to consider internet overuse a separate psychiatric disorder. Research on understanding the nature of internet overuse and development of consistent diagnostic criteria of the same is very much needed (Pies, 2009).

2.2.4.1 Depression, loneliness & internet overuse

Research shows that internet overuse is related to depression and loneliness. There is a strong association between loneliness and compulsive internet use. Greenfield (1999) said that online addicts are so much preoccupied with their online activities that they are not able to manage important aspects of their lives. They spend less time with family and friends and gradually ignoring them to spend more time on internet. It affects their social life and

increases the chances of depression and loneliness, but they accept that online relationships are weaker compared to strong relationships which they have developed offline. There is an opposite view to the internet causing loneliness, which says that lonely individuals use internet more, and benefit more from it. According to Morahan-Martin and Schumacher (2003), the internet is an ideal platform for lonely individuals to get socialized. It provides vast social network where the users can alter the ways of social interaction which lonely individuals find attractive. Researchers also want to know whether lonely individuals use the internet to maintain or improve psychological health or not (Whitty & McLaughlin, 2007). Morahan-Martin (2003) also said that internet gives lonely individuals a medium for both communication and entertainment. It also provides a social life which is full of fun and it is safe too, a kind of social life they did not get in real life. Many individuals use internet to avoid the pressures and pain of their lives. However, between loneliness and internet overuse, which is the cause and which one is the effect is still uncertain. The problem of internet overuse and thereby loneliness or vice versa is prevailing across all age groups. Again the question is same: which one is the cause and which one is the effect. Shaw and Gant (2002) also found inverse relationship between internet overuse, loneliness, and depression. They also found similar relationship between internet overuse and self-esteem. Oldfield and Howitt (2004) found that if individuals spend more time on emails, they will feel less lonely. They also say that instead of considering internet as one whole aspect, various applications of the internet, like chatting, shopping, entertainment, and banking should be considered.

2.2.4.2 Social anxiety, social phobia, ADHD & internet overuse

There is also a relationship between social anxiety and internet overuse. Social anxiety is often associated with general anxiety and depression which could negatively affect one's ability to cope in social situations. Individuals suffering with social anxiety use internet to manage their social fears and related problems like loneliness, depression, and low self-esteem. The internet fulfills social needs for those who have difficulty establishing social relationship. It also provides social connectedness and a sense of belongingness. Internet also provides anonymity which makes it possible to be less inhibited and intimidated (Shepherd & Edelman, 2005). It is found that social phobia is positively related with internet use and hostility is related with substance use in adolescents but more evaluation is needed to prove this. ADHD symptoms, both in attention and hyperactivity-impulsivity domains, have significant positive correlations with internet overuse. Individuals with internet overuse have

higher ADHD symptoms compared to those who can control their internet usage. The severity of internet overuse is higher among ADHD group than the non-ADHD group. Opposite is also true. These findings may suggest that ADHD symptoms are important risk factors for internet addiction.

2.2.4.3 Other clinical disorders & internet overuse

Internet overuse, in addition to above mentioned disorders, appears to be co-morbid with depression and insomnia (Lee & Wing, 2011), attention-deficit hyperactivity disorder, social phobia, aggression and hostility (Ko et al., 2009), schizophrenia, obsessive-compulsive disorder (Ha et al., 2006), and problematic alcohol use. These co-morbidities suggest that internet overuse could be a cause or a symptom of these psychiatric disorders with more severe psychopathology compare to a single mental health issue. Such results on co-morbidity of internet overuse suggest that internet overuse is not transitory and it can't be self-treated. Instead, it seems important to explore and develop a diagnostic tool that may help to understand and treat the consequences of internet overuse (King et al., 2011). Internet overuse, like other disorders and addictions, too needs treatment and preventive measures. Overuse of the internet helps individuals to avoid the problems or get relief from dysphonic mood. Being addicted to internet can also cause physical problems such as: Carpel Tunnel Syndrome(pain and numbness in hands and wrists), dry eyes, strain vision, neck aches, backaches, severe headaches, sleep disturbances, pronounced weight gain or weight loss, failure to attend to personal hygiene, sleep disturbance, and eating irregularities such as skipping meals.

2.3 Rationale

Publication of DSM-5 in 2013 influenced this researcher to work on this topic. In DSM-5, Internet Gaming Disorder is identified in Section III as a condition warranting more clinical research and experience before it might be considered for inclusion in the main book as a formal disorder. Internet is now an inescapable part of individuals' lives. They use it for various purposes in their daily lives but recent researches have started focusing on the negative effects of internet which some individuals experience specially those who are occupied with online games. They play games compulsively, excluding other interests, and their preoccupation with online activity causes significant impairment in social and occupational lives. Individuals, who overuse internet, put their academic or job

responsibilities in danger because of the amount of the time they spend online. They experience withdrawal symptoms when internet is not available. The studies suggest that when the individuals are engaged on internet, specially playing games, certain pathways in their brains are triggered in the same direct and intense way that a drug addict's brain is affected by a particular substance. The addictive behavior is manifested when an online activity causes a neurological response which triggers the feelings of pleasure and reward. Many individuals use internet to cope with unpleasant feelings such as stress, loneliness, depression, and anxiety but they should know that there are better strategies to keep negative feelings at bay like, physical exercise, simple breathing exercises, and meditation . A person suffering from anxiety, depression, stress, other addictions and lacking social support, is highly susceptible to internet overuse.

Proposed criteria for internet gaming disorder are given in DSM-5. Further research will decide whether internet gaming disorder is diagnosed by using the proposed criteria. At present, the criteria are limited to internet gaming disorder and do not include general use of the internet, online gambling, or social media. Other usages of internet like, chatting and pornography are not included in this proposed disorder. By listing Internet Gaming Disorder in DSM-5 Section III, APA hopes to encourage research to determine whether the condition should be added to the manual as a disorder. DSM-5 says that not enough research has been done on this topic to prove internet use, overuse or abuse as an established addiction. Still, some good research has been done by few psychologists and they have published interesting articles on this topic to prove that individuals are getting hooked to the internet and the symptoms are similar with that of other established addictions. Internet addiction disorder affects individual's daily life in negative way. Over a past decade, the concept of internet overuse is getting attention as an official clinical disorder which needs to be treated. Researchers are divided over whether internet overuse is a disorder on its own or a symptom of other underlying disorder. There is also debate over classifying it as an impulsive-control disorder or an obsessive compulsive disorder instead of an addictive disorder.

Young (2004) who supports the view that internet overuse is an addiction, has advocated recognizing internet use as a distinct chemical disorder. She says that many internet addicts suffer from depression and anxiety and often use internet to escape unpleasant feelings or stressful situations. Addicts were known to use the internet an average of 38 hours a week for non-productive reasons which leads to resulting in poor academic or

job performance, and relationship impairment. Griffiths (2001) in his essay concluded that the internet overuse has similar criteria of addictive disorder and some internet users meet those criteria for addiction. Wallace (2001) argues, based on the case histories, that excessive involvement on internet can have serious repercussions. In opposition, many researchers say that internet addiction disorder is not a true addiction instead it could be a symptom of other existing disorder--like depression, anxiety, impulsive control disorders, or pathological gambling. It is possible that a person could have a pathological relationship with a specific aspect of the internet, like online auctions, pornography or gambling, but that does not make internet addictive.

Mood modification, tolerance and withdrawal are common in both internet overuse and substance use, which indicates that individuals are getting addicted to internet as they get addicted to other substances. Griffiths (1999) in his article, "Internet Addiction: Fact or Fiction?" asked about the existence of internet addiction and what are the internet users addicted to if it exists. Certain core components like salience, mood modification, tolerance, withdrawal, conflict, and relapse should be explored to answer these questions and then relate them to internet overuse. Individuals of all age groups and all professions are using internet but it is believed that students are possibly at higher risk of suffering with problematic internet use, because for students, internet is a boon. It is free and always available. Students who overuse internet are sacrificing sleep for online activities. Many students miss the classes because of their involvement on internet. However, it may not be feasible to call students "addicted to internet" just because they use internet excessively, as many times it is necessary for them to access internet to finish their assignments and other school related work. Lonely individuals also use internet excessively. They use internet differently for social relations than individuals who are not lonely. They use internet more for emotional support, meeting new persons and to connect with like-minded individuals for better interaction. Lonely individuals mostly prefer online over face-to-face communication because of the anonymity of online communication where they do not have to disclose their real identity. Online, they feel more comfortable, share personal matters like their secrets and are friendlier. They also feel that making friends is easier because of internet. They can use multiple identities with different individuals and if they feel uncomfortable, they can start another fresh relationship with a new identity.

There is a significant relationship between individual's internet use, psychological health, and negative effects of internet overuse at home and at workplace (Beard & Wolf, 2001; Brenner, 1997; Davis, 2001; Morahan-Martin & Schumacher, 2000; Pratarelli, et al., 1999; Sanders & Christopher, 2000; Young, 1998). Individuals who overuse internet that produce negative consequences are called by many names like "internet addicts, computer-mediated communication addicts, and computer junkies". Research in this area is relatively low as it needs more data-based verifiable theories which can make it clear how internet overuse is associated with psychosocial health that can be affected negatively.

Researchers have recommended cognitive behaviour therapy for treatment of internet addiction, which is used to treat some mental disorder like depression. The basic idea behind all cognitive therapies is: many mental disorders arise from negative or distorted types of thought. If we change such thoughts, the disorders, too, can be eliminated. CBT in general let the individuals understand their feelings and actions. It also allows them to learn new coping skills and how to prevent relapse. CBT usually requires three months of treatment or approximately twelve weekly sessions. It is suggested for excessive internet users, that the initial stage of therapy should focus on specific behaviors and situations where the impulse control disorder causes heavy complications. Abstinence recovery models which are used for substance use disorders, are not working to treat internet overuse as it has become such an important part of our day-to-day lives. Professionals have agreed that using internet in moderation is the most suitable treatment for internet overuse (Young, 2010). CBT-IA is developed to address the salient features of internet overuse.

It is understood from different researches that individuals may get addicted to the internet and show similar symptoms which they show when getting addicted to other chemical substances. Though very limited research is done on this topic, further research may throw some more light and make things clear on this matter. Purpose for this research is not just to study whether internet overuse is an addiction or not, but also to know for what purposes individuals use internet, how these purposes change with growing age and time, and which purposes make them to overuse internet. After so much of research on internet, there is still no consensus whether it is a compulsion or addiction so it will be worth analyzing whether internet overuse can be categorized as an addictive behaviour. DSM-5 has put Internet Gaming Disorder under further research as sufficient research is not done to support internet overuse as an addiction. Thus, by comparing the behaviour of compulsive use of

internet with that of other established addictive behavior, this research will try to understand the addictive status of internet overuse. Also it is not clear in the literature that what extent or type of use of internet drives one to get addicted.

Research on the effects of the internet overuse is still in its initial stage and needs to be improved both qualitatively and quantitatively. To measure the nature of internet overuse, a standardized tool is required. It is also important to know the consequences of internet overuse and how it affects one's social, occupational and functional life. This research will try to design a tool to measure internet overuse and its effects which could help to design the course of treatment for internet overuse. Hope this research will give some insight on this issue.

2.3.1 Research Gaps

Despite the topic of internet overuse is getting prominence; not enough studies are available on internet overuse. The studies available are mostly surveys, impaired by self-selecting samples without control groups. The remaining are theoretical papers which provide no data. It is misleading to characterized behavior as "addictions" just because individuals who use internet feel it is very harmful for their lives. Many psychologists are going on with the research on internet overuse as they are overwhelmed by its emotional, psychological and social inferences. Individuals who spend too much time online suffer with problems in their personal and professional relationships. In addition, researchers suspect that some salient features of the internet may attract individuals into troubles which they might have avoided otherwise. Greenfield (1999) said that there is nothing like internet we have experienced before. It connects as well as isolate individuals simultaneously. Regardless of the technical definition of internet addiction, internet itself is very unique with lots of advantages. By the time a person explores these benefits, he gets hooked to it. This salient feature of internet needs more research to understand it and its effects.

Few other limitations of research done so far on internet overuse are, the researchers mostly used online open and close-ended surveys to collect data, followed by semi-structured interviews but none of them used focus groups as a data collection method. Although almost a decade of research literature is available explaining the concept of internet overuse, theory development is urgently needed. Only Davis (2001) proposed theoretical framework of Pathological Internet Use. There is a serious lack of survey research (Douglas et al., 2008).

Another limitation is that the data have been collected through the internet itself, which could bias the results (Young, 1997). An online survey on randomly selected population would be more valid to do research on internet overuse. Researchers were not clear about who are likely to get affected by internet overuse (Kraut et al, 1998). In general it is observed that students are the most affected from the consequences of internet overuse but internet is not just used by students. It is used by everyone irrespective of age, gender and occupation and it also affects them more or less. Unless and until research will be done on individuals of all age groups, the questions regarding internet overuse will not be fully and satisfactorily answered. It looks beneficial to limit the field of research to one particular group of individuals like students. None of the above mentioned researchers conducted their research on varied population; they used one or the other particular age group which again limits the findings. Large Sample with varied population comprising different age groups, occupations, purposes of using internet and time spent on internet is required to get more clarity on internet addiction. Different researchers use different tools for their respective research which could be another limitation to reach a consensus on internet addiction.

2.4 Objectives

1. To develop an instrument to measure internet overuse and standardize it.
2. To investigate whether internet overuse fulfills the criteria to be designated as an addiction or compulsion, like other established drug-ingested addictions.
3. To see the difference in the pattern of internet overuse in terms of hours of use, use of different websites, different purposes of internet use and use of different gadgets/ devices among different socio-demographic groups.
4. To see the effects of internet overuse on physical and psychosocial behavioral outcomes of different socio-demographic groups like age, gender and occupation.
5. To study the prevalence of internet overuse across different age groups.
6. To study the relationship between different purposes of internet use and internet overuse.
7. To understand the profile of different groups of participants in terms of purposes and hours of internet use.