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Subjective Well-Being of the Drug Addicts and Non-Addicts in Bangladesh

Khan, Md. Mozibul Huq Azad

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SUBJECTIVE WELL-BEING OF THE DRUG ADDICTS AND NON-ADDICTS IN BANGLADESH

A Thesis submitted to the University of Rajshahi, Bangladesh, in fulfillment of the requirements for the degree of Doctor of Philosophy in Psychology

Md. Mozibul Huq Azad Khan

Assistant Professor Department of Psychology



Document No.

University of Rajshahi

June, 2004

DECLARATION

Except where full references have been given, the thesis contains the independent original work of the author.

This thesis has not been submitted before, nor it is being submitted anywhere else at the same time for award of any degree or diploma.

Rajshahi University

Kharmila

(Md. Mozibul Huq Azad Khan)

The Author

CERTIFICATE

Certified that the thesis entitled SUBJECTIVE WELL-BEING OF THE DRUG ADDICTS AND NON-ADDICTS IN BANGLADESH has been completed by Md. Mozibul Huq Azad Khan, and submitted to the University of Rajshahi for attaining Ph.D. degree in Psychology.

We went through the thesis and found it suitable to be submitted to the University of Rajshahi, Bangladesh for awarding of Ph.D. degree to the candidate, and that we now recommended the thesis for examination.

(Md. Abdul Latif)

Supervisor

Professor & Chairman Department of Psychology University of Rajshahi

> Monzin Ahmer (Monzur Ahmad) Supervisor

> > &

Professor (Retd.)
Department of Psychology
University of Rajshahi

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The Author

ABSTRACT

The present study was designed to investigate the Subjective Well-being (SWB) of the drug addicts and non-addicts in Bangladesh. A total of seven hundred and sixteen male adult respondents were used as subjects in the present study. Half of them (n = 358) were addicts and rest half (n = 358) were non-addicts. DSM-IV suggested criteria of addiction were followed in selecting the addict respondents. Among the addicts one hundred and ninety six were hospitalized and the remaining one hundred sixty two were non-hospitalized. Their age ranged from 20 to 48. Ninety of them were married and two hundred sixty eight were unmarried. The duration of their addiction was one year to twenty-three years.

A purposive sampling technique was followed in selecting the addict respondents. The non-addict respondents were selected employing matched pair technique. Each of them was selected matching with one of the addict respondents in respect to their age, sex, occupation, family income, educational level, marital status and residential background. All the respondents (addicts and non-addicts) were selected from different parts of the country.

A Bangla adaptation of the short version of the Subjective Well-being (SWB) Questionnaire of Nagpal and Sell (1985) was administered to measure the Subjective Well-being status of both the addict and non-addict respondents. The Questionnaire measures eight dimensions of

well-being. These were Subjective Well-being Positive Affect, Subjective Well-being Negative Affect, Mental Mastery, Rootedness & Belongingness, Structural and Cohesive aspects, Density of Social network, Security in Health and Socio-economic crisis, and Expectation-achievement harmony. Comparisons were made between the addict and non-addict respondents on overall SWB, as well as on each of the eight dimensions separately. The data were also analyzed in order to study the effect of types of addiction, duration of addiction, and SES of the addict respondents. The data were analyzed employing t- test, ANOVA and Person's product moment method of correlation coefficient.

Four hypotheses were considered in this study: (1) The Subjective Wellbeing of the drug addict respondents will be poorer than that of the non-addict respondents. (2) The Subjective Well-being of the addict respondents varies in degrees as a result of types of addiction. (3) The Subjective Well-being of the addict respondents decreases as a result of increase in their duration of addiction. (4) The Subjective Well-being of the addict respondents is negatively related to their socio-economic status.

The results reveal the following findings; (1) Subjective Well-being (SWB) of the addict respondents was significantly poorer than that of the non-addict respondents. (2) Poly drug addiction further degenerates the Structural & cohesive aspect and Security in Health & Socio-economic crisis phenomenon of SWB than mono drug and mixed drug addiction.

(3) There is no significant effect of duration of addiction on the degeneration of the overall SWB. But duration of addiction has further effect on the degeneration of the SWB in Rootedness & Belongingness, and Expectation-achievement harmony. On the other hand the Negative Affect of the well-being was found to increase with the increase of duration of addiction. (4) The Subjective Well-being is negatively related to the socio-economic status of the addict respondents. It has been found that the SWB of the individual of the upper socio-economic class is more affected than that of the individual of lower socio-economic class by drug addiction. Finally, these findings suggest that drug addiction degenerates Subjective Well-being of the individual.

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Chapter I

Introduction

Chapter-1

INTRODUCTION

Every probable substance on the earth has been ingested by someone somewhere, at some time. Curious and adventuresome, humans have learned that a variety of substances are edible and nutritious when they are prepared in certain ways, and have developed a long list of acceptable foods and delicacies. Humans have likewise stumbled upon substances that have interesting effects – medicinal or pleasurable – on the brain and the rest of the body; we may swallow an aspirin to quiet a headache, an antibiotic to fight an infection, or a tranquilizer to calm us down. We may drink tea or coffee to get going in the morning or smoke cigarettes to soothe our nerves.

Many of the substances that humans have come across harm the body or adversely affect behavior or mood. Misuse of some of those substances has become of society's most disabling and expensive problems. Drugs that are normally used for medication are the most common substance abused by the people.

Use of drugs in some form or other was widely practiced in the world from the very beginning of civilization. During early stage of civilization drugs were primarily used by physicians for medication, by holy men for helping them in their deeper thinking of the divine or by people generally hoping to regain their lost health, and so on. Its use was very limited till the end of the nineteenth century¹. The use of drugs has become now very common in the twenty first century. But here, we are not concerned with the use of drugs; we are concerned here with the abuse of drugs. Abuse of drugs has reached such a peak recently that it has become a terrible danger to mankind all over the world.

According to a statistics of UNDCP² report, published by Oxford University Press in 1997, the total number of prohibited drug users in the world in 1990s was 445.6 million (drug wise estimated number of drug abusers are shown in table-1.1 below). But in recent year, the total number of drug abusers is estimated at some 200 million³ people, equivalent to 3.4% of the global population. Only four categories (i.e. Heroin and other opiate-type substances, Cocaine, Cannabis, and ATS) of drug abusers were considered in this estimation. Hallucinogens and Sedative-type substances were excluded, which was more than 252 million in 1997's UNDCP report. Drug wise estimated number of drug abusers is shown in table-1.2 and a comparative bar-graphs between 1990's and recent estimation are shown in figure-1.3.

Actually drug abusers change drugs from time to time due to unavailability of specific drug or any other causes, and frequently take

¹ UNAB (United Nations Association of Bangladesh), (1989). 'UN Against Drug Abuse', published by Syed Ahmad Hossain, Dhaka, Bangladesh: UNAB, p.1.

² UNDCP (United Nations International Drug Control Programme). (1997). World Drug Report. Oxford University Press Inc., New York. P. 32.

³ UNODC (United Nations Office on Drugs and Crime). (2003). Global Illicit Drug Trends. United Nations, New York. p. 101

more than one substance. So, it should be noted that the total number and/or drug wise abusers is always inconclusive. However, the trends of drug users are gradually increasing. So, at present a few million more have no doubt been added to the previous number.

4

Table 1.1. Drug wise estimated number of drug addicts in the world in 1990s.

Category of drugs	Estimated total (million people)	% of total population
Heroin and other opiate-type substances	8.0	0.14
Cocaine	13.3	0.23
Cannabis	141.2	2.45
Hallucinogens	25.5	0.44
ATS	30.2	0.52
Sedative-type substances	227.4	3.92

Figure- 1.1. Pie chart of the drug wise estimated drug addicts in the world in 1990s.

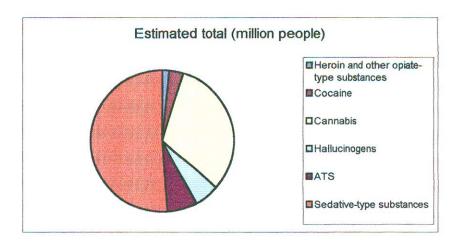
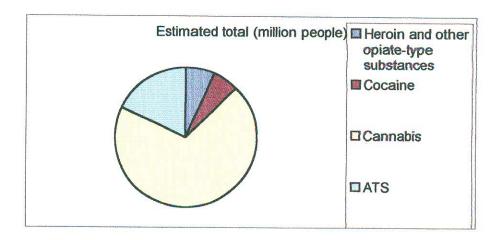


Table 1.2. Drug wise estimated number of drug addicts in the world in 2000-2001s.

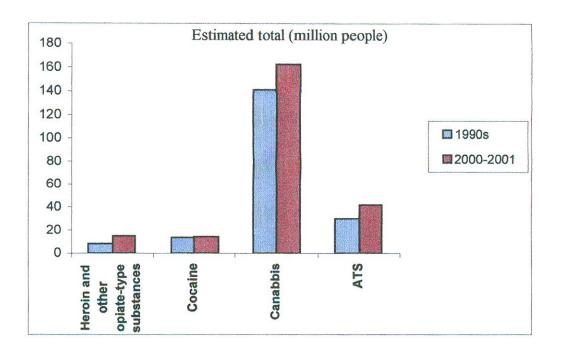
Category of drugs	Estimated total (million people)	% of total population
Heroin and other opiate-type substances	14.9	0.3
Cocaine	14.1	0.2
Cannabis	162.8	2.7
ATS	42.0 (34.3 Amphetamines & 7.7 Ecstasy)	0.8 & 0.2 respectively

Figure- 1.2. Pie chart of the drug wise estimated drug addicts in the world in 2000-2001s.



Introduction 6

Figure- 1.3. A comparative bar-graph of the estimated drug abusers in the world in 1990s and 2000-2001s.



Based on UNDCP estimates⁴, the annual global prevalence rate of illicit drug consumption was likely to be 4.3% of the world population aging 15 and above. On the other hand the new estimates are slightly higher than those of the last year and the rate is 4.7% (UNODC – 2003). However, it is observed that the prevalence rate is increasing.

The most widely abused drug is cannabis, which is consumed by about 2.5% of the world population. This equals about 140 million⁵ people

⁴ UNDCP (United Nations International Drug Control Programme). (2000). World Drug Report. Cited in UNODC (United Nations Office on Drugs and Crime). (2003). Global Illicit Drug Trends. United Nations, New York. p. 101

⁵ UNDCP (United Nations International Drug Control Programme). (1997). World Drug Report Oxford University Press Inc., New York. P. 31.

in the world in the 1990s. But this number increased at about 160 million⁶ in 2000-2001.

From a health perspective, it can be argued that the most serious drug of abuse is heroin. In most countries heroin is the leading drug responsible for abuse related mortality and emergency room episodes. Statistics suggest that about 9.5 million⁷ people or 0.16% of the global population abused with heroin during 2000-2001.

On the other hand, the abuse of cocaine is more widespread in terms of the total number of consumers. Statistics suggest that at least 14.1 million⁸ people (0.2% of the global population) abused with cocaine. Mainly cocaine abusers are concentrated in North / South America, Europe and Africa.

In recent years, the most pronounced increase in drug abuse has been reported for synthetic drugs. This rise includes the abuse of ATS (amphetamine-type stimulants). Some 34.3 million⁹ people (0.6% of the global population) consume ATS worldwide. The most widespread substance of abuse within the ATS is methamphetamine, with high levels reported from North America, as well as from a number of countries in the Far East and South-East Asia regions. In many Asian countries methamphetamine is the most, or second most, abused substance after cannabis. In Europe, the most common ATS is

8 Ibid, p. 101

⁶ UNODC (United Nations Office on Drugs and Crime). (2003). Global Illicit Drug Trends. United Nations, New York, p. 101

⁷ *Ibid*, p. 101

⁹ *Ibid*, p. 101

amphetamine. Abuse of methcathinone is spreading in the countries of the former Soviet Union, particularly in the Russian Federation and the countries of Central Asia. But Sedative type substances, such as barbiturates, benzodiazepines and methaqualone and hallucinogens, such as LSD (lysergic acid diethylamide) is of particular concerns in the countries of Southern Africa.

Drug abusers are found everywhere in the world, in all strata of the society, in all countries, highly developed or developing. For this, drug abuse has now become a regional as well as international problem

In our country also, the drug abuse is now recognized as one of the most serious social problems. In fact there is no available and authentic data about drug addiction in Bangladesh. In a report (although it is not any recent data) of the Narcotics Department of Bangladesh government, it has been pointed out that 65 thousand Bangladeshi young are addicted to **ganja** (*Indian hemp*) (Asgar, A., 1990). At present, however, a few thousands more have been added to this number. In another statement released by the ministry of home affairs, it has been pointed out that 1.5 to 2 million¹⁰ young Bangladeshis are addicted to **phensydil** (a derivative of opium). According to another unofficial information of Narcotics control department of Bangladesh, the total number of drug dependent is 5 to 5.5 million, but estimation of UNODC Dhaka office the number is

¹⁰ The Daily Ittefaq, Reg. No. DA 84, 50th year, 48th issue, Dhaka, Sunday, 10 February 2002.

2 million¹¹. As far as we know from Internet sources 2.5 million¹² people are addicted to different drugs. This number is constantly increasing everyday. In general, drug addicts are found almost in all urban areas. Presumably, Dhaka, the capital city, alone accounts more than 40% of the total addicts. The rural areas are being gradually infected. However, it is obvious that a large number of young Bangladeshi people are addicted to different drugs.

Till the end of the nineteenth century, drug addicts were limited within a specific geographical and social boundary. But recently it has spread over the world and societies. Two reasons may be attributed to this pervasive spread of drug abuse. First, the radical expansion and development in the field of chemistry and chemical technology, which has made the mass production of drugs, are quite simple. It is now possible to produce very potent and powerful drugs in a small and secret laboratory with the help of highly modern appliances. Secondly, improved communication system has been gradually making the world smaller. As a result, it has become quite easy to send or smuggle the drugs produced in one country to other countries thousands of miles away.

It is too obvious to mention that the evil consequences of drug abuse or the harmful effects of addiction are manifold. The common harmful effects of drug addiction include early dropping out from school, inability to obtain or hold a job, disruption or severing of family ties,

¹¹ Prothom-alo, Reg No. DA 1880, 6th year, Dhaka, Wednesday, issue-62, p. 17.

http://www.ahsania.org search terms: drug addiction Bangladesh. search date: March 20, 2003

conflict with the law, malnutrition, high risk of infection and infectious disorders through use of unsterile syringes, needles etc., increased exposure to veneral diseases, initiation of psychotic episodes, and shortening of life span through physical neglect, accidental overdose, or suicide. However these effects vary with the kinds of drug used, the amount of dose

, the individual characteristics of the addicts etc. More over the evil effects of drug addiction not only cause harm to the addicts but also to their families by taking a heavy toll on family income, by misusing the resources by the addicts, and also total society is ultimately affected.

Thus it is needless to say that drug addiction affects adversely, in various ways, the personal and social life of an individual. It poses a serious threat to one's health condition, strains family relationship and creates economic burden for the family. We also find that many serious anti-social, illegal and immoral activities are actually the offshoots of drug addiction. Thus drug addiction is a root cause for many social vices.

The present researcher is, of course, interested in finding out if drug addiction has any effect on the Subjective Well-being of the addicts. We already know that the Subjective Well-being of an individual does not depend on any objective external condition. Even an individual, living under extremely adverse conditions, may enjoy a high level of Subjective Well-being if only s/he feels that s/he is pulling well – that s/he is free from any tension, any feeling of uneasiness or any worries

and anxieties. It is purely a subjective feeling that s/he is keeping well. Such subjective feeling of well-being not only enables an individual to make satisfactory adjustment with the environment, but also helps him to develop fully his/her inner potentialities. Each person, as we know, is endowed with some special potential creativity which, when properly developed, not only helps the individual to obtain personal gains, but also enables them to contribute something positively to social progress and prosperity. Thus Subjective Well-being is undoubtedly an essential pre-condition for proper development and utilization of human resources.

Now the present researcher intends to find out if drug addiction is related, in any way, with Subjective Well-being of the addicts. But before proceeding further we need here to clarify our concepts of drug addiction and Subjective Well-being. Thus the next sections of this chapter are devoted to discussion of the nature, and problems related with, drug addiction and Subjective Well-being.

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1.1. THE CONCEPTS OF ADDICTION AND CLASSIFICATION OF DRUGS:

There is no general agreement about the meaning of the term 'addiction'. Medical men emphasize on its physical aspects, sociologist emphasize on its social aspects and psychologists on its behavioral and psychic aspects. Nevertheless, the term is so widely used that it is unlikely to be rejected. Because of the difficulty in definition, there is now a growing tendency to use the term drug dependence instead of drug addiction.

It is pertinent here to consider the definition given by World Health Organization (WHO), about drug, drug dependence and other related terms. According to WHO's definition, drug is any natural or synthetic substance that when taken into the living organism may modify one or more of its function. In fact, in this definition, the term 'drug' covers a wide range of substances. But in case of drug addiction or dependence, it includes such substances that produce euphoria or some pleasurable psycho-motor changes within the user.

Drug abuse is one of the important terms in the field of drug addiction. This term refers to the persistent or sporadic excessive use of drugs inconsistent with or unrelated to acceptable medical norm and practice. Also, drug dependence is another important term, and this term refers to a state, psychic and sometimes physical, resulting from the interaction between a living organism and a drug, characterized by behavioral and other responses that always included a compulsion to take the drug on a continuous or periodic basis in order to experience

¹³ Denis Leigh, C. M. B. Pare and John Mark (1977). 'A Concise Encyclopedia of Psychiatry, England: MTP Press Ltd., 05-08.

its psychic effects and sometimes to avoid the discomfort of its absence.

Drug tolerance actually refers to the process of developing body resistance to specific drugs for its continuous use. As a result, the abuser of the drug is compelled to increase gradually the dosage of drugs in order to obtain the desired effect of the drug or the state of euphoria. So, this may eventually lead to fatal consequences.

It is pertinent here to discuss the criteria of addiction to clarify the diagnostic character of the drug addicts. According to the recommendation of DSM-IV (APA, 1994) the following criteria are considered in selecting an individual as a drug addict:

A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-months period:

- 1. Tolerance, as defined by either of the following:
 - a. A need for markedly increased amounts of the substance to achieve intoxication or desired effect.
 - b. Markedly diminished effect with continued use of the same amount of the substance.
- 2. Withdrawal, as manifested by either of the following:

- a. The characteristic withdrawal syndrome for the substance (criteria sets for the withdrawal are listed separately for specific substances)
- b. The same (or a closely related) substance is taken to relive or avoid withdrawal symptoms.
- 3. The substance is often taken in larger amounts or over a longer period than is intended.
- 4. There is a persistent desire or unsuccessful efforts to cut down or control substance use.
- 5. A great deal of time is spent in activities necessary to obtain the substance (for example, visiting multiple doctors or driving long distances), use the substance (for example, chain-smoking), or recover from its effects.
- 6. Important social, occupational, or recreational activities are given up or reduced because of substance use.
- 7. The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (for example, current cocaine use despite recognition of cocaine-induced depression, or continued drinking despite recognition that an ulcer was made worse by alcohol consumption).

In respect of dependence and tolerance, there are some distinctive characteristics of the different mind-altering drugs. It appears pertinent here to discuss briefly some characteristic features of the different mind-altering drugs for our better understanding.

A wide variety of drugs has been discovered in nature or created synthetically in the laboratory that have the power to blur conscious awareness, shut of the demands and pressure of reality, increase energy, alleviate anxiety, and open the door to strange new experiences. These mind-altering or addictive drugs are usually classified into four main categories given below:

Depressant:

Depressants are substances that slow the activity of the central nervous system. In sufficient doses they reduce tension and inhibitions and impair judgment, motor activity, and concentration. The three most widely used groups of depressants are alcohol, sedative-hypnotics and opioids.

Alcohol: All alcoholic beverages contain ethyl alcohol. This chemical compound is rapidly absorbed into the blood through the lining of stomach and the intestine, and it immediately begins to take effect. The ethyl alcohol is carried in the bloodstream to the central nervous system (the brain and the spinal cord), where it acts to depress, or slow, it's functioning by binding to a variety of neurons. Particularly, the alcohol binds to receptors on the neurons that normally received the neurotransmitter GABA (gama-aminobutyric acid) (Gordis, 1991). GABA gives an inhibitory message-a message to stop firing- when it is received at receptors. Thus it plays a key role in reducing anxiety. When alcohol is received at receptors that usually receive GABA, it

apparently helps GABA to operate more effectively in shutting down the neurons. As a result, it helps calm and relax the drinker.

Alcohol is actually one of the most dangerous drugs in legal context. It develops tolerance, physical and psychic dependence and withdrawal effects to the abusers. A small percent of alcohol abuser experience particular dramatic withdrawal reaction called *alcohol withdrawal delirium*, which is one kind of visual hallucinations.

Sedative-Hypnotic Drugs: Sedative-hypnotic drugs produce feeling of relaxation and drowsiness. In low dosages they have a calming and/or sedative effects, and at higher ones, they are sleep inducers or hypnotics. These types of drugs are also referred to as an anxiolytic (anxiety reducing) drugs. In this type the primary drug is barbiturates and benzodiazepines.

Barbiturates: In low doses barbiturates reduce a person's level of excitement by binding to neuron receptors that normally receive the inhibitory neurotransmitter GABA and increasing GABA's synaptic activity at those receptors (Frey et al., 1995; Morgan & London, 1995). But, at high doses they also depress the *reticular formation*, which is responsible for keeping people awake, thus causing the person to get sleepy. At still higher doses, they depress spinal reflexes and muscles. At too high a level, they cause respiratory failure and low blood pressure and can lead to coma and death. Barbiturates have tolerance, physical as well as psychic dependence and withdrawal effects.

Benzodiazepines: Benzodiazepines are the most popular sedative-hypnotic drugs. Most common drugs in this categories are Xanax, Valium, Librium etc. Like alcohol and barbiturates, they calm people by binding to neuron receptors that normally receive the inhibitory neurotransmitter GABA and by increasing GABA's synaptic activity at those receptors. They can relieve anxiety without making people as drowsy as other kinds of sedative-hypnotics. They are less likely to depress respiratory functioning, so they are less likely to cause death by overdose (Nishino et al., 1995). But in case of high enough doses the drugs can cause intoxication and even lead to abuse or dependence (Ashton, H. 1995; Cornish et al., 1995; Palacios & Cortés, 1995). Benzodiazepines have little adverse effect like Barbiturates.

Opioids: Opioids include opium and its derivatives, such as heroin, morphine, and codeine. All these various opioids drugs are collectively known as *narcotics*. Each has its own potency, speed of action, and tolerance level. Morphine and Codeine have become the primary medical narcotics, usually prescribed to relieve pain. Heroin has remained illegal in almost all countries over the world.

Narcotics may be smoked, inhaled, injected by needle just beneath the skin, or injected directly into the bloodstream. An injection quickly brings on a *rush*- a spasm of warmth and ecstasy that is sometimes compared with orgasm. The brief spasm is followed by several hours of pleasant feeling called a *high* or *nod*. During a high, the drug user feels relaxed and euphoric, and unconcerned about food, sex, or other biological needs.

Heroin and other opioids create these effects by depressing the central nervous system, particularly the centers that generate emotion. The drugs are received at brain receptor sites that ordinarily receive *endorphins*-neurotransmitters that help relive pain and reduce emotional tension (Snyder, 1991; 1986; Trujillo & Akil, 1991). When neurons at these receptor sites receive opioids, they fire and produce pleasurable and calming feeling just as they would do if they were receiving endorphins. Tolerance, physical & psychic dependence and withdrawal effects are present in the opioids.

Stimulants:

Stimulants are substances that increase the activity of the central nervous system, resulting in increased blood pressure and heart rate and in an intensification of behavior, thought processes, and alertness. The major troublesome are cocaine and amphetamines. The two more widely used stimulants are caffeine and nicotine, but their use is legal all over the world.

Cocaine: Cocaine is a powerful natural stimulant. It brings on a euphoric rush of well-being and confidence. At high enough dose, the rush can be almost organic, like that produced by heroin. Initially cocaine stimulates the higher centers of the central nervous system and users feel exited, energetic, talkative, and even euphoric. As more is taken, cocaine stimulates other centers of the central nervous system producing a faster pulse, higher blood pressure, faster and deeper breathing. It apparently produces these effects by increasing supplies of the neurotransmitter *dopamine* at key neurons throughout the brain.

It prevents the neurons that release dopamine from reabsorbing it, as they normally would do. So, excessive amounts of dopamine travel to receiving neurons throughout the central nervous system and overstimulate them. In addition, it appears to facilitate the release of the neurotransmitters *norepinephrine* and *serotonin* in certain areas of the brain (Volkow et el., 1977; Biegon et al., 1995; Meyer, 1995).

If a high dose of cocaine is taken, the stimulation of the central nervous system will result in poor muscle coordination, grandiosity, declining judgment, anger, aggression, compulsive behavior, anxiety, and confusion – all symptoms of cocaine intoxication. Some people experience hallucinations or delusions, or both, which is known as *cocaine-induced psychotic disorder* (Rosse et al., 1993; Yudofsky, Silver & Hales, 1993). According to earlier information only psychic dependence is present in cocaine. But, current information shows that the physical dependence may also develop in cocaine abuse (APA, 1994).

Amphetamines: The amphetamines are manufactured in the laboratory. These are taken in pill or capsule form and some abusers inject it intravenously for a quicker and more powerful impact. Like cocaine it increases energy and alertness and reduce appetite in low dose, produce a rush, intoxication. Amphetamines produce psychosis in high dose and cause an emotional letdown. Like cocaine, amphetamines stimulate the central nervous system by increasing the release of the neurotransmitters dopamine, norepinephrine, and serotonin from neurons throughout the brain (Fawcett & Busch, 1995;

Nestler et al., 1995). Amphetamines have tolerance and psychic dependence, physical dependence is not known.

Hallucinogens:

Hallucinogens are also referred to as psychedelic drugs. Drugs of sensory these group change primarily perception, including intensification of perception, produce illusion and hallucinations, euphoria and mood changes. The well-known drugs of this group are LSD (lysergic acid diethylamide), mescaline, psilocybin, MDMA ("ecstasy"), DOM, DMT, and morning glory seeds (Strassman, 1995). Many of these substances come from plants or animals, and others are laboratory-produced rearrangements of natural psychedelics.

LSD is one of the most famous and powerful hallucinogens. Within two hours of being swallowed, it brings on a state of *hallucinogen intoxication*, some time called *hallucinosis*, marked by a general intensification of perceptions, particularly visual perceptions, along with maladaptive psychological changes and physical symptoms. Under the influence of LSD the abuser may hallucinate, seeing people, object, or geometric forms that are not actually present.

LSD can also cause emotional changes, ranging from euphoria to anxiety or depression. The perception of time may slow down dramatically. Long-forgotten thoughts and feelings may resurface. Physical symptoms can include dilation of the pupils, sweating, palpitations, blurred vision, tremors, and loss of coordination. All

these effects take place while the user is fully awake and alert, and wear off in about six hours.

It seems that LSD produces these symptoms by interfering with neurons that use the neurotransmitter *serotonin* (Jacobs, 1994; 1984). These neurons are ordinarily involved in the brain's transmission of visual information and emotional experiences thus LSD's interference produces a range of visual and emotional symptoms. Ordinarily when serotonin-containing neurons are activated, they release serotonin, whose action helps the brain filter incoming sensory message. Without the action of serotonin, the brain would be flooded by perceptual and emotional input – particularly visual input – and people would experience more sensation, see more details, distort visual images, and even see things not actually there. This is the very effect created by LSD, which apparently binds to the surface of serotonin-containing neurons and essentially prevents them from releasing serotonin (Jacobs, 1984).

LSD users develop minimal tolerance and do not experience withdrawal when they stop using the drugs; it poses distinct dangers for both one-time and long-term users. First, LSD is so remarkable potent that any dose, no matter how small, is likely to elicit powerful perceptual, emotional, and behavioral reactions. Sometimes these reactions are extremely unpleasant. Reports of LSD users who injure themselves or commit suicide or murder usually involve a severe panic reaction of this kind.

Another danger is the extended impact that LSD has on some people. They may develop patterns of hallucinations and delusions (hallucinogen-induced psychotic disorder), extreme guilt and depression (hallucinogen-induced mood disorder), or severe fearfulness, tension, or restlessness (hallucinogen-induced anxiety disorder). Many fear that they have destroyed their brains and driven themselves crazy, and worry that they will never return to normal.

Finally, about a quarter of LSD users experience lingering effects called a *hallucinogen persisting perception disorder*, or simply *flashbacks* sensory and emotional changes that recur long after the LSD has left the body (APA, 1994). Flashbacks may occur days or even months after the LSD experience.

Cannabis:

Cannabis sativa (hemp or Indian hemp) is an annual herb plant grows in warm climates throughout the world. The drugs produced from varieties of hemp are collectively called cannabis. The most powerful of them is hashish, ganja (drugs of intermediate strength; Indian hemp), marijuana (weaker in strength) etc. Each of these drugs is found in various strengths because the potency of a cannabis drug is greatly affected by the climate in which the plant is grown, the way it was prepared, and the manner and duration of its storage.

Several hundreds of active components are present in cannabis; one active component *tetrahydrocannabinol* (THC) is mostly responsible for its effects. Cannabis is smoked. At low doses it typically produces feelings of joy and relaxation and may lead people to become either

contemplative or talkative. Some cannabis smokers feel anxious, suspicious, apprehensive, or irritated, especially if they have been in a bad mood or are smoking in an upsetting environment. Many smokers report sharpened perceptions and great preoccupation with the intensified sounds and sights around them. Time seems to slow down; distances and sizes seem greater than they actually are.

The physical changes induced by cannabis include reddening of the eyes (the blood vessel in the conjunctiva become engorged), a fast heartbeat, an increase in blood pressure and appetite, dryness in the mouth, and dizziness. Some people become drowsy.

In high doses, cannabis produces distortions, alterations of body image, and hallucinations (Mathew et al., 1993). Smokers may become confused or impulsive; some panic and fear that they are losing their minds. Some smokers develop delusions that other people are trying to hurt them.

Marijuana Abuse and Dependence: Until the early 1970s, the use of the weak form of cannabis, marijuana, rarely led to a pattern of abuse or dependence. But, in the recent days, many people, including large number of high school students, are caught in a pattern of marijuana abuse – getting high on marijuana regularly and finding their social and occupational or academic lives significantly affected by their heavy use of it. Many chronic users also become physically dependent on marijuana. They develop a tolerance for it and may experience flu like withdrawal symptoms when they try to stop smoking, including

hot flashes, loss of appetite, runny nose, sweating, diarrhea and hiccups (Ray and Ksir, 1993; Jones & Benowitz, 1976).

Marijuana is smoked. It develops some significant problems and dangers. It occasionally elicits panic reactions similar to the ones caused by hallucinogens (Ray and Ksir, 1993). People with emotional problems are thought to be more vulnerable to such reactions. Typically the panic reaction ends in three to six hours, along with other effects of marijuana.

Marijuana appears to interfere high cognitive functioning (Pope &Yurgelum-Todd, 1996; Coambs & McAndrews, 1994; Varma et al, 1988). People on marijuana often fail to remember information, especially recently acquired information, no matter how hard they try to concentrate. Heavy marijuana smokers are operating at a considerable disadvantage at school and in the workplace.

There are indications that chronic marijuana smoking may also lead to long-term problems. It may contribute to lung disease. Studies have indicated that marijuana smoking reduces one's ability to expel air from the lungs even more than tobacco smoking does. One marijuana cigarette is equivalent to at least sixteen tobacco cigarettes in this regard. Research indicates that marijuana smoke contains significantly more tar and benzopyrene than tobacco smoke. Both of these substances have been linked to cancer (Ray & Ksir, 1993).

Another concern is the effect of chronic marijuana smoking on human reproduction. Studies since the late 1970s have discovered lower sperm counts and reduced spermatozoa activity in men who are chronic smokers of marijuana, and abnormal ovulation has been found in women (Nahas, 1984; Hembree, Nahas & Huang, 1979). Finally research has suggested that THC (tetrahydrocannabinol) slows the functioning of the immune system, although the suppression is mild and temporary (Hollister, 1986).

Combinations of substances (Polysubstance):

There are some people, who take single drug at a time, and some others take more than one drug at a time and the drugs interact with each other. Because of this difference, researchers have had to study the ways in which drugs interact with one another. When different drugs are in the body at the same time, they may also potentiate, or enhance, each other's effects. The combined impact, called a *synergistic effect*, is often greater than sum of the effects of each drug taken alone: a small dose of one drug mixed with a small dose of another can produce an enormous change in body chemistry.

One synergistic effect occurs when two or more drugs have similar actions. For instance, benzodiazepines, barbiturates and opioids – all depressants – may severely depress the central nervous system when mixed (Miller & Gold, 1990). Combining them, even in small doses, can lead to extreme intoxication, coma, and even death (Nishino et al., 1995).

A different kind of synergistic effect results when drugs have opposite (antagonistic) actions (Braun, 1996). For example, stimulants interfere with the lever's usual disposal of barbiturates and alcohol. Thus the people who combine barbiturates or alcohol with cocaine or

amphetamines may build up toxic, even lethal levels of the depressant drugs in their system.

1.2. DRUG ADDICTION IN BANGLADESH:

It is pertinent here to mention the types of drugs, which are widely used by the addicts of Bangladesh.

As mentioned earlier, a large number of young people are addicted to different kinds of drugs. Those people are addicted with a wide variety of drugs. But most of them are addicted to some specific, common and available drugs. Those are:

- 1.2.a. Phensedyl: Phensedyl is generally used as a cough medicine containing codeine phosphate, a derivative of opium. Phensedyl is legally prohibited in Bangladesh because of the addictive properties of codeine and it is smuggled into Bangladesh. It has strong smell. Phensedyl users usually drink it. It is sometimes called "dail" or "fancy" in Bangladesh.
- **1.2.b. Pethidine:** It is a synthetic narcotic generally used as a painkiller. It is usually injected.
- **1.2.c. Morphine:** Morphine is a derivative of opium. It has been used as a painkiller. It is available in solution for injection, or as tablets and suppositories.

- **1.2.d. Heroin:** Heroin is a powerful drug made from opium. It is smoked, inhaled and may also be injected by the drug abuser.
- **1.2.e.** Cannabis: Cannabis refers to the preparations from the plant *Cannabis sativa*. The active ingredient of Cannabis is THC (tetrahydrocannabinol), a mind-altering drug that affects moods and sensations. The common and widely used cannabis in Bangladesh are:
- **1.2.e.l. Marijuana**: Locally known as Ganja, the leaves and flowering tops of the cannabis plant (*Cannabis sativa*). It has a sharp smell and is usually smoked.
- **1.2.e.II. Hashish**: It is manufactured from the resin of the cannabis plant. It is sometimes called charas. It is usually smoked or eaten. Hashish is not usually available in Bangladesh. But, still a few number of drug abusers use it.
- **1.2.e.III. Bhang:** It comes from the leaf of another type of cannabis plant (*Cannabis sp.*). It is an annual herb plant. These plants are generally observed by the roadside of the rural areas in Bangladesh. It is usually smoked. But some people drink its extracts with milk or sugar syrup (sarbat).
- **1.2.f.** Tranquillizers and Sedative-Hypnotics: A large number of drug abusers in Bangladesh are also abused with 'Tranquillizers and Sedative-Hypnotics'. Those drugs are generally prescribed by the physicians in Bangladesh for the relief of anxiety, tension, nervousness and sleep disorder, etc.

1.2.g. Alcohol and alcoholic beverage: A large number of drug abusers in Bangladesh are also consume alcohol and 'Tari' (a local alcoholic beverage made by palm and date juice through fermentation) and different types of spirit. These are generally known as 'mod' or 'bangla mod'. Urban drunkards generally consume alcohol and other alcoholic beverage. On the other hand rural and/or sub-urban drunkards consume mainly 'bangla mod' or 'tari'.

There are three types of addicts in Bangladesh. These are:

- a. Mono drug abusers,
- b. Poly drug abusers, and
- c. Multiple (mixed) drug abusers.
- **a. Mono drug abusers:** Addicts in this category totally depend on a specific or single drug and they never take other than that specific drug.
- **b. Poly drug abusers:** Addicts in this category generally depend on more than one drug and they take more than one drug at a time.
- c. Multiple (mixed) drug abusers: Addicts in this category generally depend on more than one drug. But they never take more than one drug at a time or in single seating.

1.3. THEORIES OF ADDICTION:

One common question may arise why people become addicted to drugs or why they become dependent on various substances? Clinical theorists have proposed socio-cultural, psychological, and biological explanations for addiction or dependence on drugs. These explanations are discussed below:

1.3.1. The Socio-cultural View:

Socio-cultural theorists propose that the people most likely to develop substance abuse or dependence live in stressful socio-economic circumstances. And in fact epidemiological studies have found that geographical regions with higher levels of unemployment have higher rates of alcoholism (Linsky, Strauss & Colby, 1985). Similarly, hunting societies, in which people presumably experience greater danger, uncertainty, and tension, have more alcohol problems than agrarian societies (Bacon, 1973; Horton, 1943); city dwellers have higher alcoholism rates than residents of small towns and rural areas (Cisin & Calahan, 1970); and lower socio-economic classes have higher substance abuse rates than other classes (Smith, North & Spitznagel, 1993; Beauvais, 1992). Studies have similarly found higher rates of heroin addiction among people who live in stressful environment (Grinspoon & Bakaler, 1986).

Socio-cultural theorists also propose that substance abuse is more likely to emerge in families and social environment that value, or at least tolerate, drug taking. Researchers have found that drinking problem is more common among teenagers whose parents and peers

drink, as well as among teenagers whose family environment is stressful and unsupportive (Shucksmith, Glendinning & Hendry, 1997; Oostveen, Knibbe, & de Varies, 1996; Wills et al., 1996; Farrell, Barnes, & Benerjee, 1995).

The socio-cultural explanations of substance abuse and dependence have received support of epidemiological studies. As with socio-cultural explanations of other problems, however, they fail to explain why only some people subjected to unfavorable social conditions develop substance related problems. Psychological (psychodynamic and behavioral) and biological explanations have tried to prove more insight into this issue.

1.3.2. The Psychological View:

The psychological views are divided into two ideas given below:

1.3.2.a. The Psychodynamic View: Psychodynamic theorists believe that people who ultimately abuse substances have inordinate dependency needs traceable to their early years (Shedler & Block, 1990; Ward, 1985; Abadi, 1984). They theorize that when parents fail to satisfy a child's need for nurturance, the child is likely to go through life depending too much on others for help and comfort, in an effort to find the nurturance he or she did not receive as a child. If this search for external sources of support includes experimentation with a drug, the person is likely to develop a dependent relationship with the substance.

Some psychodynamic theorists also believe that certain people develop a "substance use personality" that makes them particularly vulnerable to drugs. Personality inventories and patient interviews have indicated that people who abuse or depend on drugs tend to be more dependent, antisocial, impulsive, novelty-seeking, and depressive than other people (Mâsse & Tremblay, 1997; Calsyn et al., 1996; McMahan & Richards, 1995).

1.3.2.b. The Behavioral View: According to operant conditioning theorists, the temporary reduction of tension, raising of spirits, sense of well-being, or other positive effects produced by a drug has a reinforcing effect and increase the likelihood that the user will seek this reaction again (Cooney et al., 1997; Carey & Carey, 1995; Hughes et al., 1995). In support of this theory, studies have found that many subjects do in fact drink more alcohol or seek heroin when they feel tense (Cooney et al., 1997; Shaham, Rajabi, & Stewart, 1996; Stewart, Zeitlin, & Somoluk, 1996; Cooper, 1994).

Solomon, R. L., (1980) suggests that the brain is structured in such a way that pleasurable emotions, such as drug-induced euphoria, inevitably lead to opponent processes- negative aftereffects- that leave the person feeling worse than usual. People who continue to use pleasure-giving drugs inevitably develop opponent aftereffects, such as cravings for more of the drugs, withdrawal responses, and an increasing need for the drug. He also argued that, the opponent processes eventually dominate and suppress the pleasure-giving processes, and avoidance of the negative aftereffects replaces pursuit of pleasure as the individual's primary motivation for taking drugs.

Although a highly regarded theory, the opponent-process explanation has not received systematic research support (Peele, 1989).

Other behaviorists have proposed that classical conditioning may also contribute to certain aspects of drug abuse and dependence (Remington, Roberts, & Glautier, 1997; Zack & Vogel-Sprott, 1995; Childress et al., 1993, 1988, 1984). Objects present at the time drugs are taken may act as classically conditioned stimuli and come to elicit some of the same pleasure brought on by the drugs themselves. Just the sight of hypodermic needle or a regular supplier, for example, has been known to comfort people who abuse heroin or amphetamines, and to relive their withdrawal symptoms (Meyer, 1995; Childress et al., 1993,1988, 1984). Some investigators argued that withdrawal response could be classically conditioned (Meyer, 1995; Childress et al., 1993, 1988, 1984; O'Brien et al., 1975). So, when the withdrawal symptoms appear, the dependent persons intend to take drugs to relieve their withdrawal effects.

1.3.3. The Biological View:

In recent years many studies have indicated that drug abuse may be related largely to biological process. These suspicions have been bolstered by research focusing on genetic predispositions and biochemical processes.

1.3.3.a. Genetic Factors: For years researchers have conducted animal breeding experiments that implicate genetic predispositions in the

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development of drug dependence (Kurtz et al., 1996; Azar, 1995; George, 1990). In one line of research, investigators have selected animals that prefer alcohol to other beverages, mated them to one another, and found that their offspring display the same preference (Melo et al., 1996).

Similarly, research with human twins has suggested that people may inherit a predisposition to substance abuse and dependence (Kendler et al., 1994, 1992; Goodwin, 1984, 1976; Vaillant, 1983). In a classic study, an alcohol-abuse concordance rate of 54 percent was found in a group of identical twins, i.e. in 54 percent of the cases in which one identical twin abused alcohol; the other twin also abused alcohol. In contrast, a group of fraternal twin had a concordance rate of only 28 percent (Kaij, 1960).

A stronger indication that genetics may play a role in drug abuse and dependence has come from studies that examine the alcoholism rate of people who were adopted shortly after birth (Cadoret, 1995; Goldstein, 1994; Goodwin et al., 1973). These studies compare adoptees whose biological parents are dependent on alcohol to adoptees whose biological parents are not. By adulthood those whose biological parents are dependent on alcohol typically show significantly higher rates of alcohol abuse than those with nonalcoholic biological parents. This information suggests that predisposition to alcoholism may be inherited.

Finally by using "gene mapping" strategies, some investigators have found direct links between abnormal genes and substance-related disorders (Chen et al., 1996; Melo et al., 1996; Hill et al., 1995). One line of investigation has found that an abnormal form of the so-called dopamine-2 (D2) receptor gene is present in as many as 69 percent of subjects with alcohol dependence and 51 percent of subjects with cocaine dependence, but in less than 20 percent of nondependent subjects (Lawford et al., 1997; Blum & Noble, 1993; Blum et al., 1991). Still other studies have implicated other dopamine-linked genes in substance-related disorders (Nash, 1997). Debate on this issue is very heated (Gejman et al., 1994; Arinami et al., 1993; Turner et al., 1992), but these studies seem to provide strong evidence that genes play at least some role in the development of alcoholism, cocaine dependence, and other substance related disorders.

Biochemical Factors: During the past few decades, 1.3.3.b. investigators have pieced together a general biological understanding of drug tolerance and withdrawal symptoms (Wise, 1996). It is seen that when a particular drug is ingested, it increases the activity of certain neurotransmitters—neurotransmitters that normally act to sedate, alleviate pain, lift mood, or increase alertness. When people keep taking the drug, the brain apparently makes an adjustment and reduces its own production of the neurotransmitters (Goldstein, 1994). Because the drug acts to stimulate neurotransmitter activity, action by the brain is less necessary. As the drug intake is increased, the body's production of the corresponding neurotransmitters may continue to decrease, leaving the person in need of more and more of the drug to achieve its initial effects. In short, drug users build tolerance for the drug. They become increasingly reliant on a drug rather than on their own mechanisms, and they must continue to ingest it in order to feel

reasonably calm, comfortable, happy, or alert. If they suddenly stop taking the drug, for a time their supply of neurotransmitters will be deficient, and they will feel terrible, and their withdrawal symptoms will continue until the brain resumes its normal production of the necessary neurotransmitters.

Which neurotransmitters are suppressed depend on the drug in use. A chronic and excessive use of alcohol or benzodiazepines may lower the brain's production of the inhibitory neurotransmitter GABA (Gama-aminobutyric acid), a chronic use of opioids may reduce the brain's own production of endorphins; and a chronic use of cocaine or amphetamines may lower the brain's own production of dopamine (Fowler, Volkow, & Wolf, 1995). In addition, researchers appear very close to identifying a neurotransmitter that function as the body's natural equivalent of THC (Tetrahydrocannabinol); excessive use of marijuana may reduce its production of this neurotransmitter (Biegon & Kerman, 1995; Fackelman, 1993; Nye et al., 1989, 1988, 1985).

This model helps explain why people who chronically take substances experience tolerance and withdrawal reactions. But why they turn to drugs in the first place? For years, biological researchers deferred to their psychological and sociological colleagues on this question, but brain-imaging technology has recently guided them to a biological explanation that is creating an enormous stir in the clinical field (Volkow et al., 1997; Bardo, Donohew, & Harrington, 1996; Biegon & Volkow, 1995). The explanation is also highly compatible with the psychological and sociological propositions.

As we have noted, behavioral and socio-cultural theorists believe that people take drugs because the substances bring pleasure or relieve tension. But why are drugs so rewarding? A recent flurry of biological research suggests that many, perhaps all, drugs eventually activate a single *reward center*, or "pleasure pathway", in the brain (Volkow et al., 1997). This reward center apparently extends from the brain's *ventral tegmental area* in the midbrain, to the nucleus *accubens* and on to the *frontal cortex* (Korenman & Barchas, 1993). The key neurotransmitter in this pleasure pathway is *dopamine*. When dopamine is activated here, a person experiences pleasure. Music may activate dopamine in the reward center. So may a hug or a word of praise. And so may drugs.

Some drugs apparently activate the reward center directly. Cocaine, amphetamines, and caffeine stimulate dopamine activity. Other drugs seem to activate it in roundabout ways. Research suggests that the biochemical activities triggered by alcohol, opioids, marijuana, and nicotine set in motion chemical events that eventually stimulate dopamine activity in the pleasure center (Volkow et al., 1997; Goldstein, 1994; Koob, 1992).

Such findings lead some theorists to suspect that people who abuse drugs suffer from *reward-deficiency syndrome*: their reward centers are not readily activated by the usual events in their lives (Nash, 1997). So, they turn to drugs to stimulate their reward centers, particularly during times of stress. Abnormal gene, such as the abnormal D2 (dopamine-2) receptor gene, has already been suggested as a possible source for such deficiencies (Lawford et al., 1997).

Although these ideas have produced great enthusiasm among biological theorists and researchers, they are at the earliest stages of investigation and analysis, and indeed biological investigators themselves differ greatly on how to interpret the various findings. Nevertheless, this explanation of why drugs are so appealing and so habit-forming is gaining more and more recruits. This theory is very likely to receive growing attention in the coming years.

1.4. THE CONCEPT OF SUBJECTIVE WELL-BEING:

Subjective well-being (SWB) is a growing field of psychology that attempts to understand people's evaluations of their lives. These evaluations may be primarily cognitive (e.g., life satisfaction or marital satisfaction) or may consist of the frequency with which people experience pleasant emotions (e. g., joy, as measured by the experience sampling technique) and unpleasant emotions (e. g., depression). Researchers in the field strive to understand not just undesirable clinical states, but also differences between people in positive levels of long-term well-being. Several social psychological concepts tap aspects of the quality of life indirectly, such as self-esteem, depression, locus of control, or alienation, but only life satisfaction and happiness have a "bottom-line" finality in terms of consequences for the individual. It is clear, however, that perceived happiness and satisfaction are closely related to these other concepts (Robinson, 1969).

Subjective well-being can be simply defined as the individual's current evaluation of his/her happiness. Such an evaluation is often expressed in affective terms; when asked about subjective well-being, participants will say, "I feel good" (Sehwartz & Strack, 1999). Subjective well-being is thus, at least in part, a proxy for a global affective evaluation.

Psychologists often use the term SWB to refer to *happiness*. There are many different definitions of happiness. For instance, Mullis (1990) states that SWB is related to personal goals, life expectations and the

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means to attain them. Diener and Diener (1996) define happiness as the cognoscitive and affective evaluation by the individual of his/her life. The cognoscitive evaluation refers to long-run life objectives satisfaction, while the affective evaluation is associated with daily emotions experienced by the individuals (Venhoveen, 1994).

Subjective well-being (SWB) refers to how people evaluate their lives, and includes variables such as life satisfaction and marital satisfaction, lack of depression and anxiety, and positive moods and emotions. The idea of SWB or happiness has intrigued thinkers of millennia, although it is only in recent years that it has been measured and studied in a systematic way. A person's evaluation of his/her life may be in the form of cognitions (e.g., when a person gives conscious evaluative judgment about his/her satisfaction with life as a whole, or evaluative judgment about specific aspects of his life such as recreation). However, an evaluation of one's life also may be in the form of affect (people experiencing pleasant or unpleasant moods and emotions in reaction to their lives). Thus, a person is said to have high SWB if s/he experiences life satisfaction and frequent joy, and only infrequently experience unpleasant emotions such as sadness and anger. On the other hand, a person is said to have low SWB if s/he is dissatisfied with life, experiences little joy and affection, and frequently feels negative emotions such as anger or anxiety. The cognitive and affective components of SWB are highly interrelated, and only recently are we beginning to understand the relations between various types of SWB.

Most people evaluate what is happening to them as their good or bad, so they are normally able to offer judgments about their lives. Furthermore, people virtually always experience moods and emotions, which have a hedonic component that is pleasant, signaling a positive reaction, or unpleasant, signaling a negative reaction. Thus, people have a level of SWB even if they don't often consciously think about it, and the psychological system offers virtually a constant evaluation of what is happening to the person.

There are three cardinal characteristics in the study of SWB (Diener, 1984). First, the field covers the entire range of well-being from agony to ecstasy. It doesn't focus only on undesirable states such as depression or hopelessness. Instead, individual differences in levels of positive well-being are also considered important. Thus, the field of SWB includes the undesirable states that are treated by clinical psychologists, but is not limited to the study of these undesirable states. In other words, the field is concerned not just with the causes of depression and anxiety, but also with the factors that differentiate slightly happy people from moderately happy and extremely happy people.

Second, SWB is defined in terms of the internal experience of the respondent. An external frame of reference is not imposed when assessing SWB. Although many criteria of mental health are dictated from outside by researchers and practitioners (e.g., maturity, autonomy, realism), SWB is measured from the individual's own perspective. If a woman thinks her life is going well, then it is going well within this framework. Again, this characteristic focus on the

respondent's point of view differentiates the field of SWB from traditional clinical psychology. In the other field, weight is given to people's own perceptions of their lives, but oftentimes people are seen to have a problem even if they themselves do not realize it. In the field of SWB, a person's beliefs about his or her own well-being are of paramount importance. Naturally, this approach has both advantages and disadvantages. Although it gives ultimate authority to our respondents, it also means that SWB can't be a consummate definition of mental health because people may be disordered even if they are happy. Thus, a psychologist will usually consider measures in addition to SWB in evaluating a person's mental health.

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Finally, SWB is the field that focuses on long-term states, not just momentary moods. Although a person's moods are likely to fluctuate with each new event, the SWB researcher is most interested in the person's moods over time. Often, what leads to happiness at the moment may not be the same as what produces long-term SWB.

1.4.a. Components of subjective well-being:

There are three primary components of SWB. These are:

- Satisfaction
- · Pleasant affect, and
- Low level of unpleasant affect.

Subjective well-being is structured such that these three components from a global factor of interrelated variables. Each of the three major facets of SWB can in turn be broken into subdivisions. Global

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satisfaction can be divided into satisfaction with the various domains of life such as recreation, love, marriage, friendship, and so forth, and these domains can in tern be divided into facets. Pleasant affect can be divided into specific emotions such as joy, affection, and pride. Finally, unpleasant affect can be separated into specific emotions and moods such as shame, guilt, sadness, anger, and anxiety. Each of the subdivisions of affect can also be subdivided even further. Subjective well-being can be assessed at the most global level, or at progressively narrower levels, depending on one's purposes.

1.5. THEORIES OF SUBJECTIVE WELL-BEING:

1.5.1. Economic theory and well-being

According to the economic definition of well-being, higher levels of income are associated with higher levels of well-being. As income increases a greater number of needs are satisfied (due to an increase in consumption) and a higher standard of well-being is attained.

1.5.1.a. Theories about subjective well-being and economic variables

The relationship between subjective well-being (SWB) and economic status (income levels) has been explored theoretically and empirically in the field of psychology. The following are some of the theories that discuss this relationship.

1.5.1.b. Relative Theory

Easterlin (1974) sustains that the impact of income on SWB depends on standards that change over time according to the individual's expectations and social comparisons. Thus, factors such as the relationship between the present and former economic situation and the individual's wealth in relation to that of reference individuals could influence a person's happiness regardless of his/her income level (Diener and Diener, 1996).

1.5.1.c. Absolute Theory

Veenhoven (1988, 1991) assumes a relationship between basic needs satisfaction and SWB. People with higher income levels easily satisfy their basic needs (food, housing, health etc.) and, therefore, attain a higher SWB.

1.5.1.d. Adaptation Theory

Brickman et al. (1978) focus on the emotional capabilities of individuals to adapt to positive and negative events. Thus, individuals with higher adaptation capabilities tend to be happier (even in situations of low income level).

1.5.1.e. Aspiration Theory

According to this theory the degree of satisfaction/dissatisfaction experienced by a person is related to the ratio of his/her satisfied desires to his/her total desires. Individuals who believe that their desires are fully satisfied tend to be happier than individuals who think they have unsatisfied desires, regardless of their income levels. This approach to the concept of happiness takes into consideration not only the degree of satisfaction needs (which is presumably related to income) but also the individual's total desires (which are also presumably related to income).

1.5.2. Cognitive theories

Cognitive theories of well-being and ill-being within the behavioral sciences were developed in the last decades. For example, the attribution theory of depression is well-known. Depressed individuals are more likely to believe that negative events are caused by global and stable causes, such that negative events are very likely to continue to happen to them. Beck (1967) popularized the idea that depressed people think about the world in self-defeating ways. In the area of SWB, researchers find that one can dampen or amplify one's emotions by what one thinks, and thereby experience more or less intense emotions (Larsen, Diener,& Croponzano, 1987).

1.5.3. Theories of coping

Theories of coping are based on the idea that in order to cope with problems, happy people initiate thoughts and behaviors that are adaptive and helpful, whereas on average unhappy people cope in more destructive ways. For example, happy people are more likely to see the bright side of affairs, pray, directly struggle with problems, and seek help from others, whereas unhappy people are more likely to engage in fantasy, blame others and themselves, and avoid working on problems (McCrae & Costa, 1986). What is not yet known is whether these coping styles are the cause or effect of SWB.

People might increase their SWB by the control of their thoughts. For example, perhaps SWB can be increased by believing in a larger meaning or force in the universe. Support for this proposition comes from findings showing that on the average religious people are happier

than nonreligious people (e. g., Ellison, 1991; Myers, 1992; Pollner, 1989). Further, SWB is higher if a person concentrates on attainable goals, and does not focus attention exclusively on distant, difficult goals (Emmons, 1986, 1992). Finally, one can heighten SWB by being optimistic about one's future (Scheier & Carver, 1993). It is not known whether these cognitive factors correlate with SWB because of the influence of some third variable such as temperament, or whether the cognitions have an independent long-term influence on SWB.

1.5.4. Context Theories of SWB

Some theorists such as Veenhoven (1991) maintain that SWB is caused by the satisfaction of basic, universal human needs. He maintains, for example, that people can only be happy if needs such as hunger, warmth, and thirst are fulfilled. In contrast, context theories emphasize that the factors that influence SWB are variable across both time and individuals, and that how good or bad life events are considered to be is based on the circumstances in which people live. The relevant context varies in different theories. In adaptation theories, for example, the relevant context is the person's past life, whereas in social comparison models the context is considered to be social others of whom the target individual is aware. Other contexts that could influence SWB are the person's ideas, and imagining counterfactual alternative situations. Finally, in goal approach, the context is believed to be the person's conscious aims. In each of the context models, whether something is good or bad, and how good or bad it is, is thought to be based on changeable factors rather than on biological universals.

1.5.5 Social Comparison theory

Richard Easterlin (1974) proposed that nations do not differ in SWB because people within nations compare only to each other on attributes such as income. Therefore, although richer people within a nation are likely to be happier than poorer people in that country, nations ought not differ in SWB. Furthermore, based on the imposed social comparisons approach, the average person in any nation ought to be neutral in SWB because about half of the people will be above average and about half will be below average. Research demonstrates, however, that most people have SWB above neutral (Diener & C. Diener, 1996). In the U. S. A., for example, about 85% of people report a positive level of SWB. In some domains such as family life, even higher percentages report satisfaction. For global SWB, investigators have replicated the "most people are of happy effect" using measures other than global self-reports (e.g., memory measures, experience sampling and informant reports). More surprising is the fact that even disadvantaged persons such as disabled and chronically mentally ill individuals also report SWB above the neutral point. Representative surveys conducted in industrialized nations reveal the same pattern, with most societies falling in the slightly to moderately happy range. We do not yet know why most respondents report positive SWB – whether this is because most people live in generally positive life circumstances or whether most people have a biological set-point that returns them to pleasant affect. Nevertheless, these data seem to cast doubt on Easterlin's thesis. Another damaging piece of evidence is that nations do differ in predictable ways in SWB.

Other evidence also casts serious doubt on imposed social comparison approaches to SWB. They show that people with similar characteristics who live around fortunate or unfortunate others do not differ as predicted by the idea of imposed social comparisons. For example, people with similar incomes who live either in wealthier or in poorer neighborhoods do not differ in the way predicted by the idea of imposed social comparison (Diener, Sandvik, Seidlitz, & Diener, 1993). People who had a moderate income, for instance, were about equally happy whether they lived either in a poorer or wealthier neighborhood area. Social comparison does not automatically produce happiness when one is around others who are inferior on some characteristics. Instead, the data support a coping model of social comparison in which people selectively choose others with whom to compare (Taylor, Wood, & Lichtman, 1983; Will, 1981; Wood, Taylor, & Lichtman, 1985). In some cases, people even create an imaginary person with whom to compare in order to achieve their objectives. The coping idea is that people can look to others to help motivate them, to boost their moods, and to gain specific knowledge. People can increase their SWB by attending to others who are either superior or inferior to them. Thus, the idea that SWB is usually influenced by whether we are better off than those who are immediately around us seems oversimplified.

1.5.6. Telic (endpoint) Theories

Telic or endpoint theories posit that subjective well-being is gained when goals and needs are reached (Diener, 1984). Thus the causes of SWB are not universal, but differ depending on people's values and

desires. Different aspects of goals are related to different components of SWB. For example, individuals high in SWB perceived their goals as more important and as higher in their probability of success (Emmons, 1986), whereas those low in SWB perceived more conflict between their goals (Emmons & King, 1988). Carver and Scheier (1990) further postulated that progress towards goals at a rate higher than the standard leads to positive affect, whereas progress at a rate lower than the standard leads to negative affect. Consistent with Carver and Scheier's hypothesis, Brunstein (1993) found in a longitudinal study that perceived progress toward goals caused positive changes in SWB rather than vice versa. Brunstein (1993) further found that a higher level of commitment, along with a sense of progress, contributed to higher SWB.

The success of people in meeting their goals also depends on their strategies and situational affordances (Cantor, 1994; Cantor, Norem, Niedenthal, Langston, & Brower, 1987; Norem, & Cantor, 1986; Spencer & Norem, 1996). Norem and Illingworth (1993), for instance, found that individuals high in defensive pessimism performed a cognitive task better under a deliberation condition, whereas individuals high in strategic optimism performed the task better under a distraction condition. Cantor and Harlow (1994) further demonstrated that the congruence between life task pursuit and social context (e. g., the pursuit the academic success on weekdays as opposed Friday night) was related to positive emotional experiences. These findings, therefore, illuminate the importance of flexible life task pursuit in attaining needs and goals. In the telic approach, SWB

ought to follow from people using strategies that are compatible with their personality and their environment in pursuing their goals.

According to telic theories, to the extent that people have different goals, the causes of SWB ought to differ. There are now studies that find variations between people in terms of what co-varies with SWB. For example, exact resources (e.g., money and social skills) that most strongly predict SWB for an individual are likely to be those that are required to gain his or her specific aims (Diener & Fujita, 1995). If a person does not value athletic achievement and has no athletic goals, athletic ability is unlikely to be related to her SWB. It is noteworthy that the analysis of goals as mediators in the relation between resources and SWB highlights idiographic ways in which each individual attains (or attempt to attain) SWB.

An individual's life task or goals are influenced by developmental phases, cultural goals, and individual needs (Cantor & Kihlstrom, 1989). In the USA, academic success intimacy is representative life task among college students, whereas social participation is a prototypical life task among retires (Cantor & Harlow, 1994). Most relevant SWB research is that a shift in life tasks is accompanied by changes in the dominant predictors of SWB. Specially, for college students, satisfaction with grades and satisfaction with romantic relationship were strong predictors of overall life satisfaction (Emmons & Diener, 1985). On the other hand, work satisfaction was a major predictor among working adults, and social participation was a significant predictor of overall life satisfaction of retires (Harlow & Cantor, 1996). As such, although the level of life satisfaction is fairly

stable (e. g., Magnus, Diener, Fujita, & Pavot, 1993), factors predicting SWB may change over time. Therefore, it is important to examine shifts in correlates of SWB across life span to understand processes of SWB.

Although the above telic approaches treat different goals as equivalent in terms of their ability to produce SWB, it is possible that the content of goals differs in terms of efficacy in producing SWB. In other words, some types of goals may be more beneficial than others. Veenhoven (1991) proposed that aims related to universal human needs are those that produce long-term SWB. According to this approach, people cannot be happy when experiencing chronic hunger, danger, or isolation. In this view, some goal strivings and success may not produce SWB because they are based on superficial desires that are not based on intrinsic human needs. In contrast, obtaining food and other biological needs is more likely to be productive of SWB, according to Veenhoven.

According to this approaches, there are several things that can interfere with SWB. First, individuals may desire goals that bring short-term happiness but have long-term consequences that are deleterious to happiness because they interfere with other goals. Second, people's goals and desires may be in conflict, and thus it is impossible to satisfy them fully. Because their needs or desires might be unconscious, it would be difficult to identify and integrate them if they were in conflict. Third, individuals could be deprived of happiness because they had no goals or desires. Finally, people may

be unable to gain their goals because of poor conditions or skills, or because the goals are so high.

Considering all these theories, it is mentionable that each of these theories has definitely some merits as well as some demerits. But in the context of present study, it appears that the theories related to economic variables will be more applicable here. All these economic theories of well-being mainly focus on financial conditions of the individuals. The financial conditions directly influence the ability to purchase, and that is essential for fulfilling the basic needs of the individual. On the other hand, if the basic needs are unfulfilled the SWB is affected and the individual fail to attain high level of Subjective Well-being. We know that the addicted persons always have financial stringency, as they are in constant need of money to purchase drugs. So, they often failed to fulfill their needs, and thus their well-being status becomes affected. If this study reveals a significantly poorer Subjective Well-being of the addicts, then this will definitely support these economic theories of the Subjective Wellbeing and thus the findings may be explained in terms of these theories.

1.6. REVIEW OF LITERATURE

The purpose of this section is to provide an overview of the literature relating drug addiction and subjective well-being. The total discussion is discussed in three steps. First, focus was given on some empirical studies investigating the general feature of drug addiction. Second, some selected studies were discussed on personal and sociodemographic variables that influences subjective well-being of a person. Finally, the findings of the studies were discussed which were conducted so far to investigate the relationship between drug addiction and subjective well-being.

It is obvious from the foregoing discussion that drug addiction may lead to manifold serious psychological, physical and social problems. Many research studies have demonstrated the harmful effects of drugs on human body and mind. Miller, L. (1985) has demonstrated the presence of neuro-psychological impairment in chronic abusers of central nervous system depressant, including alcohol, opiates and possible cocaine. Volfuena, A; Hernandez del Río, M. J. and Garcia Olmos, A. M. (1985) have suggested that, cannabis derivatives may produce intellectual deterioration. Another research findings indicate that, the drug dependent persons exhibited more antisocial behavior (Chaleby, Kutaiba, 1986). Washtom, Arnolds M; Gold, Marks and Pottash, A. Carter (1984) have shown that a high incidence of dysfunctional cocaine use is associated with numerous physical. psychological and social problems. These included chronic fatigue, health deterioration, insomnia, headaches, loss of sexual desire. depression, irritability, memory or concentration problems, paranoid

feelings, impaired job functioning, impaired relationship with others, depletion of finances, brain seizures, etc.

It is also evident that, some psychiatric disorders are often associated with the abuse of certain drugs. For example, the amphetamines can produce a toxic psychosis (Ellinwood, E. and Cohen, S. 1972; Connell, P. H. 1958; Bonhoff, G. and Lewrenz, H. 1954).

Many research studies have been conducted to identify empirically the causal factors of addiction. Some researchers have emphasized on age as the most significant factor associated with drug addiction. The drug addicts were found more or less to be young in age (Fraser and Leigton, 1984; Ghodse, et al. 1987; Georg, 1988; Feroze, 1988; Mustafa, 1989; Begum, H. A., 1991; Azam, G. 1995; Karna, 1998). The surveys conducted by O'Rourke and Taylor (1987) in Scotland Southern General hospital; Pronsiri et al., (1977) in Thailand and Ghodse et al., (1987) in London, showed that majority of the addicts were younger people. In Scotland 51 percent of the addicts were below 24 years, in Thailand 64 percent were below 30 years, and also in London 57 percent of the addicts were below 30 years of age. Prashant (1987) studied 68 hospitalized addicts and found that 72 percent of them belonged to the age group of 20 to 30 years.

In Bangladesh, similar observations were made. In a survey, conducted by Firoze (1988), it was observed that 89 percent of addicts are below 30 years of age. In another observation on 100 addicts, Mustafa et al., (1989) found that 94 percent are below 30 years. Banu,

A. (2003) showed in her study that most of the Bangladeshi addicts belong to the age range of 26 to 30 years. In a cross-cultural study conducted by WHO (1980) it was found that 46 percent of the Mexican addicts are below 19 years and 83 percent of the Pakistani addicts are below 30 years of age. It was found that most of the cocaine dependent in the United States of America is teenagers or young adults.

The above-mentioned studies clearly indicate that younger people mostly become the victims of drug addiction. Although Edward (1979) and Hendermarch (1972) found that drug addiction may occur at any stage in life, particularly among those who were suffering from identity crisis. But we know that the period of adolescence is the most crucial period when identity crisis reaches its peak point and this condition may persist in early adulthood also. So it may be said that, this period of life plays a significant role in the initiation of drug addiction.

Like age, occupation and occupational satisfaction are also considered to be a significant factor associated with drug addiction. A cross-cultural study, published by WHO in 1980, showed that 89 percent of Pakistani addicts and 57 percent addicts in Bangkok were employed. In Bangladesh Sobhan (1989) have shown that 49 percent of the addicts were businessman. But a higher rate of unemployment was found among the addicts in Burma, Indonesia and Mexico. Edward (1979) mentioned that majority of addicts were unemployed. Although

evidence is not conclusive, it appears that unemployment seems to run along with drug addiction in at least some areas of the world.

Like age and occupation, education was found to differ among the addicts observed in different cultures. Proshant, S. (1987) in India found that 81 percent of the addicts were illiterate while in Bangladesh Feroze (1988) found that 86 percent of the hospitalized addicts were educated. Mustafa et al, (1989) also observed that 92 percent of the hospitalized addicts had read up to grade eight. Many other phenomenons of the addicts were found.

Some of the home and family environmental factors were also found related to drug addiction. In this regard, Smart and Fejer (1978), Baer and Carrado (1974) have emphasized the role of interpersonal relationship and interaction between the family members and addicted person. Chein, I. (1964) contrasted the family background of addicts and non-addicts. Addicts were found to be more emotionally disturbed; they had poor father-son relationship and instability in families. Frazier (1962) mentioned that addicted persons take drugs for instant pleasure or euphoria and get relief from pressure of different problems including family discord. In a study Begum, H. A., & Rahman, T. (1991) showed that, parental attitudes and purposes in life are important variables associated with drug addiction. It was also found that the addicts' parents particularly fathers, were significantly less affectionate, less permissive, and more rejecting than their counterparts. Spencer & Navaratnam (1981) found similar findings in their studies.

As mentioned earlier, curiosity is one of the most common causal factors of drug addiction. There are a number of researches, which support that curiosity was the most common reason for starting the use of drugs (A National report from Thailand in 1987; Spencer and Navaratnam, 1981). Peer groups and friends are the main sources of arousing this curiosity. They not only induct him as drug user, but they also serve as the constants of drugs (Chee, 1973). When a person starts using drugs, he quickly comes in contact with other drug user friends, or he or she may select friends who are drug users. This situation usually creates a reciprocal encouraging effect upon each other (Sadava, 1973 and Jonhnson, 1973).

Personality pattern is also supposed to be a factor, which influence a person to start the habit of drug intake. Rosenberg, C. M. (1968) has shown that personality disorder and deprived background are two clinical features that have been closely associated with addiction. Henderson and Gillespie (1978) have shown that psychologically unstable and poorly adjusted persons in the society were found to be more susceptible to become dependent on drugs.

James (1971) found that anxiety, depression and personality disorder were associated with drug dependence. Some researchers also report contradictory results. Gendreau, Paul and Gendreau, L. P. (1970) made a comparison of the MMPI results of addict and non-addict groups and found no significant difference in the personality make up of the two groups. But using Bell Adjustment Inventory, it has been shown in a cross-cultural study that the drug addicts are poorer in all

modes of personality adjustment (Ahmed, H. and Ramalingum, S. 1983). Broota, K. D. and Singh, S. (1986) explored the relationship between drug abuse and adjustment problems and other socio-psychological variables among 120 male university students, who were habitual users, occasional users, non-users, or principled non-users of drugs. Habitual users had higher scores on a measure of adjustment problems.

Many research studies have been conducted to study the impact of drug addiction on personal value system and purpose in life of the addicts. Jacobson, G. R., Ritter, D. P., & Mueller, L. (1977) conducted a study on 57 alcoholics (49 males and 8 females) in a 30 day inpatient treatment program. Purpose In Life test (PIL) and Allport-Vernon-Lindzey Study of Values (AVL) were administered shortly after admission to the hospital and again just before discharge. Significant increases in PIL scores were found in second administration. And no significant dissimilarities between alcoholics and non-alcoholics on the AVL scores were observed. Consistent finding with the study of Jacobson, et al's (1977) study was observed in Waisberg, J. L. & Porter, J. E. (1994). Those researchers conducted a study on 131 inpatient treatment program and they observed that PIL scores before treatment were significantly below the normal range and the mean PIL scores at the end of inpatient treatment were within the normal range. So, the researchers argued that, alcoholics have a lower sense of purpose in life than non-alcoholics.

In a study with 40 addicts and equal number of matched non-addicts of Rajshahi University Islam, K. (2002) found very controversial results. In this study the addict respondents exhibit higher values in Theoretical, Aesthetic, and Political scales of AVL. On the other hand, lower values in Social and Religious scales of AVL were observed. But no significant difference was found in Economic scale.

Drug addiction not only affects the Psychological phenomenon of the addicts and his/her family, but also affects some social phenomena that are related to the well-being of the addicted persons or the members of the family. Many investigators have conducted research on such social phenomenon. Azam, A. (1995) found that families belonging to drug addicts experience diversified problems such as economic hardship, discord among the spouses or members, separation and divorce, death of the addicts and family insecurity, degradation of family prestige and honour, problem of marriage, etc. Gupta, S. P. (1985) reported that the alcoholic women are often related to specific life events of situation such as death of husband, divorce, failure in love, marital disharmony, unhappy home and alcoholic husband. Frazier (1962) argued that addicts take drugs for instant pleasure and relief from pressure of different problems including family discord. Among many of these problems absence of father or mother or both are potential variables causing drug addiction.

Sharma (1983) has presented in his article the socio-economic aspects of drug use mainly alcohol consumption. He has cited that drugs destroy sound health and ruin the family. It is disheartening to note

that the substantial portion of family income of addicts, even those who are living below poverty line, drain through consumption of drugs. He also argued that addiction has the ugliest effect on the unfortunate ones who are not only indigent but are also victims of mental poverty. Sanchez and Johnson (1987) examined the relationship between drug addiction and criminality and found that various crimes were common among the drug users, especially cocaine/heroin users.

Economic condition is almost inseparable from occupational status that is related to standard of living and fulfilling basic needs. Research evidence showed that addiction is associated with economic strength/status of the family of the addicted person. Feroze (1988) reported that most of the addicts of IPGMR came from lower and middle-income groups. Choudhury et al (1981) found that drug addiction was confined mostly to the lower income group. But some researchers have found that majority of the addicts came from middle class families (Qureshi, 1989; Karna, 1988).

Here, we discuss some selected studies on SWB related to personal and socio-economic variables. Income of a person is important that influence his/her subjective well-being. There is a convincing amount of evidence that shows a positive relationship between income and Subjective well-being within countries (Larson, 1978; Mullis, 1990; Venhoveen, 1988, 1991). This relationship exists even when other variables such as education are controlled. As might be expected, satisfaction with income is also related to happiness (Braun, 1977;

Campbell et al., 1976). In addition to those studies reviewed by Larson, many others have found objective income to be related to SWB (Alston, Lowe, & Wrigley, 1974; Andrews & Withey, 1976; Bortner & Hultsch, 1970; Freudiger, 1980; Mancini & Orthner, 1980; Riddick, 1980). Although the effect of income is often small when other factors are controlled. Easterlin (1974) reviewed 30 cross-sectional studies conducted within countries. In every study, wealthier persons were happier than poorer persons in that country, and this effect was often strong.

Studies have been conducted to investigate the effect of age, education, employment and marital status on subjective well-being:

Age. Early studies found that young people were happier than older people (Bradburn & Caplovitz, 1965; Gurin, Veroff, & Feld, 1960; Wessman, 1957). But, in relatively recent years, however, a number of researchers have found virtually no age effects (Alston et al., 1974; Andrews & Withey, 1976; Cameron. 1975; Sauer, 1977). But opposite result was found in Braun's (1977) study, and he mentioned that younger respondents reported stronger levels of both positive and negative affects, but that older respondents reported greater level of overall happiness.

Education. Campbell's (1981) data suggest that education had an influence on subjective well-being. Bradburn (1969) found that respondent's educational level was significantly associated with positive affect but not with negative affects. Contradictory findings

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were found in some studies. The effects of education on SWB do not appear to be strong (Palmore, 1979; Palmore & Luikart, 1972) and seem to interact with other variables such as income (Bradburn & Caplovitz, 1965). Several studies have found that there is no significant effect when other factors are controlled (Clemente & Sauer, 1976a; Spreitzer & Snyder, 1974; Toseland & Rasch, 1978-1980).

However, Campbell's (1981) analysis suggests that although education may serve as a resource for the person, it may also raise aspirations and alert the person to alternative types of life.

Employment. An active research area in the analysis of SWB is employment. Campbell et al (1976) found that unemployed people were the unhappiest group, even when income differences were controlled. This suggests that unemployment has a devastating impact on the SWB for many persons that go beyond the obvious financial difficulties.

Marital status. Although several studies have failed to find statistically significant effects on SWB for marriage (Bortner & Hultsch, 1970; Sauer, 1977; Spreitzer & Synder, 1974; Toseland & Rasch, 1978-1980), virtually all relationships are positive (Larson, 1978). A number of large-scale studies indicate that married persons report better SWB than any category of unmarried persons (Denier et al., 1999; Andrews & Withey, 1976; Glenn, 1975). Glenn & Weaver

(1979) found that marriage was strongest predictor of SWB even when education, income, and occupational status were controlled.

Very recently some research studies have been conducted to investigate the effect of drug addiction on subjective well-being. But the study is not still adequate. In a study Sylvia Kairouz and Lise Dubé (2000) found that subjective well-being was positively related to the length of abstention of drugs. They also found that non-abstinent alcoholics report lower SWB than the abstinent counterpart and non-alcoholic respondents report higher SWB than both the abstinent and non-abstinent respondents. So, the researchers argued that, drug addiction is negatively influencing the subjective well-being of the addicted persons.

Bhojak, M. M. Krishnan, S. Nathwat, S. S. and Ali, Juzer (1997) have suggested that drug addicts have poorer quality of life and poorer subjective well-being than their normal counterparts, although the difference was not statistically significant. Graham, Kathryn and Gillis, Kelly (1999) conducted another research and found that drug use was the main factor associated with poorer psychological well-being. But positive relation between drug or alcohol abuse and poorer physical and emotional well-being was not observed in the study of Sell & Robinson (1998) with Oxford undergraduates.

The review of the literature reveals that only a few numbers of studies have been conducted so far to investigate the relationship between the Subjective Well-being and drug addiction. The findings of those

studies, however, provide some inconclusive results. For example, the findings of the study of Sylvia Kairouz and Lise Dubé (2000) and Graham, Kathryn and Gillis, Kelly (1999) have showed that drug addiction is negatively influencing the Subjective Well-being. But Sell & Robinson (1998) did not find such influence in their study. On the other hand, there are some limitations of the study of Bhojak, M. M. Krishnan, S. Nathwat, S. S. and Ali, Juzer (1997). In that study the non-addict respondents were selected only on the basis of their age. But some personal variables like occupation, education, income, and residential background etc. may also play significant roles on Subjective Well-being, but these factors were not controlled in their study.

Therefore, in order to draw any clear-cut conclusion, a further study is needed to investigate the relationship between the Subjective Wellbeing and drug addiction. Moreover, it is mentionable that no study has been conducted so far in Bangladesh to investigate this relationship. In this present investigation, the author intends to conduct an investigation on Subjective Well-being and drug addiction in Bangladesh.

Introduction 65

1.7. AIM, OBJECTIVES AND HYPOTHESIS OF THE STUDY:

Natural observation and past research findings indicate that subjective well-being of the addict respondents affected and differs in comparison to non-addict respondents. Hence the researcher intends to investigate SWB status that exists among the drug addict respondents and compares those with the SWB status of the non-addict respondents. The researcher also intends to investigate the effects of some specific conditions of the addict respondents on their SWB status also.

Thus the specific objectives of the present study may be stated as follows:

- 1. To investigate and compare the overall subjective well-being status of the drug addict and non-addict respondents.
- 2. To investigate and compare the different dimensions of subjective well-being status of the drug addict and non-addict respondents.
- 3. To investigate and compare the effect of addiction type on subjective well-being of the addict respondents.
- 4. To examine whether there is any variation in subjective well-being of the drug addict respondents as a result of duration of addiction.
- 5. To examine whether there is any variation in subjective wellbeing of the drug addict respondents as a function of socioeconomic status.

Considering the above, it is assumed that the subjective well-being is associated with drug addiction. Hence the following four hypotheses are formulated for this empirical study:

- Hypothesis I: The Subjective Well-being of the drug addict respondents will be poorer than that of the non-addict respondents.
- Hypothesis II: The Subjective Well-being of the addict respondents varies in degrees as a result of types of addiction.
- Hypothesis III: The Subjective Well-being of the addict respondents decreases as a result of increase in their duration of addiction.
- Hypothesis IV: The Subjective Well-being of the addict respondents is negatively related to their socio-economic status.

1.8. SIGNIFICANCE OF THE PRESENT STUDY:

As mentioned earlier, the magnitude of drug abuse and its horrifying effects during the later decades of the twentieth century has made the conscious people extremely worried. Family and social life are under serious threat due to this rapid expansion of drug abuse. A large number of young people have become so much crippled by addiction that they completely fail to contribute anything better for the society as well as for themselves and their family. The fatal addiction to drugs not only destroys their potentialities and creativity, but also allures them to enter into the dark alleys of crime. As they are in constant need of money for purchasing drugs, they are being compelled to adopt criminal means of earning money. Drug addiction is undoubtedly a social vice that cripples the individual and destroys his/her productive life, ruins their family socially and economically. It also paves the way for the occurrence of various social crimes.

SWB status of a person indicates his/her overall mental peace and mental health status. Mental peace or mental health of a person is directly related to his/her adjustment as well as productive life. Here, in the present study it is intended to investigate the clear picture of SWB of the drug addict respondents that may be associated with their addiction to drugs.

It is assumed that many significant features will be revealed through this study, which may be helpful to device appropriate measures to eradicate this vice from the society. The findings will be of help to rehabilitate the addicted persons in the main steam of the society. Though there is a National Drug Policy in Bangladesh, it is mentionable that it is not adequate to prevent drug addiction from the society. Secondly, the policy is practically of no help to the affected people. Bangladesh is in urgent need to amend its Drug Policy. The findings of this study will facilitate the concerned policy makers to rethink in the amendment of the existing Laws and Drug Policy in the country. Thus, the present study bears much important applied significance.

Chapter II

Methods

Chapter-2

METHODS

2.1. RESPONDENTS:

A total of seven hundred and sixteen male¹ adult respondents were used as subjects in the present study. Half of them (n=358) were addicts and remaining half (n=358) were non-addicts.

Among the addicts one hundred and ninety six were hospitalized. They were selected from different hospitals and clinics of Dhaka and Rajshshi city. The rest one hundred sixty-two were non-hospitalized. They were selected from different parts of the country. In selecting the non-hospitalized addicts each of them were interviewed in order to be sure about their addiction. Each of the six administrative areas of Bangladesh (i.e. Dhaka, Rajshshi, Chittagong, Khulna, Sylhet and Barishal) was considered as a unit in selecting the addict respondents. DSM-IV suggested criteria of addiction were followed in selecting both the hospitalized and non-hospitalized addict respondents.

Among the addict respondents ninety were married and two hundred sixty eight were unmarried. The duration of addiction was one year to twenty-three years. Their age ranged from twenty to forty eight years. The break up of the distribution of addict respondents according to addiction type, education, employment status, monthly family income,

¹ It was not possible to include female addict respondents on account of general difficulty in contracting female addicts and obtaining permission from the concerned authorities of the hospitals and clinics, and sometimes non-cooperation on the part of the female addicts.

and permanent residential background etc. are given in the tables 2.1.a to 2.1.g below.

The non-addict respondents were selected following the matched pair technique. Each of them was selected matching with one of the addict respondents in respect to their age, sex, occupation, family income, educational level, marital status and residential background. The non-addict respondents were also collected from different administrative units of the country. While selecting the non-addict respondents each of them was interviewed in order to ascertain that he was not addicted to any drug at any stage of life.

Table-2.1.a: Break up of the distribution of hospitalized respondents (addicts) according to hospitals & clinics with location.

Name	Location	Frequency	Percent	Remark	
APON	Dhaka city	70	35.71		
BARACA	Savar, Dhaka	45	22.96		
CREA	Dhaka city	41 20.92			
USHA	Dhaka city	06	3.06		
MUKTI	Dhaka city	07	3.57		
DIP	Dhaka city	04	2.04	and the state of t	
NIRAMOYA	Dhaka city	13	6.63		
Rajshahi Mental Health Clinic	Rajshahi city	10	5.10		
Total		196	99.99		

Figure- 2.1: Pie chart of the distribution of addict respondents according to the hospitals and clinics.

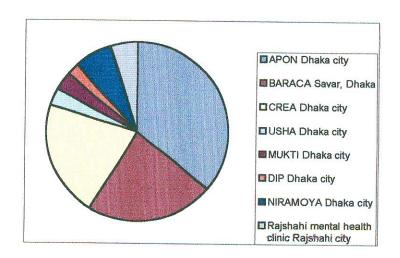


Table- 2.1.b: Break up of the division wise distribution of addict respondents.

Division	Frequency	Percent	Remarks	
Rajshahi	ajshahi 124			
Dhaka	165	46.1		
Khulna	39	10.9		
Chittagong	hittagong 19			
Barisal	06	1.7		
Sylhet	05	1.4		
Total	358	100		

Figure- 2.2: Pie chart of the division wise distribution of addict respondents.

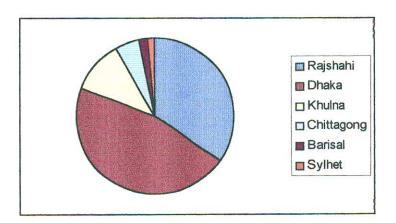


Table- 2.1.c: Break up of the distribution of addict respondents according to their occupation.

Employment type	Frequency	Percent	Remarks	
Unemployed	68	19		
Nonskilled	91	25.4		
Student	160	44.7		
Skilled	39	10.9		
Total	358	100		

Figure- 2.3: Pie chart of the occupation wise distribution of addict respondents.

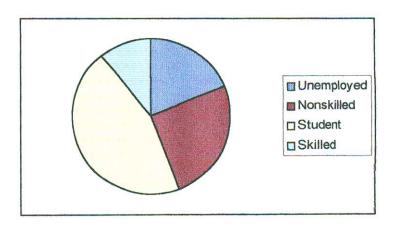


Table- 2.1.d: Break up of the distribution of addict respondents according to their educational level.

Level of education	Frequency	Percent	Remarks
Illiterate	8	2.2	
Up to primary	18	5.0	
Primary to SSC	130	36.3	
Undergraduate	103	28.8	
Graduate	99	27.7	
Total	358	100	

Figure- 2.4: Pie chart of the educational level of addict respondents.

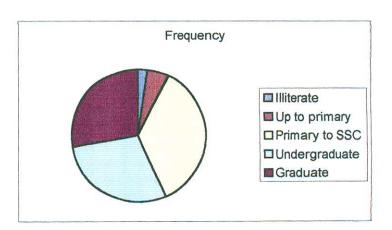


Table- 2.1.e: Break up of the distribution of addict respondents according to their monthly family income.

Level of income	Frequency	Percent	Remarks
Up to 6000	93	26	
6001-15000	135	37.7	
15000 to above	130	36.3	
Totals	358	100	

Figure-2.5: Pie chart of the income wise distribution of addict respondents.

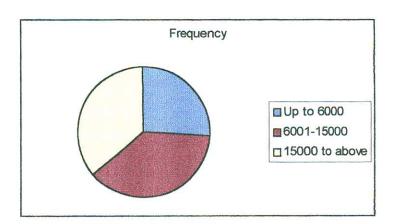


Table- 2.1.f: Break up of the distribution of addict respondents according to their permanent residence.

Residential status	Frequency	Percent	
Rural	82	22.9	
Urban	266	74.3	
Industrial	10	2.8	*
Total	358	100	

Figure- 2.6: Pie chart of the permanent residential background of addict respondents.

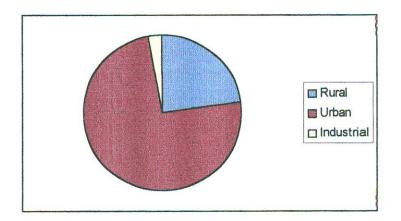
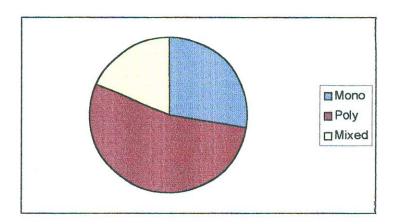


Table- 2.1.g: Break up of the distribution of addict respondents according to their addiction type.

Type of addiction	Frequency	Percent	Remarks
Mono	99	27.7	
Poly 192		53.6	
Mixed	67	18.7	
Total	358	100	

Figure- 2.7: Pie chart of the addict respondents according to their addiction type.



2.2. MATERIALS USED FOR COLLECTING DATA:

In this study the data collection was done using the following two materials:

- a. An Information Blank, and
- b. The Bangla version of the Subjective Well-being Questionnaire.

These two materials were presented together in the form of a booklet.

Personal information blank

This part of the instrument contained different personal maters of the respondents and their addiction related information: such as, age, sex, education, occupation, family income etc. and also the types of drug and amount of drugs consumed by the addicts, duration of addiction, type of addiction etc. (vide Appendix- A).

Subjective Well-being Questionnaire:

A Bangla adaptation of the short version of Nagpal and Sell (1985) Subjective Well-being Questionnaire was used to measure the Subjective Well-being of the respondents. The authors identified eight theoretical areas of concern by using factor analysis. These were:

1). Subjective well-being – positive affect:

Here, items were included on specific life concerns such as health, education, work, standard of living, family and friends, as well as some items reflecting the perception of well-being in an overall perspective.

2). Subjective well-being – negative affect:

Most of the items here were inverses of the questions relating to positive affect. Some items reflected the most frequently reported complaints in 'psychological cases'. These intended to elicit the respondent's general unhappiness and his/her worries or regrets about particular life concerns.

3). Mental mastery over self and environment:

Here it was assumed that a respondent's feeling of his/her performance in matters requiring the exercise of mental mastery may also be an important area.

4). Rootedness, belongingness:

It was hypothesized here that the perception of sharing values, beliefs, and qualities of inner life may also form a special dimension of well-being.

5). Structural and cohesive aspects of the family:

The structural aspects of family life and democratic functioning in the family are related to each other and have a substantial impact on well-being.

6). Density of the social network:

Items in this area were meant to elicit information on perceived wellbeing from the social networks other than the family group.

7). Security in health and socio-economic crisis:

The questions in this area were meant to cover the respondent's feelings of security in the case of various crisis situations.

8). Expectation-achievement harmony:

Items in this area were meant to explore an area of well-being thought of as particularly important, viz., the extent to which long-term expectations in life had been met by actual achievements.

The questionnaire consists of 82 items covering the above-mentioned areas. Thus it measures eight dimensions of Subjective well-being. (Dimension wise item arrangement and total items of each of the eight dimensions have been shown in appendix-D). The aim of these questions was to evoke patterns of emotional evaluation. In contrast, the questions relating to negative affect elicited the respondent's unhappiness or worry or regret about a particular life concern. In general, the questions were structured in a manner to permit three response categories, sometimes four. The scale represents very positive affirmation (e. g., very happy); positive feelings (e. g., quite happy); neutral or negative assertion (e.g., not so happy); and in some cases not applicable. Similarly, the response categories on the negative questions like worry over some things very much, to some extent, not so much were meant to cover a very bad feeling up to a neutral or positive feelings. Thus, the response scales were drafted to discriminate between the moments of positive or of negative feelings about the concern in question, the end point in each case being a state without feelings. One copy each for Bangla and English versions of

the questionnaire are enclosed with the thesis as appendix-B and appendix-C respectively.

2.3 SCORING OF THE SUBJECTIVE WELL-BEING QUESTIONNAIRE:

The different categories of responses were scored according to the following manner—

Response categories	Score
1) Very good, Very happy, Very much, Most of the times	1
Quite deeply, Quite often, Yes	
2) Quite good, Quite happy, To some extent, No	2
3) Not so good, Not so much, Not so happy, Hardly ever,	3
Rarely/Never	
4). Not applicable	4

Items of the questionnaire were scored 1, 2, 3, or 4 according to response categories indicated by the respondents in the test booklet. The response categories of 76 items were 1 to 3 and 6 items were 1 to 4. So, the maximum possible score for a respondent is 252 and the minimum is 82. The middle score point of the scale is 167. (Possible score range and middle point of each of the eight dimensions have been shown in appendix-D). A respondent's total score is the sum of the numerical values of responses to all items. High total scores indicate poor subjective well-being and low total scores indicate better subjective well-being.

2.4 SOME INFORMATION ABOUT THE BANGLA VERSION OF THE SUBJECTIVE WELL-BEING QUESTIONNAIRE:

Bangla version of the Subjective Well-being Questionnaire of Nagpal and Sell (1985) was developed by Hamida Akter Begum² (1990). In developing the Bangla version of the questionnaire, each item was translated and adapted in Bangla and was judged by three psychologists and an English language expert of the Dhaka University independently. The final form of the questionnaire was adopted on the basis of agreement of all the judges. This Bangla version of the subjective well-being questionnaire was earlier used in different studies (Mahmuda, A., 1998; Begum, H. A., and Mahmuda, A. 1999) in Bangladesh before using it in the present study.

2.5. INTERVIEWERS/RESEARCH TEAM:

The researcher himself and ten students of M.Sc. final year in Psychology of Rajshahi University were interviewers. All the students were male and were properly trained in social-clinical research. They were also given requisite training for the present research. The researcher collected data from all the hospitalized addicts. But data from non-hospitalized addicts collected either by the researcher himself or with the help of his team member/s. On the other hand data from non-addict respondents collected jointly by the researcher and his team members.

² Professor Hamida Akter Begum, author of the Bangla version of the Subjective Well-being Questionnaire of Nagpall and Sell (1985) provides a copy to the present author personally for use in the present study. She also provides some information regarding Bangla version.

2.6. PROCEDURE:

In the initial phase of data collection, the researcher first went to the clinics and hospitals (mentioned earlier), and necessary permission was taken from the concerned authority for collecting data. After securing permission, the researcher then met the respondents and had an informal talk with them in order to ensure a good rapport. When the researcher met them, they (respondents) were in stable mental and physical condition as described by the attending physicians.

After establishment of rapport, the purpose of visit was briefly explained to them and they were requested to fill up a personal data sheet that includes some personal information about the subjects (A specimen of personal data sheet is attached with the thesis as Appendix-A). When the personal data sheet was filled up, the booklet of the Bangla version of the subjective well-being questionnaire was given to them. As the subjective well-being questionnaire is self-administering, no specific instruction was given to the literate respondents. The respondent went through the instruction given on the front page of the booklet. The instruction given on the front page was as follows:

"People are different. They live in a variety of situations and they don't feel the same way about life and the world around them. From a practical viewpoint, it is important to know how different persons feel with regard to their day-to-day concerns such as their health, family, work, etc. Such knowledge is necessary if an improvement in the quality of life of people is to be brought about.

This is a questionnaire on how you feel about some aspects of your life and about your life as a whole. Each question may be answered by any one of the given categories by putting a circle O around the number which seems to represent your feelings best. For example, in the first question if you feel your general health is very good and you feel physically fit, please put a circle around the response 'very good' ①. At times you may find that your feelings is not represented perfectly by any one of the given response categories. In such cases, just choose the one closest to that you think.

You may find that some questions appear repetitive. Nonetheless, please answer them all. You don't need to have your answers agree with each other.

This questionnaire may appear rather long to you. But if you work as fast as you comfortably can, you will find that it does not really take very long to fill in.

All information given by you will be treated as confidential and will be used only for research purposes.

Thank you''

After the respondents had completed their task according to the instructions, the questionnaire booklets were collected from the respondents.

For the illiterate respondents, the researcher read and explained the instructions given on the front page of the questionnaire booklet, and then he read aloud but slowly each item of the booklet and marked the answer in accordance with the opinion given by the respondents.

Data was collected from 90 hospitalized drug addicts from different hospitals and clinics in twelve group sessions. The number of subjects in each group varied from six to ten respondents. For the rest of the hospitalized drug addicts, data was collected in individual session.

In case of non-hospitalized drug addicts all data was collected in individual session.

Subjects of the non-addict respondents, were selected, as mentioned earlier, on the basis of matched pair technique, i. e., for each addict subject, a non-addict counterpart resembling in age, sex, education, occupation, marital status, monthly family income and location of permanent residence was selected. For this purpose, the researcher and/or his team member interviewed a large number of non-addicts in order to collect their personal bio-data. On the basis of the personal bio-data the researcher made the final selection of subjects for the non-addict respondents.

Bangla version of the Subjective Well-being Questionnaire (Nagpal and Sell, 1985) was administered on the non-addict respondents in the same manner. But this time, data from all respondents were collected in individual session.

2.7. DURATION OF THE STUDY AND TIME OF RESPONSES:

It took nearly eighteen months to complete the data collection from both the addict and non-addict respondents. One and half hours to two hours were needed to complete the questionnaire booklet for the addict respondents. But in case of non-addict respondents, on the average one hour was needed to complete their task.

2.8. DESIGN OF THE STUDY:

The study was designed to conduct an investigation of the Subjective well-being of drug addict and non-addict respondents in Bangladesh. Thus the independent variables were drug addiction, types of addiction, duration of addiction, and SES of the addict respondents. The dependent variable was Subjective well-being of the respondents.

A Bangla version of Subjective Well-being Questionnaire of Nagpal and Sell (1985) was administered on a group of addict and also a group of non-addict respondents. The addict and non-addict respondents were matched in respect of their age, sex, occupation, monthly family income, educational level, marital status and residential background considering the matched pair technique.

Overall Subjective Well-being and each of the eight dimensions of Subjective Well-being were considered separately in this study. Comparison was made between addict and non-addict respondents on overall Subjective Well-being as well as on each of these eight dimensions of Subjective Well-being score. 't' test was employed for this purpose.

In order to analyze the relationship between types of addiction and Subjective Well-being of the addict respondents, the respondents were divided into three categories i. e., Mono, Poly and Mixed type of addiction (nature of all these three types were defined earlier in chapter one). Comparison was made between these three categories employing one-way analysis of variance (ANOVA) and 't' test.

The relationship between duration of addiction and Subjective Wellbeing was also analyzed employing Pearson's product moment correlation coefficient.

Again, in order to investigate/analyze the relationship between socioeconomic status and Subjective Well-being of the addicts the correlation coefficient between the SES score and Subjective Wellbeing score was computed.

2.9. ASSESSMENT OF SES OF THE ADDICT RESPONDENTS FROM THEIR PERSONAL INFORMATION:

After completion of data collection from the drug addict respondents, their socio-economic status score was assessed on the basis of the following three criteria from their personal information blank. These criteria were education, occupation and monthly family income of the respondents.

Education:

Various numerical weights were assigned to respondents' five levels of education, i.e., illiterate respondents received a weight of 1;

respondents having up to primary education 2; from VI to SSC 3; undergraduate 4 and graduate 5.

Occupation:

Occupations of the respondents' were divided into four categories and 1 to 4 numerical weights were assigned. For instance - respondents having no job were given weight of 1; in case of non-skilled respondents (such as-rickshaw-pullers, day labours, small shop kippers, farmars, etc.) were given weight of 2; students 3 and skilled (such as medical men, engineer, service holders, etc.) respondents were given 4.

Monthly family income:

Three numerical weights were assigned to respondent's different level of family income; for instance – respondents whose family income fell below taka six thousands were assigned a weight of 1; for 6,001/= to 15,000/= 2 and above 15,000/= were 3.

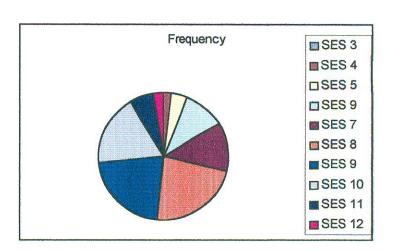
Finally, the weighted SES scores of each respondent on each of these three criteria were summed up. The calculated SES scores of the respondents ranged from 3 to 12. SES of the respondents was not distributed in any specific categories. High total score indicates high SES and low total score indicates low SES.

The distribution of addict respondents according to their SES scores is shown in the table:

Table 2.1.h. Frequency distribution of addict respondents according to their SES scores:

SES Scores	Frequency	Percent	Remarks
3	0	0	
4	7	2	
5	15	4.2	
6	38	10.6	
7	43	12	
8	81	22.6	
9	79 22.1		
10	65	18.2	
11	21 5.9		
12 9		2.5	
Total	358	100	

Figure- 2.8: Pie chart of the addict respondents according to their SES scores.



Chapter III

Results

Chapter-3

RESULTS

The present chapter gives the analysis of the results. The methods of analysis and the interpretation of the findings are described in detail.

Bangla version of the Subjective Well-being Questionnaire of Nagpal & Sell (1985) was administered on 358 addict and equal number of non-addict respondents. The questionnaire measures eight dimensions of SWB separately. The overall Subjective Well-being can also be measured. Each respondent was asked to read the instructions given on the front page of the questionnaire and to express his opinion on a three or four point scale. The score of each respondent on each of the eight dimensions as well as overall score was computed separately by using SPSS 10 version. Raw data of the respondents and their personal information are enclosed here in appendix-E.

In order to obtain the effects of independent variable comparisons were made between the addict and non-addict respondents on mean overall SWB score as well as on scores obtained on each of the eight dimensions. T test was employed for this purposes. The results have been presented in table -3.1. The mean SWB score of the addict and non-addict respondents have also been plotted in Figure -3.1.

Table-3.1: Mean, Standard deviations, t-ratios and level of significance for SWB of the drug addict and non-addict respondents.

	Me	ean	Std. Deviation	't' ratio	Level of significance.
SWB	addicts	186.52	14.41	22.45	0.001
(Overall)	non-		e wayr e		
() () ()	addicts	166.41	10.53		
SWB Positive	addicts	38.53	4.95	25.70	0.001
Affect	non-				
	addicts	29.71	4.38		
SWB Negative	addicts	41.41	6.53	-11.02	0.001
Affect	non-				
	addicts	46.63	6.27		
Mental Mastery	addicts	29.90	3.46	10.16	0.001
	non-				
	addicts	27.46	3.09		
Rootedness &	addicts	15.66	2.70	19.15	0.001
Belongingness	non-	1			
	addicts	12.45	1.90		
Structural and	addicts	15.14	2.55	21.78	0.001
Cohesive aspects	non-				
	addicts	11.57	1084		
Density of Social	addicts	15.13	2.35	10.37	0.001
network	non-	13.13	2.33	10.57	0.001
network	addicts	13.39	2.47		
Security in Health	addicts	11.24	2.09	12.82	0.001
and Socio-	non-				
economic crisis	addicts	9.56	1.58		
Expectation-	addicts	19.47	2.42	20.34	0.001
achievement	non-				
harmony	addicts	15.60	2.60		

 $(df = n_1 + n_2 - 2 = 714)$

The table shows that in case of overall SWB, (first row of the table-3.1) the mean scores of the addict and non-addict respondents were 186.52 and 166.41 respectively. The mean difference between the scores of the two groups was significant at 0.001 level (t-ratio 22.45;

df- 714). These results suggest that overall SWB of the addict respondents was poorer than that of the non-addict respondents.

While considering the different dimensions of the SWB, it was found that the mean differences in all the eight dimensions of the SWB of the addict and non-addict respondents were significant at 0.001 level.

The table also show that, in case of SWB positive affect, the mean scores of the addict and non-addict respondents were 38.53 and 29.71 respectively (t-ratio 25.70; df-714), and the mean difference was significant at 0.001 level, which indicate that SWB positive affect of the addict respondents was significantly poorer than that of the non-addict respondents.

On the other hand, in case of SWB negative affect, it was found that (third row of the table-3.1) the mean scores of the addict and non-addict respondents were 41.41 and 46.63 respectively (t-ratio –11.02; df-714), and the mean difference was significant at 0.001 level. These results indicate that the SWB negative affect of the addict respondents was significantly higher than that of the non-addict respondents.

It can be seen from the fourth row of the table- 3.1 that in case of mental mastery the mean scores of the addict and non-addict respondents were 29.90 and 27.46 respectively (t-ratio 10.16; df-714), and the mean difference was significant at 0.001 level, i.e. mental mastery of the addict respondents were significantly poorer than that of the non-addict respondents.

In case of rootedness & belongingness, it was found as shown in the fifth row of the above table, the mean scores of the addict and non-addict respondents were 15.66 and 12.45 respectively (t-ratio 19.15; df-714), and the mean difference was significant at 0.001 level, i.e. rootedness & belongingness phenomenon of the addict respondents were significantly poorer than that of the non-addict respondents.

It can be seen in table –3.1 (sixth row of the table-3.1) that in case of structural and cohesive aspects of SWB, the mean scores of the addict and non-addict respondents were 15.14 and 11.57 respectively. The mean difference was significant at 0.001 level (t-ratio 21.78; df-714), which suggest that structural and cohesive aspects of SWB of the addict respondents were significantly poorer than that of the non-addict respondents.

The table again (seventh row of the table-3.1) shows that in case of density of social network phenomenon of SWB, the mean scores of the addict and non-addict respondents were 15.13 and 13.39 respectively (t-ratio 10.16; df-714), and the mean difference was significant at 0.001 level. That is, density of social network of the addict respondents was significantly poorer than that of the non-addict respondents.

Table –3.1 also show that in case of security in health and socio-economic crisis (eighth row of the table-3.1) the mean scores of the addict and non-addict respondents were 11.24 and 9.56 respectively (tratio 12.82; df-714), and the mean difference was significant at 0.001 level. These findings indicate that security in health and socio-

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economic crisis of the addict respondents was significantly poorer than that of the non-addict respondents.

Lastly, in case of expectation and achievement harmony, (ninth row of the table-3.1) the mean scores of the addict and non-addict respondents were 19.47 and 15.60 respectively (t-ratio 20.34; df-714), and the mean difference was significant at 0.001 level. That is, expectation and achievement harmony of the addict respondents was significantly poorer than that of the non-addict respondents.

It should be mentioned here that the non-addict respondents of the study were in neutral position/condition of Subjective Well-being as their mean score was 166.41, which is very close to the neutral point. On the other hand the Subjective Well-being of the addict respondents was found in poorer condition. As their mean score is higher (mean score is 186.52) than the score of neutral point (neutral score point is 167) of the scale.

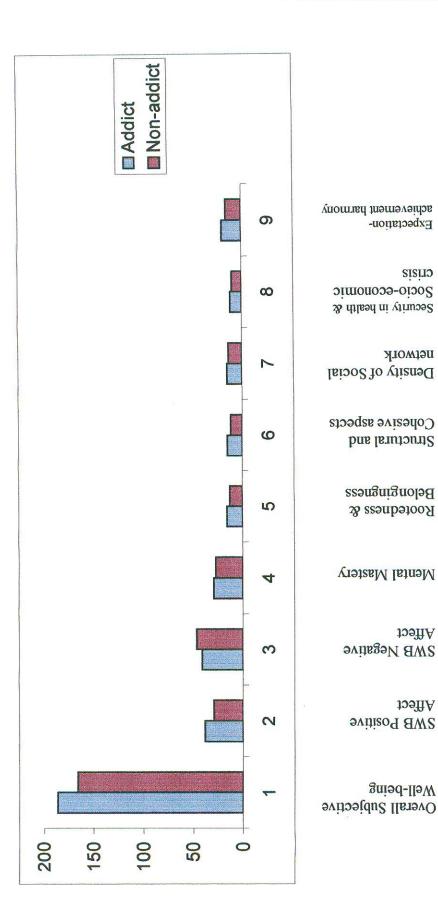


Fig. 3.1: Detail comparative bar-graphs of mean SWB scores of the addict and non-addict respondents.

crisis

network

Affect

Affect

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In order to study the effect of types of addiction on SWB the addict respondents were classified into three categories – Mono drug addict, Poly drug addict and Mixed drug addict. Comparisons were made between these three categories of addict respondents on the basis of overall SWB score and scores obtained on each of the eight dimensions of SWB. One-way ANOVA was employed for these purposes. The results have been reported in table-3.2.

Table- 3. 2: ANOVA of SWB of the addict respondents among different types of addiction.

Source of variance		Sum of Squares	df	Mean Square	F	Level of Significa nce.
SWB	Between Groups	1015.15	2	507.57	2.46	0.087
(Overall)	Within Groups	73142.16	355	206.03		
	Total	74157.32	357			
SWB	Between Groups	45.51	2	22.75	.925	0.398
Positive Affect	Within Groups	8735.51	355	24.60		
	Total	8781.02	357			
SWB	Between Groups	14.46	2	7.23	.169	0.845
Negative Affect	Within Groups	15232.68	355	42.90		
	Total	15247.15	357			
Mental Mastery	Between Groups	36.37	2	18.18	1.516	0.221
	Within Groups	4259.20	355	11.99		
	Total	4295.57	357			
Rootedness &	BetweenGroups	20.77	2	10.38	1.418	0.243
Belongingness	Within Groups	2599.33	355	7.32		
	Total	2620.10	357	20		
Structural and	Between Groups	39.76	2	19.88	3.090	0.047
Cohesive aspects	Within Groups	2284.67	355	6.43		IA PROGRAMO ST
**	Total	2324.44	357			
Density of Social	Between Groups	30.93	2	15.46	2.814	0.061
Network	Within Groups	1591.35	355	5.49		
	Total	1982.29	357			
Security in health	Between Groups	29.62	2	14.81	3.408	0.034
and Socio-	Within Groups	1543.24	355	4.34		
economic Crisis	Total	1572.87	357			22122
Expectation-	Between Groups	8.01	2	4.01	.680	0.507
achievement	Within Groups	2093.20	355	5.89		
harmony	Total	2101.22	357			

The table shows no significant effects of types of addiction on overall SWB of the addict respondents. The results also indicate that there was no significant effect of types of addiction on SWB Positive affect,

SWB Negative affect, Mental Mastery, Rootedness and Belongingness, Density of Social network and Expectation-achievement harmony.

However, the results indicate significant effect of types of addiction on Structural & Cohesive aspects and Security in health and Socioeconomic Crisis. Comparisons were also made among the three types of addiction on the basis of average scores obtained on Structural & Cohesive aspects and Security in health and Socioeconomic Crisis employing t tests. The results have been presented in table-3.3 and table-3.4. The comparative mean scores among these three types of addiction on Structural & Cohesive aspects and Security in health and Socioeconomic Crisis of the addict and non-addict respondents have also been shown in Figure –3.2 and Figure –3.3.

Table-3.3: Comparison between the different types of addiction on Structural and cohesive aspect.

Type of addiction compared	N	Mean	Std. Deviation	df	T	Level of Significance.
Mono drug	99	14.62	2.72	289	-2.412	0.016
addicts Poly drug addicts	192	15.40	2.55			
Poly drug addicts	192	15.40	2.55	257	.693	0.489
Mixed drug addicts	67	15.16	2.17			
Mono drug	99	14.62	2.72	164	-1.351	0.178
addicts	67	15.16	2.17			
Mixed drug addicts		14				

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Table-3.3, shows that mean score of Structural and Cohesive aspect for mono drug addict respondents was lower than that for poly drug addict respondents. The computed t-ratio of -2.41 was significant at 0.016 level. These results indicate that the Structural and Cohesive aspect of poly drug addict respondents were significantly poorer than that of the mono drug addict respondents.

But no significant differences were found between poly drug and mixed drug addiction and also mono drug and mixed drug addiction of the addict respondents.

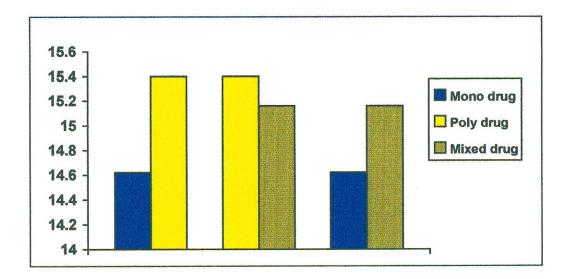


Figure-3.2: A comparative bar-graphs among the different types of addiction on Structural and cohesive aspect.

Table-3.4: Comparison between different types of addiction of the addict respondents on Security in Health and Sociocconomic crisis.

Type of addiction compared	N	Mean	Std. Deviation	df	t	Level of Significance.
Mono drug addicts	99 .	10.91	2.07	289	-2.181	0.030
Poly drug addicts	192	11.51	2.27			
Poly drug addicts	192	11.51	2.27	257	1.482	0.067
Mixed drug addicts	67	10.97	1.41			
Mono drug addicts	99	10.91	2.07	164	175	0.861
Mixed drug addicts	67	10.97	1.41			

Table-3.4, also shows that the mean score of Security in Health and Socio-economic crisis for mono drug addict respondents was lower than that of the poly drug addict respondents. The computed t-ratio of –2.81 is significant at 0.03 level. These results indicate that the Security in Health and Socio-economic crisis of poly drug addiction of the addict respondents were significantly poorer than that of the mono drug addiction of the addict respondents.

But no significant differences were found between poly drug and mixed drug addiction, and also between mono drug and mixed drug addiction of the addict respondents. Results 103

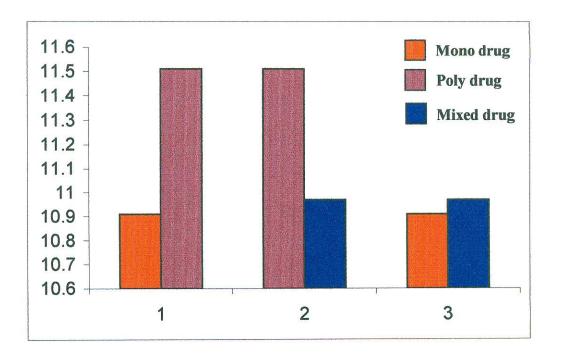


Figure-3.3: A comparative bar-graphs among the different types of addiction on Security in Health and Socio-economic crisis.

In order to investigate whether there is any significant relationship between Subjective Well-being of the addict respondents and duration of addiction the co-efficient of correlation between the SWB score and duration of addiction was computed employing Pearson's Product moment method. The results have been presented in table –3.5.

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Table-3. 5: Correlation between duration of addiction and SWB scores of the addict respondents (N=358).

Area of SWB	r	Level of Significance.
SWB (Overall)	.025	0.640
SWB Positive Affect	.094	0.076
SWB Negative Affect	175**	0.001
Mental Mastery	.011	0.841
Rootedness & Belongingness	.105*	0.047
Structural and Cohesive aspects	.084	0.114
Density of Social network	.037	0.488
Security in Health and Socio- economic crisis	.013	0.083
Expectation-achievement harmony	.160**	0.002

Table shows that there was no significant correlation between duration of addiction and overall SWB score of the addict respondents.

The results also show that the correlation between duration of addiction and SWB Negative Affect of the addict respondents was - 0.175, which is significant at 0.001 level. Thus, this result indicates that there is a negative relationship between duration of addiction and SWB Negative affect of the addict respondents.

On the other hand, positive correlation was found in case of Rootedness & Belongingness and Expectation-achievement harmony. In case of Rootedness & Belongingness the correlation coefficient (r) is 0.105, which is significant at 0.04 level. This result suggests that there is a positive relation between duration of addiction and Rootedness & Belongingness status of the addict respondents.

Again, in case of Expectation-achievement harmony the 'r' value is 0.160, which is significant at 0.002 level. From these findings we may conclude that there is a positive relation between duration of addiction and Expectation-achievement harmony status of the addict respondents.

But no significant correlation was found in case of remaining five dimensions of SWB. These dimensions are SWB Positive Affect, Mental Mastery, Structural and Cohesive aspects, Density of Social network and Security in Health and Socio-economic crisis.

Table-3. 6: Correlation between SWB scores and SES scores of the addict respondents. (N=358)

Area of SWB	r	Level of Significance.
SWB (Overall)	.113*	0.032
SWB Positive Affect	.153**	0.004
SWB Negative Affect	047	0.374
Mental Mastery	.060	0.257
Rootedness & Belongingness	.045	0.391
Structural and Cohesive aspects	.122*	0.020
Density of Social network	.057	0.280
Security in Health and Socio- economic crisis	.090	0.089
Expectation-achievement harmony	.014	0.799

Correlation co-efficient ('r') was also computed between SWB scores and SES scores of the addict respondents in order to study the effect of SES on SWB. The findings have been presented in table 3.6. The table shows that there is a significant relationship between overall SWB scores and SES scores of the addict respondents. The computed 'r' value is 0.113, which is significant at 0.03 level of significance. This

finding indicates that there is a significant positive relationship between overall SWB score and SES score of the addict respondents, which indicates the negative relationship between overall SWB and SES of the addict respondents.

It can also be seen in the table that there is a significant relationship between SES scores and SWB Positive Affect score and also between SES score and Structural and Cohesive aspects score. In case of SWB Positive Affect the computed 'r' value is 0.153, which is significant at 0.004. From these results it may be argued that there is a significant positive relation between SWB Positive Affect score of the addict respondents and their SES score, which indicates that the negative relationship exist between SWB Positive Affect and SES of the addict respondents.

In case of Structural and Cohesive aspects, the obtained 'r' value is 0.122, which is significant at 0.02 level. These results indicate the significant positive relationship between Structural and Cohesive aspects score and SES score of the addict respondents, which indicates the negative relationship between Structural and Cohesive aspects of well-being and SES of the addict respondents.

But, no significant relationship was found between SWB score and SES score in case of SWB Negative Affect, Mental Mastery, Rootedness & Belongingness, Density of Social network, Security in Health & Socio- economic crisis, and Expectation-achievement harmony.

In short, the results of the study reveal the following significant findings:

First, the drug addicts have significantly poorer Subjective Well-being in comparison to the matched non-addicts.

Second, the drug addict respondents are confronted with significantly poorer Subjective Well-being in all the dimensions of Subjective Well-being except Subjective Well-being Negative Affect.

Third, the poly drug addict respondents have poorer well-being only on Structural & cohesive aspects and Security in Health & Socioeconomic crisis than the other forms of addiction found in the addicts.

Forth, duration of addiction have no significant effects on overall Subjective Well-being. Subjective Well-being of the addicts is found degenerated regardless of duration of their addiction. In addition to that, it was found that duration of addiction has only effects on Rootedness & Belongingness and Expectation-achievement harmony of SWB.

Finally, drug addict respondents with high SES scores are confronted with significantly poorer Subjective Well-being (overall) as well as SWB Positive Affect and Structural & Cohesive aspects in comparison to low SES scores.

Chapter IV

Discussion & Conclusion

Chpater-4

DISCUSSION AND CONCLUSION

The present study was designed to investigate the Subjective Wellbeing (SWB) of the drug addict and non-addict respondents in Bangladesh. Plan of analysis was designed to investigate the SWB status of the drug addict respondents and compare that with a matched group of non-addict respondents. Secondly, Subjective Well-being of the addict respondents was studied in the context of types of addiction, duration of addiction and SES of the addict respondents. A Bangla version of Subjective Well-being Questionnaire of Nagpal and Sell (1985) was administered on drug addict and matched non-addict respondents for collecting data. Data were analyzed for overall SWB, as well as for each of the eight dimensions separately.

Five hypotheses were formulated to be examined in this study.

The first hypothesis of the study states that the Subjective Well-being of the drug addict respondents will be poorer than that of the non-addict respondents. Thus, it was expected that overall Subjective Well-being (SWB) scores would be significantly higher for addict respondents than that of the non-addict respondents. In the results of the study the overall SWB scores (186.52) is found to be significantly higher for addict respondents than that (166.41) of the non-addict respondents, which indicates that Subjective Well-being (SWB) of the addict respondents is significantly poorer than that of the non-addict respondents.

It has also been found that the non-addict respondents of the study were almost at neutral/middle position of Subjective Well-being scale. On the other hand, the addict respondents were found to be above the neutral/middle position of Subjective Well-being scale, which means that their SWB was poorer in comparison to the non-addict respondents. Thus, the obtained results fully confirm our first hypothesis that the drug addict respondents possess poorer Subjective Well-being than that of the non-addict respondents. So, it may be concluded that the drug addiction leads to the degeneration of SWB of the addict respondents and poorer SWB was found due to their addiction.

Dimension wise analysis was also carried out. The results of the comparison between the addict and non-addict respondents on seven of the eight dimensions of Subjective Well-being are also consistent with our expectation. The Subjective Well-being of the addict respondents was significantly poorer than that of the non-addict respondents in case of Positive Affect, Mental Mastery, Rootedness & Belongingness, Structural and Cohesive aspects, Density of Social network, Security in Health and Socio-economic crisis, and Expectation-achievement harmony.

The mean scores of the non-addict respondents were below the neutral/middle point in each of the seven dimensions of SWB. On the other hand, the mean scores of the addict respondents were found to be higher than the neutral/middle points. These results provide further support to the hypothesis.

But in case of SWB Negative affect, we find the result completely in the reverse direction. That is, the non-addict respondents have poorer well-being of Negative affect in comparison to the addict respondents. It is definitely a very peculiar and unexpected result. It should be noted that both the addict and non-addict respondents exhibited poorer latitude of SWB Negative affect as the mean score of both the group were found above the neutral/middle point. The neutral/middle score point of the dimension is 39 and obtained mean score of the addict and non-addict respondents were 41.41 and 46.63 respectively. Possible causes of this finding can be explained in many ways. The drug addicts had lost their sense of responsibility, due to the euphoric state and adverse effects of drugs, and they become free from normal worries and anxieties. In addition, during close interview the researcher learnt that the addicted persons were neglected by the family members. They had lost their involvement and interest about family concern and they withdraw themselves from the family. So, they were not concerned with the family and any kind of duty and responsibility. That is why they were normally free from many kinds of worries and anxieties. This may also be caused by some unknown variables. So, further investigation is necessary for arriving at any definite conclusion in this regard.

This finding is supported by the study of Sylvia Kairouz and Dubé (2000) and Graham, Kathryn and Gillis, Kelly (1999). In their studies, the SWB of non-alcoholic respondents was found to be higher than both the abstinent and non-abstinent alcoholics (Sylvia Kairouz and Dubé, 2000), and drug use was the main factor associated with the poorer psychological well-being (Graham, Kathryn and Gillis, Kelly,

Jul. 1999). Bhojak, M. M. et al (1997) also found poorer SWB of the addict respondents than their normal counterparts, although, the differences were statistically insignificant. However, in the Bhojak, M. M. et al's study the non-addict respondents were not properly matched with addict respondents. The non-addict respondents were selected only on the basis of their age. Here, we may argue that personal variables like occupation (Campbell et al., 1976), education (Campbell, 1981), income (Larson, 1978; Mullis, 1990; Veenhoven, 1988, 1991), and residential background etc. independently or collectively may play significant roles in causing the differences to be insignificant. However, these contributing factors were controlled with possible highest exactness in the present study.

These findings appear to fit the theoretical model of economic variables (theories) of Subjective Well-being (i.e. Absolute theory, Adaptation theory, Aspiration theory). These findings also appear to fit the theoretical model of Theories of coping, Context theories, and Telic or endpoint theories. As has been pointed out earlier the Absolute theory (Veenhoven 1988, 1991) states that people with higher income levels easily satisfy their basic needs (food, housing, health etc.) and, therefore, attain a higher SWB. On the other hand the Telic or endpoint theories posit that subjective well-being is gained when goals and needs are reached (Diener, 1984). Again, the Context theory of SWB states that SWB is caused by the satisfaction of basic, universal human needs. For example, people can only be happy if needs such as hunger, warmth, and thirst are fulfilled (Veenhoven, 1991). On the other hand the Aspiration theory suggests that the degree of satisfaction or dissatisfaction experienced by a person is

related to the ratio of his or her satisfied desires to his or her total desires. Individuals who believe that their desires are fully satisfied tend to be happier than individuals who think they have unsatisfied desires. But as the drug addicts are in constant need of money for purchasing drugs, they are always in financial crisis. During financial stringency the drug addicts fail to fulfill their basic needs. So, they do not attain a higher SWB, and their SWB status is degenerated.

Again, in Adaptation theory Brickman et al. (1978) pointed out that individuals with higher adaptation capabilities tend to be happier. It was found in many studies (Henderson & Gillespine, 1978; Ahmed, H. and Ramalingum, S. 1983; Broota, K. D. and Singh, S. 1986) that the emotional/adjustment capabilities of drug addicts are unstable and/or in poorer conditions. They fail to adopt properly with life conditions, and they become unhappy.

On the other hand the theories of Coping mention that the happy people cope with their problems in constructive ways, initiate thoughts and behaviour that are adaptive and helpful. But, the unhappy people cope in destructive ways. It was observed in many studies that the drug addicts have unsatisfied needs and desires due to their financial crisis. They have lost of their sexual desire, suffer from malnutrition, health deterioration (Washtom, et al, 1984; Sharma, 1983) etc. and so they become most unhappy persons in the society. Therefore, they fail to cope with their problems in constructive ways and in initiating proper thoughts and bevaviour. Thus, they don't attain a high standard of Subjective Well-being.

The second hypothesis of the study states that the Subjective Wellbeing of the addict respondents varies in degrees as a result of types of addiction. In order to analyze the relationship between Subjective Well-being and types of addiction comparisons were made among mono drug addicts, poly drug addicts and mixed drug addicts on their obtained well-being scores employing ANOVA and 't' test.

In the results significant relationship between types of addiction and SWB of the addict respondents was found only in two dimensions of SWB. These dimensions are Structural and Cohesive aspects and Security in health & Socio-economic Crisis. But no significant relationship was found in all other dimensions of SWB as well as the overall SWB.

It was found that the Subjective Well-being of the poly drug addicts is poorer than mono drug and mixed drug addicts in case of Structural and Cohesive aspects of Subjective Well-being which suggest that the poly drug addiction plays more influential role in degenerating the Structural and Cohesive aspects of Subjective Well-being.

The results also indicate that poly drug addiction plays more influential role in degenerating the Security in Health and Socioeconomic crisis phenomenon of SWB than mono drug and mixed drug addiction (see table- 3.2; 3.3 and 3.4).

It can be mentioned here that poly drug addiction has combined impact, called *synergistic effect* (greater than sum of the effects of each drug taken alone) on the many other aspects of the addicted persons. It can also produce an enormous change in body chemistry.

Some common synergistic effects are severe depression of the central nervous system (Miller & Gold, 1990), extreme intoxication, coma, and even death (Nishino et al, 1995; Braun, 1996).

So, it can be suggested that the *synergistic effects* of poly drug addiction damages many physical and psychological components of the addicts, which may be responsible for further degeneration of Structural and Cohesive aspects and Security in Health & Socioeconomic crisis phenomenon of SWB. Thus, the obtained results support the second hypothesis that the Subjective Well-being of the addict respondents varies in degrees as a result of types of addiction.

The third hypothesis of the study was that the Subjective Well-being of the addict respondents decreases as a results of increase in their duration of addiction. It was expected that there would exist a positive correlation between the duration of addiction and SWB scores. It means that if duration of addiction increases, then the Subjective Well-being will decrease. From the results it was found that there was no significant relationship between overall SWB of the addict respondents and the duration of addiction. But significant positive relationship was found to exist between SWB scores and duration of addiction only in two dimensions of SWB. These dimensions are Rootedness & Belongingness, and Expectation-achievement harmony, which indicate that when the duration of addiction increases, then SWB decreases. On the other hand negative relationship was found between duration of addiction and Subjective Well-being Negative Affect scores. Which suggest that SWB increases as a result of increase in duration of addiction.

These results suggest that there is no significant effect of duration of addiction on the degeneration of the overall SWB. If a person once addicted to drugs, his overall SWB is degenerated regardless of the duration of addiction. In addition to that, duration of addiction has further effect of the degeneration of the SWB in two dimensions (i.e., Rootedness & Belongingness, and Expectation-achievement harmony). That is, Rootedness & Belongingness, and Expectationachievement harmony status of SWB decreases as a result of increase in their duration of addiction. But in case of Negative Affect, the wellbeing level increases as a result of increase in duration of addiction. It is definitely a very peculiar, inconsistent and unexpected result. In this regard, it can be mentioned that in case of negative affect another inconsistency was found earlier, and the possible explanations were given in the discussion of the first hypothesis. Thus these findings, however, are inconclusive and further investigation is necessary in this regard.

The fourth and last hypothesis of the study was that the Subjective Well-being of the addict respondents is negatively related to their socio-economic status.

It was expected that there would exist a significant negative correlation between the SES scores and SWB scores of the drug addicts. In the results, however, positive correlation was found between overall SWB scores and SES scores, which suggest that Subjective Well-being is negatively related to the socio-economic status of the addict respondents. The results also show that there is a positive relationship between SES scores and Subjective Well-being

scores in the dimension of positive affect and structural and cohesive aspects of Subjective Well-being, which suggest that there is a negative relationship between SES and Subjective Well-being. These results, however, disconfirm the fourth hypothesis of the study. That is, Subjective Well-being found to be degenerated as a function of increases of SES of the addicts.

In explaining these findings it can be argued that expectation of the individual from higher socio-economic classes are generally higher in their lives than that of individuals from lower socio-economic classes. They are more concerned about their failures in life. Hence, failures make the addicts of higher socio-economic classes unhappier than the addicts of lower socio-economic classes.

The discussion may here, be summarized by pointing out the following significant facts revealed by this investigation. According to the results of the study, the addict respondents have significantly poorer overall Subjective Well-being (SWB) than that of the non-addicts. These poorer conditions of SWB are consequent events of drug addiction. That is, drug addiction leads to the degeneration of SWB, and these condition of SWB may cripple the individual for the rest of his life.

The study also reveals that poly drug addiction further degenerates the Structural & cohesive aspect and Security in Health & Socioeconomic crisis phenomenon of SWB than mono drug and mixed drug addiction. It has also been found that duration of addiction does not play any significant role in degenerating the overall SWB. If a person is once addicted to drugs, his overall SWB is degenerated regardless

of the duration of addiction. But Rootedness & Belongingness, and Expectation-achievement harmony of well-being are further degenerated with the increases of duration of addiction. It also reveals that the SWB of the addict respondents of the upper socio-economic conditions are more affected than the persons of lower socio-economic classes.

Thus the alarming increase of drug addiction is really a serious threat to the society. The nation must do something to eradicate this evil from the society in order to save the productive people from meeting their catastrophic end.

Chapter V

References

REFERENCES

- Adabi, S. (1984). Addiction: Ia eternal repepicion de un decencuentro (Acerca de Ia dependencia humana) [Addiction: The endless repetition of a disencounter]. *Revista de Psicoanalisis*, 41(6), 1029-1044. In Comer, R. J. (1998). Abnormal Psychology (3rd edition). W. H. Freeman and company, New York.
- Ahmed. H. and Ramalingum, S. (1983). Drug abuse and personality: A cross-cultural study. Paper presented at the 3rd Asian Regional Conference of International Association for Cross-cultural Psychology. National University of Malaysia, May 2-5.
- Alston, J. P., Lowe, G. D., & Wrigley, A. (1974). Socio-economic correlates for four dimensions of self-perceived satisfaction, 1972. *Human Organization*, 33, 99-102.
- Andrews, F. M., & Withey, S. B. (1976). Social indicators of well-being: America's perception of life quality. New York: Plenum Press.
- APA (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author. In Thomas F. Oltmanns & Robert E. Emery, Abnormal Psychology, Prentice Hall, New Jersey, 1995, p. 348.
- Arinami, T., Itokawa, M., Komiyama, T., Mitsushio, H., Mori, H., et al., (1993). Association between severity of alcoholism and the A1 allele of the dopamine D2 receptor gene taqI A RELP (in japanese). *Bio. Psychiat.*, 33, 108-114.
- **Asgar, A.** (1990). 'Madakashakti: Ekti Obhishap', *The Mashik Biswabidyalaya Campus*, 4th year, 3rd issue, Dhaka.
- **Ashton, H.** (1995). Toxicity and adverse consequences of benzodiazepine use. *Psychiatr. Ann.*, 25 (3), 158-165.
- Azam, G. (1995). Impact of Drug Addiction on Families in Rajshahi City. Unpublishrd M. Phil thesis. Institute of Bangladesh Studies, University of Rajshahi, Bangladesh.
- Azar, B. (1995). Mental disabilities and the brain-gene link. *APA Monitor*, 26(12), 18.

- Bacon, S. D. (1973). The process of addiction to alcohol: Social aspects. *Quart. J. Stud. Alc.* 34 (I. Pt. A), 1-27.
- Baer and Carrado (1974). Heroin addict's relationship with parents during childhood and early adolescence years. *J. Genet. Psychol.* 124, 99-103.
- Banu, A. (March 2003). Drug Addiction Among the Youth of Bangladesh: A Study in Selected Areas. Unpublished M. Phil thesis. Institute of Bangladesh Studies, University of Rajshahi, Bangladesh.
- Bardo, M. T., Donohew, R. L., Herrington, N. G.(1996). Psychology of novelty seeking and drug seeking behavior. *Behav. Brain Res.*, 77, 23-43.
- Beauvais, F. (1992). The consequences of drug and alcohol use for Indian youth. *Amer. Indian Alaska Natine Ment. Hlth. Res.*, 5 (1) 23-37.
- Beck, A. T., (1967). Depression: Clinical, experimental, and theoretical aspects. New Work: Hoeber.
- Begum, H. A. (1991). Who Are The addicted? A Study of the Socio-Economic Background of Drug Addicts in Dhaka City. In H. A. Begum (Ed.) *Understanding Drug Addicts: Some Psychological Studies*. Centre for Psycho-Social Research and Training (CPSRT), Dhaka, 12.
- Begum, H. A. Rahman, T. (1991). Why Are They Drug Addicted? A probe Into Some Psychological Factors. In H. A. Begum (Edited) *Understanding Drug Addicts: Some Psychological Studies*. Centre for Psycho-Social Research and Training (CPSRT), Dhaka, 47-48.
- Begum, H. A., and Mahmuda, A. (1999). Psychological Well-being in Bangladesh as a Function of Socio-Economic Status, Sex and Place of Residence. In Sugiman. T., Karasawa, M., Liu. J. H., & Ward. C. (Edited) Progress in Asian Social Psychology, (Volume II): Theoretical and Empirical Contributions. Seoul, Korea, Kyoyook-Kwahak-Sa Publishing Company, 317-326.
- Bhojak, M. M. Krishnan, S. Nathwat, S. S. and Ali, Juzer (1997). A comparative study of emotional life and subjective well-being in drug addicts and non-addicts. *Journal of the Indian Academy of Applied Psychology*. 23(1-2), 663-67.

- Biegon, A. & Kerman, I. (1995). Quantitative auto-radiography of cannabinoid receptors in the human brain post-modern. In A. Biegon & N.D. Volkow (Eds.), *Sites of drug action in the human brain*. Boca Raton, FL: CRS Press.
- Biegon, A. & Volkow, N.D. (1995). Localization & Characterization of drug binding sites in the human brain: Methodological considerations. In A. Biegon & N.D. Volkow (Eds.), *Sites of drug action in the human brain*. Boca Raton, FL: CRS Press,Inc.
- Biegon, A., Dillon, K., Volkow, N. D., & Fowler, J. S. (1995). Quantitative auto-radiographic localization and characterization of cocaine binding sites in the human brain post-moretm. In A. Biegon & N.D. Volkow (Eds.), Sites of drug action in the human brain. Boca Raton, FL: CRS Press, Inc.
- Blum, K., & Noble, E. (1993). Drug dependence and the A1 allele gene. *Drug Alc. Dep.*, 33(5).
- Blum, K., Noble, E., Sheridan, P., finley, O., et al. (1991). Association of the A1 allele of the D2 dopamine receptor gene with severe alcoholism. *Alcohol*, 8 (5), 409-416.
- Bonhoff, G. and Lewrenz, H. (1954). Über weckamine. Berlin, Springer (English version). In World Health Organization Technical Report Series 656, Geneva: World Health Organization.
- Bortner, R. W., & Hultsch, D. F. (1970). A multivariate analysis of correlates of life satisfaction in adulthood. *Journal of Gerontology*, 25, 41-47.
- Bradburn, N. M. (1969). The structure of psychological well-being. Chicago: Aldine.
- Bradburn, N. M., & Caplovitz, D. (1965). Reports on happiness. Chicago: Aldine.
- Braun, D. L. (1996, Jul. 28). Interview. In S. Gillbert, More men may seek eating-disorder help. *The New York Times*. In Comer, R. J. (1998). Abnormal Psychology (3rd edition). W. H. Freeman and company, New York.

- Braun, P. M. W. (1977). Psychological well-being and location in the social structure (Doctoral dissertation, University of the Southern California, 1976). *Dissertation Abstracts International*, 38, 2351A. Cited in Diener, E. (1984). Subjective Well-Being. *Psychological Bulletin*, 95 (3), 542-575.
- Brickman, P., Coates, D., & Janoff-Bulman. R., (1978). "Lottery Winners and Accident Victims: Is Happiness Relative?" *journal of Personality and Social Psychology*, 36, 917-927.
- Broota, K. D. and Singh, S. (1986). Adjustment problems and sociopersonal variables in drug abuse. *Indian Journal of Clinical Psychology*, 13(1), 59-63.
- Brunstein, J. C. (1993). Personal goals and subjective well-being. Journal of Personality and social Psychology, 65, 1061-1070.
- Cadoret, R. J., Yates, W. R., Thoughton, E., Woodworth, G., & Stewart, M. A. (1995). Adoption study demonstrating two genetic pathways to drug abuse. *Arch. Gen. Psychiat.* 52, 42-52.
- Calsyn, D. A., Fleming, C., Wells, E. A., & Saxton, A. J. (1996). Personality disorder subtypes among opiate addicts in methadone maintenance. *Psychol. Addic. Behav.*, 10(1), 3-8.
- Cameron, P. (1975). Mood as an indicant of happiness: Age, sex, social class, and situational differences. *Journal of Gerontology*, 30, 216-224.
- Campbell, A. (1981). The sense of well-being of in America: Recent patterns and trends. New York: McGraw-Hill.
- Campbell, A., Convers, P. E., & Rodgers, W. L. (1976). The quality of American life. New York: Russel Sage Foundation.
- Cantor, N. (1994). Life task problem solving: Situational affordances and personal needs. *Personality and Social Psychology Bulletin*, 20, 235-243.
- Cantor, N., & Harlow, R. E., (1994). Social intelligence and personality: Flexible life task pursuit. In R. J. Sternberg, & P. Ruzgis (Eds.), *Personality and Intelligence* (pp. 137- 168). New Work: Cambridge University Press.
- Cantor, N., & Kihlstrom. J. F. (1989). Social intelligence and cognitive assessments of Personality. In R. S. Wyer, Jr., & T. K. Srull (Eds.) *Advance in Social Cognition* (vol. 2, pp 1-59). Hillsdale, NJ: Lawrence Erlbaum Associates.

- Cantor, N., Norem, J. K., Niedenthal, P. M., Langston, C. A., & Brower, A. M. (1987). Life tasks, self-concept ideals, and cognitive strategies in a life transition. *Journal of Personality and Social Psychology*, 53, 1178-1191.
- Carey, K. B. & Carey, M. P. (1995). Reasons for drinking among psychiatric outpatients: Relationship to drinking patterns. *Psychol. Addic. Behav.*, 9 (4), 251-257.
- Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review*, 97, 19-35.
- Chaleby, Kutaiba, (1986). A comparative study of alcoholics and drug addicts in an Arabian Gulf Country. *Social Psychiatry*.
- Chee, A. (1973). A study of drug offenders in penange jail. In V. Nowlis and P. H. Teng (Ed.), Epidemiological pilot study on drug abuse in Malayasia. WHO Assignment Report. 42-55.
- Chein, I. (1964). Narcotics delinquency and social policy. New York: Basic Books.
- Chein, I. (1964). Narcotics, delinquency and social policy. New York: Basic Books. In H. A. Begum (Ed.) Understanding Drug Addicts: Some Psychological Studies. Centre for Psycho-Social Research and Training (CPSRT), Dhaka, 12.
- Chen, W. J., Loh, E. W., Hsu, Y. P., Chen, C., Yu. J., & Cheng, A. T. A. (1996). Alcohol Metabolising genes and alcoholism among Taiwanese Han men: Independent effect of ADH2, ADH3, and ALDH2. *Brit. J. Psychiat.*, 168,762-767.
- Chiddress, A. R., McLellan, A. et al (1993). Cue reactivity and cue reactivity interventions in drug dependence. In L. S. Onken, J. D. Blaine, & J.J. Boren (Eds.), *Behavioral treatments for drug abuse and dependence* (NIDA Research Monograph Series No. 137). Rockville, MD: National Institute on Drug Abuse.
- Chiddress, A. R., McLellan, A. T., & O'brein, C. P. (1984). Assessment and extinction of conditioned withdrawal-like responses in an integrated treatment for opiate dependence. In L. S. harris (Ed.), *Problems of drug dependence* (NIDA Research Monograph Series No. 55). Rockville, MD: National Institute on Drug Abuse.

- Chiddress, A. R., McLellan, A. T., & O'brein, C. P. (1988). Classically conditioned responses on cocaine and opioid dependence; A role in relapse? In B. A. Roy (Ed.), *Learning factors in substance abuse* (NIDA Research Monograph Series No. 84). Rockville, MD: National Institute on Drug Abuse.
- Choudhury, et al. (1981). Demography, morbidity and mortality in a Rural Community of Bangladesh. *Medical Research Council Bulletin*, 7,12-17.
- Cisin, I. H., & Calahan, D. (1970). The big drinkers. Newsweek, Jul. 6. 57.
- Clemente, F., & Sauer, W. J. (1976a). Life satisfaction in the United States. Social Forces, 54, 621-631.
- Coambs, R. B. & McAndrews, M. P. (1994). The effects of psychoactive substances on workplace performance. In S. Macdonald & P. Roman (Eds.), Research advances in alcohol and drug problems: Vol. 11. Drug testing in the workplace. New York: Plenum Press.
- Connell, P. H. (1958). *Amphetamine Psychosis*. London: Chapman & Hall.
- Cooney, N. L., Litt, M. D., Morse, P. A., Bauer, L.O., & Gaupp, L. (1997). Alcohol cue reactivity, negative-mood reactivity, and relapse in treated alcoholic men. *J. Abnorm. Psychol.*, 106(2), 243-250.
- Cooper, M. L. (1994). Motivations for alcohol use among adolescents: Development and validation of a four-factor model. *Psychol. Assess.*, 6(2), 117-128.
- Cornish et al., (1995). Treatment of substance-reladed disorders. In A. F. Schatzberg & C. B. Nemeroff (Eds.), *The American Psychiatric Press textbook of psychopharmacology*. Washington DC: American Psychiatric Press.
- Denis Leigh, C. M. B. Pare and John Mark (1977). 'A Concise Encyclopedia of Psychiatry, England: MTP Press Ltd., 05-08.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542-575.
- Diener, E. (1994). Assessing subjective well-being: Progress and opportunities. *Social Indicators Research*, 31, 103-157.

126

- Diener, E., & Fujita, F. (1995). Resources, personal strivings, and subjective well-being: A nomothetic and idiographic approach. *Journal of Personality and Social Psychology*, 68, 926-935.
- Diener, E., Sandvik, E., Seidlitz, L., & Diener, M. (1993). The relationship between income and subjective well-being: Relative or absolute? *Social Indicators Research*, 28, 195-223.
- Easterlin, R. A., (1974). Does economic growth improve the human lot? In P. A. David and M. W. Reder (Eds.), Nations and households in economic growth: Essays in honor of Moses Abramovitz. New Work: Academic Press, pp. 89-125.
- Edward, G (1979). British policies on opiate addiction. *Brit. Journal of Psychiatry.* 134, 01-13.
- Ellingwood, E. & Cohen, S. (Ed.) (1972). Current concepts on amphetamine abuse. Washington, DC: US Government Printing Office.
- Ellison. C. G. (1991). Religious involvement and subjective wellbeing. *Journal of Health and Social Behavior*, 32, 80-89.
- Emmons, R. A. (1986). Personal strivings: An approach to pertsonality and subjective well-being. *Journal of Personality and Social Psychology*, 51, 1058-1068.
- Emmons, R. A. (1992). Abstract versus concrete goals: Personal striving level, physical illness, and psychological well-being. *Journal of Personality and Social Psychology*, 62, 292-300.
- Emmons, R. A., & King, L. A. (1988). Conflict among personal strivings: Immediate and long-term implications for psychological and physical well-being, *Journal of Personality and Social Psychology*, 54, 1040-1048.
- Emmons, R. A., and Diener, E. (1985). Factors predicting satisfaction judgment: A comparative examination. *Social Indicators Research*, 16, 157-167.
- Facelmann, K. (1993, February 6). Marijuana and the brain: Scientists discover the brain's own THC. Sci. News, 143, 88-94.
- Farrell, M. P., Barnes, G. M., & Banerjee, S. (1995). Family cohesion as a buffer against the effects of problem-drinking fathers on psychological distress, deviant behavior, and heavy drinking in adolescents. *J. Hlth. Soc. Behav.*, 36, 377-385.

- Fawcett, J. & Busch, K. A. (1995). Stimulants in psychiatry. In A. F. Schatzberg & C. B. Nemeroff (Eds.), *The American Psychiatric Press Textbook of psychopharmacology*, Washington, DC: American Psychiatric Press, Inc.
- **Feroze, A. H. M.** (1988). Psychological parameters of drug dependents attending in a general hospital. FCPS Thesis. Department of Psychiatry. IPGM&R. Dhaka, Bangladesh.
- Fowler, J. S., Volkow, N.D. & Wolf, A. P. (1995). PET studies of cocaine in human brain. In A. Biegon, & N. D. Volkow, (Eds.), Sites of drug action in the human brain. Boca Raton, FL: CRS Press, Inc.
- Fraser, A. and Leigton, K. M. (1984). Characteristics of attendants at a Scottish drug dependence clinic. *Brit. Journal of Psychiatry*. 144, 307-310.
- Frazier, T. L. (1962). Treating youth drug users; A case worth approach. National Association of Social Workers. 7, 95-101.
- Freudiger, P. T. (1980). Life satisfaction among American women (Doctoral Dissertation, North Texas State University, 1979).). Dissertation Abstracts International, 40, 6438A. (University Microfilms No. 80-12,882). Cited in Diener, E. (1984). Subjective Well-Being. Psychological Bulletin, 95 (3), 542-575.
- Frey, K. A., Koeppe, R. A., & Holthoff, V. A. (1995). In vivo imaging of benzodiazepine receptors with positron emission tomography. In A. Biegon, & N. D. Volkow, (Eds.), Sites of drug action in the human brain. Boca Raton, FL: CRS Press.
- Gejman, P. V., Ram. A., Gelernter, J., Friedman, E., Cao, Q., et al. (1994). No structural mutation in the Dopamine d-2 receptor gene in alcoholism or schizophrenia. *JAMA*, 271 (3), 204-208.
- Gendreau, Paul and Gendreau, L. P. (1970). The addiction-prone personality: A study of Canadian heroin addicts. *Canadian Journal of Behavioral Science*. In Khan, et al. (1995-1996). Assessment of Personal Problems of drug-addicts and non-addicts. Bangladesh Journal of Psychology. 15, 47-56.
- Georg, K. N. (1988). An Assessment of Drug Abuse, Drug Users and Drug Prevention Services in City of Madras. Cited in Kohli, A. S. (ed.) *Research in Social Welfare*, vol. 3, Mehra Offset Press, Delhi.

- George, F. R. (1990). Genetic approaches to studying drug abuse: Correlates of drug self- administration. National Institute on Alcohol Abuse and Alcoholism Neuroscience and Behavioral Research Branch Workshop on the Neurochemical Bases on Alcohol-Related behavior. *Alcohol*, 7 (3), 207-211.
- Ghodse, A. H. et al. (1987). In patient treatment for drug abuse. *Brit. Journal of Psychiatry*. 5, 72-75.
- **Glenn, N. D.** (1975). The contribution of marriage to the psychological well-being of males and females. *Journal of Marriage and the Family*, 37, 594-600.
- Glenn, N. D., & Weaver, C. N. (1979). A note on family situation and global happiness. *Social Forces*, 57, 960-967.
- Goldstein, A. (1994). Addiction From biology to drug policy. New York: W. H. Freeman.
- Goodwin, D. W. (1976). Adoption studies of alcoholism. *J. Operational Psychiat.*, 7(1), 54-63.
- Goodwin, D. W. (1976). *Is alcoholism hereditary*? New York; Oxford University Press.
- Goodwin, D. W. (1984). Studies of familial alcoholism: A review. *J. Clin. Psychiat.*, 45(12 sect.2), 14-17.
- Goodwin, D. W., Schulsinger, F., Hermansen, L., Guze, S. B., & Winokur, G. A. (1973). Alcohol problems in adoptees raised apart from alcoholic biological parents. *Arch. Gen. Psychiat.*, 128, 239-143.
- Gordis, E. (1991). Alcohol research: Promise for the decade. Rockville, MD: National Institute of Alcohol Abuse and Alcoholism.
- Graham, Kathryn and Gillis, Kelly (1999). The relationship between psychological well-being and alcohol and drug use following substance misuse treatment. Substance Use and Misuse. 34(9), 1199-1222.
- Grinspoon, L., & Bakalar, J. B. (1986). Can drugs be used to enhance the psychotheraputic process? *Amer. J. Psychiat.*, 40(3),393-404.
- Gupta, S. P. (1985). The Youth Escapists who take to Drugs. Social Welfare, 29(4), 11.

- Gurin, G., Veroff, J., & Feld, S. (1960). Americans view their mental health. New York: Basic Books.
- Harlow, R. E., & Cantor, N. (1996). Still participation after all these years: A study of life task participation in later life, *Journal of Personality and Social Psychology*, 71, 1235-1249.
- Heabree, W. C., Nahas. G. G., & Huang, H. F. S. (1979). Changes in human spermatozoa associated with high dose marihuanasmoking. In G. G. Nahas &W. D. M. Paton (Eds.), Marihuana: Biological effects. Elmsford, NY: Pergamon Press.
- Hendermarch, I. (1972). Drug and their abuse: A group particularly 'at risk'. *Brit. J. Addict.*, 67, 209-214. In H. A. Begum (Ed.) *Understanding Drug Addicts: Some Psychological Studies*. Centre for Psycho-Social Research and Training (CPSRT), Dhaka, 12.
- Henderson, P. and Gillespie, B. (1978). Dependence on drug and alcoho; Oxford University Press. 390-515.
- Hill, S. Y., Muka, D., Steinhauer, S., Locke, J. (1995). P300 amplitude decrements in children from families of alcoholic female probands. *Bio. Psychiat.*, 35, 622-632.
- **Hollister, I. E. (1986).** Health aspects of cannabis. *Pharmacol. Rev.*, 38(1), 1-20.
- Horton, D. (1943). The functions of alcohol in primitive societies: A cross-cultural study. *Quart. J. Stud. Alcohol.*, 4, 199-320.
- http://www.ahsania.org search terms: drug addiction Bangladesh. Search date: March 20, 2003
- Hughes, J. R., Oliveto, A. H., Bickel, W. K., Higgins, S.T., & Badger, G, J. (1995). The ability of low doses of caffeine to serve as reinforcess in human: *A replication.Exp. Clin. Psychopharmacol.*, 3(4), 358-363.
- Islam, K. (2002). Rajshahi Biswoabiddaloyer Madokaskata chatrader Mulloyabodh (in bangla). Unpublished M. Sc. Project. University of Rajshahi, Bangladesh.
- **Jacobs, B. L.** (1994). Serotonin, motor activity and depression-related disorders. *Amer. Sci.*, 82, 456-463.
- Jacobs, B. L. (Ed.), (1994). Hallucinogens: neurochemical, behavioral, and clinical perspective. New York: Raven Press.

- Jacobs, B. L. (Ed.). (1984). Hallucinogens: neurochemical, behavioral, and clinical perspectives. New York: Raven Press. In Comer, R. J. (1998). Abnormal Psychology (3rd edition). W. H. Freeman and company, New York.
- Jacobson, G. R., Ritter, D. P., & Mueller, L. (1977). Purpose in life and personal value among adult alcoholics. *Journal of Clinical Psychology*, vol. 33, No. 1, 314-316.
- James, I. (1971). The Changing Pattern of Narcotic Addiction in Britain 1959-1969. In P. Hell, R. Murrey and A. Thorley (Eds.), Essen, Postgrad. Psycho. 2nd ed. Grune and Straton inc.
- Jones, R. T., & Benowitz, N. (1976). The 30-day trip clinical studies of cannabis tolerance and dependence. In M. C. Braude & S. Szara (Eds.), *Pharmacology of Marijuana*. New York: Raven Press.
- Jonhnson, B. D. (1973). Marijuana users and drug subculture. In *Introduction to Psychology*. B. Hilgard and Atkinson (Eds.), 408.
- Kaij, L. (1960). Alcoholism in twins: Studies on the etiology and sequels of abuse of alcohol. Stockholm: Almquist & Wiksel.
- Karna, M. N. (1998). An Assessment of Drug Abuse, Drug Users and Drug Prevention Services in Dimapur. In Kohli, A. S. (ed.) *Research in Social Welfare*, vol. 3, Mehra Offset Press, Delhi.
- Kendler, K. S., Heath, A., Neate, M., Kessler, R., & Eaves, L. (1992). A population-based twin study of alcoholism in women, *JAMA*, 268(14), 1877-1882.
- Kendler, K. S., McGuire, M., Gruenberg, A. M., & Walsh, D. (1994). An epidemiological, clinical, and family study of simple schizophrenia in Country Roscommon, Ireland. *Amer. J. Psychiat.*, 15(1), 27-34.
- Korenman, S. G. & Barchas, J. D. (1993). Biological Basis of substance abuse. New York: Oxford University Press.
- Kurtz, D. L., Stewart, R, B., Zweifel, M. Li, T.- K., & Froehlich, J. C. (1996). Genetic differences in tolerance and sensitization to the sedative-hypnotic effects of alcohol. *Pharmacol. Biochem. Behav.*, 53 (3), 585-591.
- Larsen, R. (1978). Thirty years of research on the subjective well-being of older Americans. *Journal of Gerontology*, 33, 109-125.

- Larsen, R. J., Diener, E., Cropanzano, R. S. (1987). Cognitive operations associated with individual differences in affect intensity. *Journal of Personality and Social Psychology*, 53, 767-774.
- Lawford, B. R., Young, R. McD., Rowell, J. A., Gibson, J. N. et al (1997). Association of the D₂ dopamine receptor A1 allele with alcoholism; Medical severity of alcoholism and type of controls. *Bio. Psychiat.*, 41, 386-393.
- Linsky, A. S., Strauss, M. A., & Colby, J. P. (1985). Stressful events, Stressful conditions and alcohol problems in the United States: A partial test of Beles's theory. *J. Stud. Alc.*, 46(1), 72-80.
- Magnus, K., Diener, E., Fujita, F., & Pavot, W. (1993). Extraversion and neuroticism as predictors of objective life events: A longitudinal analysis. *Journal of Personality and Social Psychology*, 65, 1046-1053.
- Mahmuda, A. (1998). Effect of Education, Income, Age and Family Structure on Psychological Well-being. *Bangladesh Psychological Studies*, 8, 9-20.
- Mancini, J. A., & Orthner, D. K. (1980). Situational influences on leisure satisfaction and morale in old age. *Journal of the American Geriatrics Society*, 28, 466-471.
- Mâsse, L. C., & tremblay, R.E.(1997). Behavior of boys in kindergarten and the onset of substance use during adolescence. *Arch. Gen. Psychiat.*, 54, 62-68.
- Mathew, R., Wilson, W., Humphreys, D., Lowe, J., & Weithe, K. (1993). Depersonalization after marijuana amoking. *Bio. Psychiat.*, 33, 431-441.
- McCrae, R. R., & Costa, P. T. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality*, 54, 385-405.
- McMahon, R. C., & Richards, S. K. (1996). Profile patterns, consistency, and change in the million clinical multiaxial inventory-II in cocaine abuse. *J. Clin. Psychol.*, 52(1), 75-79.
- Melo, J. A., Shendure, J., Pociask, K., & Silver, L. M. (1996). Identification of sex-specific, quantitative trait loci controlling alcohol preference in C57BL/6 mice. *Nature genetics*, 13, 147-153.

- Meyer, R. F. (1995). Biology of psychoactive substance dependence disorders: Opiates, cocaine, and ethanol. In A.F. Schatzberg 7 C. B. Nemeroff (Eds.), *The American Psychiatric Press textbook of psychopharmacology*. Washington, DC: American Psychiatric Press, Inc.
- Miller, L. (1985). Neuro-psychological assessment of substance abuser: Review and recommendations. *Journal of Substance Abuse Treatment*. Vol. 2(1),
- Miller, N. S., & Gold, M. S. (1990). Benzodiaxepines; Tolerance, dependence, abuse, and addiction. *J. Psychoactive Drugs*, 22(1), 23-33.
- Morgan, M. J., London, E. D. (1995). The use of the positron emission tomography to study the acute effects of addictive drugs on cerebral metabolism. In A. Biegon, & N. D. Volkow, (Eds.), Sites of drug action in the human brain. Boca Raton, FL: CRS Press, Inc.
- Mullis, R. J., (1990). "Measures of Economic Well-being as Predictors of Psychological well-being". *Social Indicators Research*, 26, 119-133.
- Mustafa, Islam. M. N., Rahman, M., and Salahuddin, A. K. M., (1989). Prevalence of hepatitis B surface antigen (HB&AG) among parental drug abusers at Dhaka. *Bangladesh Med. Res. Council Bull.* 15, 1-7.
- Myers, D. G. (1992). The pursuit of happiness: who is happy—and why. New York: William Morrow.
- Nagpal, R. and Sell, H. (1985). Subjective Well-being. SEARO Regional Health Papers No. 7. New Delhi, World Health Organization.
- Nahas, G. G. (1984). Toxicology and pharmacology. In G. G. Nahas (Ed.), *Marijuana in science and medicine*. New York: Raven Press.
- Nash, J. M. (1997, May,5). Addicted. Time. p.68-76.
- Nestler, E. J., Fitzgeradd, L. W., & Self, D. W. (1995). Neurobiology. In J. M. Oldham & M. B. Riba (Eds.), *American Psychiatric Press review of Psychiastry*, vol.140. Washington, DC: American Psychiatric Press.

- Nishino, S., Mignot, E., & Dement, W.C. (1995). Sedative-hypnotics. In A. F. Schatzberg & C. B. Nemeroff (Eds.). *The American Psychiatric Press testbook of Psychopharmacology*. Washington, D. C: American Psychiatric Press.
- Norem, J. K., & Cantor, N. (1986). Defensive pessimism: "Harnessing" anxiety as motivation. *Journal of Personality and Social Psychology*, 51, 1208-1217.
- Norem, J. K., & Illingworth, K. S. S. (1993). Strategy-dependent effects of reflecting on self and tasks: implications of optimism and defecsive pessimism. *Journal of Personality and Social Psychology*, 65, 822-835.
- Nye, J. S., Seltzman, H. H., Pitt, C. G., & Synder, S. H. (1985). High-affinity cannabinoid binding in brain membranes labeled with [3H]-5- trimethylammonium Δ8-tetrahydrocannabinol. *J. Pharmacol. Exp. Ther.*, 234, 784-791.
- Nye, J. S., Snowman, A. M., Voglmaier, S., & Synder, S. H. (1989). High-affinity cannabinoid binding site; regulation by ions, ascorbic acid, and nucleotides. *J. Neurochem.* 52, 1892-1897.
- Nye, J. S., Voglmaier, S., Martenson, R. E., & Synder, S. H. (1988). Myelin basic protein is an endogenous inhibitor of the high-affinity cannabinoid binding site in brain. *J. Neurochem.*, 50, 1170-1178.
- O'Brien, C. P., et al. (1975). Conditioning of narcotic abstinence symptoms in human subjects. *Drug. Alc. Dep., 1,* 115-123.
- O'Rourke and Taylor, J. A. (1987). Referral to a Scottish drug dependence unit: a descriptive study. *Brit. Journal of Psychiatry*. 151, 240-243.
- Oostveen, T., Knibbe, R., & de Vries, H. (1996). Social influence on young adults' alcohol consumption: Norms, modeling, pressure, socializing, and conformity. *Addic. Behav.*, 21 (2),187-197.
- Palacios, J. M., Mengod, G., & Cortés, R. (1995). Autobiographic localization of benzodiazepine receptors in the human brain postmortem. In A. Biegon N. D. Volkow (Eds.), Sites of drug action in the human brain. Boca Raton, FL: CRC Press.
- Palmore, E. (1979). Predictors of successful aging. The Gerontologist, 19, 427-431.

- Palmore, E., & Luikart, C. (1972). Health and social factors related to life satisfaction. *Journal of Health and Social Behavior*, 13, 68-80.
- Peele, S. (1989). Diseasing of America: Addiction treatment out of control. Lexington, MA: Lexington Books/D.C. Heath. In Comer, R. J. (1998). Abnormal Psychology (3rd edition). W. H. Freeman and company, New York.
- **Pollner, M.** (1989). Divine relations, social relations, and well-being. *Journal of Health and Social Behahior*, 30, 92-104.
- **Pope, H. G., & Yurgelun-Todd, D.** (1996). The residual cognitive effects of heavy marijuana use in college students. *JAMA*, 275(7), 521-527.
- Pronsiri et al., (1977). Psycho-social factor associated with drug addicts. *Brit. Journal of Psychiatry.* 131, 05-09.
- **Proshant, S. (1987).** Contributory factors in drug addiction. *Indian Education Design.* 1(5), 87.
- **Prothom-alo**, Reg No. DA 1880, 6th year, Dhaka, Wednesday, issue-62, p. 17.
- Qureshi, (1989). In *Monoroma*, September, vol. 1(8), 12-33.
- Ray, O., Kris, C. (1993). Drugs, society, & human behavior. St. Louis: Mosby.
- Remington, B., Roberts, P., & Glautier, S. (1997). The effect of drink familiarity on tolerance to alcohol. *Addict. Behav.*, 22(1), 45-53.
- Riddick, C. C. (1980). The life satisfaction of retired and employed older women: A re-examination of the disengagement theory (Doctoral Dissertation, Pennsylvania State University, 1980). Dissertation Abstracts International, 41, 2327A. (University Microfilms No. 80-24, 483). Cited in Diener, E. (1984). Subjective Well-Being. Psychological Bulletin, 95 (3), 542-575.
- Robinson, j. p. (1969). Life satisfaction and happiness. In J. P. Robinson & P. R. Shaver (Eds). *Measures of Social Psychological Attitudes* (pp. 11-140. Ann Arbor: University of Michigan Institute for Social Research.

- Rosenberg, C. M. (1968). Young drug addicts: Background and personality. *Journal of Nervous & Mental Desiase*. In M. H. A. Khan, Assessment of Personal Problems of the drug-addicts and non-addicts by applying Mooney problem Check List. Unpublished M. Sc. thesis. Department of Psychology, University of Rajshahi, Bangladesh.
- Rosse, R., Fay-McCarthy, M., Collins, J., Risher-Flowers, D., Alim, T., & Deutsch, S. (1993). Transient compulsive for aging behavior associated with crack cocaine user. *Amer. J. Psychiat.*, 150(1), 155-156.
- Sadava, S. W. (11973). Pattern of College Students drug use, a longitudinal learning. *Psychological Report*, 33, 75-78.
- Sanchez, J. E. and Johnson, B. D. (Kean Coll) (1987). Women and the drugs-crime connection: Crime rates among drug abusing women at Risks Island. *Journal of Psychoactive Drugs*, 19 (2), 205-216. In Banu, A. (March, 2003). Drug Addiction Among the Youth of Bangladesh: A study in selected areas. Unpublished M. Phil thesis. Institute of Bangladesh Studies, University of Rajshahi, Banhladesh.
- Sauer, W. (1977). Morale of the urban aged: A regression analysis by race. *Journal of Gerontology*, 32, 600-608.
- Scheier, M. F., & Carver, C. S. (1993). On the power of the positive thinking: The benefits of being optimistic. *Current Directions in Psychological Science*, 2, 26-30.
- Sehwartz, N., & Strack, F. (1999). Reports on subjective well-being: Judgmental processes and their methodological implications. In D. Kahneman, E. Diener, & N. Schwarz, N. (Eds). Well-being: The foundation of Hedonic Psychology. New York: Russel Sage Foundation, 61-84.
- **Sell & Robinson** (1998). Perceptions of College Life, Emotional Well-being and Patterns of Drug and Alcohol Use among Oxford Undergraduates. *Oxford Review of Education*, 24(2), 235-243.
- Shaham, Y., Rajabi, H., & Stewart, J. (1996). Relapse to heroin-seeking in rats under opioid maintenance: The effects of stress, heroin priming, and withdrawal, *J. Neurosci.*, 16(5), 1957-1963.
- Sharma, S. P. (1983). Liqur of Life Choice Before Addicts. Social Welfare, 30 (7), 7.

- Shedler, J., & Block, J. (1990). Adolescent drug use and Psychological health: A longitudinal inquiry. *Amer. Psychol.* 45(5), 612-630.
- Shucksmith, J., Glendinning, A., & Hendry, L. (1997). Adolescent drinking behavior and the role of family life: a Scottish perspective. *J. Adolescence*, 20 85- 101.
- Smart, R. G. and Fejer, D. (1978). Drug use among adolescents and their parents: Using the generation gap in mood modification. *J. Abnorm. Psychol.* 70, 153-166.
- Smith, E., North. C. & Spitznagel, E. (1993). Alcohol, drugs, and Psychiatric comorbidity among homless women: An epidemiological study, *J. Clin. Psychiat.* 54(3), 82-87.
- Snyder, S. (1986). Drugs and the brain. New York: Scientific American Library.
- Snyder, S. (1991). Drugs, neurotransmitters, and the brain. In P. Corsi (Ed.), *The enchanted loom: Chapters in the history of neuroscience*. New York: Oxford University Press.
- Sobhan (September 1989). In Monoroma. Vol. 1 (8). In Banu, A. (March, 2003). Drug Addiction Among the Youth of Bangladesh: A study in selected areas. Unpublished M. Phil thesis. Institute of Bangladesh Studies, University of Rajshahi, Banhladesh.
- Solomon, R. L. (1980). The opponent-process theory of acquired motivation: The costs of pleasure and the benefits of pain. *Amer. Psychol.*, 35. 691-712. In Comer, R. J. (1998). Abnormal Psychology (3rd edition). W. H. Freeman and company, New York.
- Spencer, C. E. & Navaratnam, V. (1981). Drug abuse in East Asia. Kualampur, Oxford University Press.
- Spencer, S. M., & Norem, J. K. (1996). Reflection and distriction: Dfensive pessimism, strategic optimism, and performance. *Personality and Social Psychology Buulletin*, 22, 354-365.
- Spreitzer, E., & Snyder, E. E. (1974). Correlates of life satisfaction among the aged. *Journal of Gerontology*, 29, 454-458.
- Stewart, S. H., Zeitlin, S. B., & Samoluk, S. B. (1996). Examination of a three-dimensional drinking motives questionnaire in a young adult university sample. *Behav. Res. Ther.*, 34(1),61-71.

Strassman, R. J. (1995). Human Psychopharmacology of N, N-dimethyltryptamine. Third IUPHAR Satellite Meeting: Clinical and preclinical studies of hallucinogens. *Behav. Brain Res.* 73(1-2), 121-124.

- Sylvia Kairouz and Lise Dubé (2000). Abstinence and Well-being Among Members of Alcoholics Anonymous: Personal Experience and Social Perceptions. *The Journal of Social Psychology*. 140(5), 565-579.
- Taylor, S. E., Wood, J. V., & Lichtmen, R. R. (1983). It could be worse: Selective evaluation as a response to victimization. *Journal of Social Issues*, 39, 19-40.
- **The Daily Ittefaq**, Reg. No. DA 84, 50th year, 48th issue, Dhaka, Sunday, 10 February 2002
- **Toseland, R., & Rasch, L.** (1979-1980). Correlates of the life satisfaction: An AID analysis. *International Journal of Aging and Human Development*, 10, 203-211.
- **Trujillo, K. A., & Akil, H. (1991).** The NMDA receptor antagonist MK-801 increases morphine catalepsy and lethality. *Pharmacol. Biochem. Behave.*, 38 (3), 673-675.
- Turner, E., Ewing, J., Shilling, P., Smith, T., Irwin, M., Schuckit, M., & Kelsoe, J. (1992). Lack of association between an RFLP near the D2 dopamine receptor gene and severe alcoholism. *Bio. Psychiat.* 31(3), 285-290.
- UNDCP (United Nations International Drug Control Programme). (1997). World Drug Report. Oxford University Press Inc., New York. 9- 240.
- UNDCP (United Nations International Drug Control Programme). (2000). World Drug Report. In UNODC (United Nations Office on Drugs and Crime). (2003). Global Illicit Drug Trends. United Nations, New York. p. 101.
- United Nations Association of Bangladesh (UNAB) (1989). *UN Against Drug Abuse*. Published by Syed Ahmad Hossain, UNAB, Dkaka, Bangladesh.
- UNODC (United Nations Office on Drugs and Crime). (2003). Global Illicit Drug Trends. United Nations, New York. p. 101.

- **Vallant, G. E.** (1983). Natural history of male alcoholism: V. Is alcoholism the cart or the horse to sociopathy? *Bril. J. Addict.*, 78(3),317-326.
- Varma, V. K. et al (1988). Cannabis and cognitive functions: a prospective study. *Drug Alc. Dep.*, 21, 147.
- Veenhoven, R., (1988). "The Utility of Happiness?" Social Indicator Research, 20, 334-354.
- **Veenhoven**, R., (1991). Is happiness relative? *Social Indicator Research*, 24, 1-34.
- Veenhoven, R., (1994). "In Happiness a Trait?". Social Indicator Research, 32, 101-160.
- Volfuena, A., Hernandez del Río, M. J., and Garcia olmos, A. M. (1985). Drug addiction as a factor of neuropsychological impairment (English version of Spanish article). In Granic, Lois and associates (Ed.), *The Psychological Abstracts*, Arlington: The American Psychological Association, Inc., 1986.
- Volkow, N. D., Wang, G. J., Fowler, J. S., London, J., Gatley, S. J., Hitzemann, R., Chen, A. D. Dewey, S. L., & Pappas, N. (1997). Decreased striatal dopaminergic responsiveness in detoxified cocaine-dependent subjects. *Nature*, 386 (6627), 803-833.
- Waisberg, J. L. & Porter, J. E. (1994). Purpose in life and outcome of treament for alcohol dependence. *British Journal of Psychology*, 33, 49-63.
- Ward, D. A. (1985). Conceptions of the nature and treatment of alcoholism. J. Drug Issue, 15(11), 3-16.
- Washtom, A. M; Gold, M. and Pottash, A. C. (1984). Upper-income abuser. Advances in Alcohol & Substance abuse.
- Wessman, A. E. (1957). A psychological inquiry into satisfactions and happiness (Doctoral Dissertation, Princeton University, 1956). *Dissertation Abstracts International*, 17, 1384. (University Microfilms No. 00-20, 168). In Diener, E. (1984). Subjective Well-Being. Psychological Bulletin, 95 (3), 542-575.
- WHO (World Health Organization) (1980). Assessment of Public Health and Social Problems Associated with the use of Psychotropic drug. Technical Report Series 656, Geneva. World Health Organization.

- Will, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin*, 90, 245-271.
- Willis, T. A., McNamara, G., Vaccaro, D., & Hirky, A. E. (1996). Escalated substance use: A longitudinal grouping analysis from early to middle adolescence. *j. Abnorm. Psychol.*, 105(2), 166-180.
- Wise, R. A. (1996). Neurobiology of addiction. Curr. Opin. Neurobiol., 6, 243-251.
- Wood, J. V., Taylor, S. E., & Lichtman, R. R. (1985). Social comparison in adjustment to breast cancer. *Journal of Personality and Social Psychology*, 49, 1169-1183.
- Yudofsky, S., Silver, J., & Hales, R. (1993). Cocaine and aggressive behavior: Neurobiological and clinical perspectives. *Bull. Manninger Clin.*, 57 (2), 218-226.
- Zack, M., & Vogel-Sportt, M. (1995). Behavioral tolerance and sensitzation to alcohol in humans: The contribution of learning. *Exp. Clin. Psychopharmacol.*, 3(4), 396-401.

Appendices

Appendix-A ব্যক্তিগত তথ্য সম্পর্কিত প্রশ্নমালা

١.	বয়স:	২.	निञ्जः	
৩.	পেশা:			
8.	শিক্ষাগত যোগ্যতা (নিজের):			
œ.	পিতার শিক্ষা:	৬.	পিতার পেশা:	
٩.	মাতার শিক্ষা:	ъ.	মাতার পেশাঃ	
৯.	পরিবারের মোট মাসিক আয়:			
	ক. চাকুরী থেকে আয়: গ. অন্যান্য উৎস থেকে আয়:	ş	খ. ব্যবসা থেনে	ক আয়:
30	. আপনার বাসস্থানের অবস্থান (যেখানে অধিক	াংশ স	নময় কাটিয়েছেন/ব	কাটাচ্ছেন):
	গ্রাম/ শহর/শিল্প এলা	কা -		
22	. আপনার পরিবারের মোট সদস্য সংখ্যা কত?			
75	. আপনার ভাই-বোনের সংখ্যা কত?			
20	. আপনি কি মাদক দ্রব্যে আসক্ত? হ্যাঁ / না			40
	(আপনার উত্তর হাঁা হলে নিচের প্রশ্নগুলি	লর উ	ত্তর দিন)	*
28	. আপনি মাদক দ্রব্যে আসক্ত হলে কি কি মাদ লিখুন) ক খ গ			
20	. আপনি মাদক দ্রব্য গ্রহণ করলে, একসাথে এ	একাধি	কে মাদক দ্ৰব্য গ্ৰহ	ণ করেন কি? হ্যাঁ / না
26). আপ <mark>নি মাদক দ্ৰ</mark> ব্যে আসক্ত হলে, কতদিন ে	থকে	মাদক দ্ৰব্য <mark>গ্ৰহণ</mark>	করছেন?
20	 আপনি কি আপনার মাদকাসক্তির চিকিৎসা ব 	করতে	ত আগ্ৰহী? হাঁা /	না

Appendix - B

জীবনযাত্রার বিভিন্ন দিক সর্ম্পকিত প্রশ্নুমালা

নির্দেশনা

মানুষ বিভিন্ন পরিবেশে বাস করে। তাছাড়া তাদের মধ্যে বিস্তর পার্থক্য রয়েছে। তাই জীবন ও আপন জগৎ সম্বন্ধে সকলের অনুভূতি এক রকম হয় না। স্বাস্থ্য, পরিবার, কাজ-কর্ম ইত্যাদি প্রাত্যহিক বিষয়গুলো নিয়ে তাঁরা কি ভাবেন সে সম্বন্ধে জানা প্রয়োজন। জনগণের জীবনযাত্রার মান উনুয়নের জন্য এ বিষয়ে জ্ঞানলাভের প্রয়োজনীয়তা অনস্বীকার্য।

জীবনের বিশেষ বিশেষ দিক এবং সার্বিক জীবন সম্বন্ধে আপনি কি মনে করেন সে-সম্বন্ধে জানার জন্যেই প্রশ্নমালাটি প্রণয়ন করা হয়েছে। এতে অনেকগুলো প্রশ্ন রয়েছে। প্রতিটি প্রশ্ন মনোযোগ সহকারে পড়ুন এবং প্রদত্ত উত্তরের মধ্যে যে উত্তরটি আপনার নিজের বলে বিবেচনা করেন সেটিকে বৃত্ত O দিয়ে চিহ্নিত করুন। উদাহরণস্বরূপ, প্রথম প্রশ্নের ক্ষেত্রে, যদি আপনি মনে করেন আপনার সাধারণ স্বাস্থ্য ভালো এবং শারীরিকভাবে যোগ্য, তবে অনুগ্রহ করে প্রদত্ত উত্তরের মধ্যে "খুব ভালো" ১ বৃত্তাবদ্ধ করুন। অনেক সময় মনে হতে পারে প্রদত্ত উত্তরের কোন উত্তরই আপনার অনুভূতির সাথে পুরোপুরি মিলছে না। সে ক্ষেত্রে যেটি আপনার উত্তরের সবচেয়ে কাছাকাছি মনে হয় সেটিকে চিহ্নিত করুন।

আপনার দেয়া তথ্যের গোপনীয়তা সম্পূর্ণভাবে রক্ষা করা হবে এবং তা কেবল মাত্র গবেষণা কাজে ব্যবহার করা হবে। কাজেই সম্পূর্ণ খোলা মনে উত্তর দিয়ে আমাদের প্রচেষ্টাকে সাফল্যমন্ডিত করে তুলুন।

ধন্যবাদ

প্রমালা

- ১. আপনার নিজের সাধারণ স্বাস্থ্য এবং শারীরিক যোগ্যতা সম্পর্কে আপনার অভিমত কি?
 - (১) খুব ভাল
 - (২) মোটামুটি ভাল
 - (৩) তেমন ভাল নয়
- ২. আপনার শিক্ষাগত যোগ্যতা নিয়ে আপনি কতটুকু সুখী?
 - (১) খুব সুখী
 - (২) মোটামুটি সুখী
 - (৩) তেমন সুখী নই
 - (৪) প্রযোজ্য নয়

৩. আপনার চাকুরী বা সম্পত্তি যদি খোয়া যায় তবে কি আপনি অপরের পর্যাপ্ত সাহায্য পাবেন বলে

বিশ্বাস রাখেন?

- (১) খুব বেশী
- (২) কিছুটা
- (৩) তেমন বেশী নয়
- 8. আপনার পারিবারিক জীবন কেমন মনে হয়?
 - (১) খব ভাল
 - (২) মোটামুটি ভাল
 - (৩) তেমন ভাল নয়
- ৫. আপনার সাথে আপনার স্বামী/স্ত্রীর সম্পর্ক সম্বন্ধে আপনি কি মনে করেন?
 - (১) খুব ভাল
 - (২) মোটামুটি ভাল
 - (৩) তেমন ভাল নয়
 - (৪) প্রযোজ্য নয়
- ৬. আপনার সাথে আপনার সন্তানদের সম্পর্ক কেমন?
 - (১) খুব ভাল
 - (২) মোটামুটি ভাল
 - (৩) তেমন ভাল নয়
 - (8) প্রযোজ্য নয়
- ৭. আপনার সাথে আপনার বন্ধু-বান্ধবদের সম্পর্ক কেমন?
 - (১) খুব ভাল
 - (২) মোটামুটি ভাল
 - (৩) তেমন ভাল নয়
- ৮. চার পাশের লোকজন আপনাকে পছন্দ করে বলে কি আপনি মনে করেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন ভাল নয়
- ৯. আপনার কাজ কর্মে আপনি মনোযোগী হতে পারেন কি?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়

- ১০. সংকটময় পরিস্থিতিতেও আপনি কি নিজেকে শান্ত রাখতে এবং নিজেকে নিয়ন্ত্রণে রাখতে পারেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ১১. কোন পরিস্থিতি আশানুরূপ না হলে সে-পরিস্থিতিকে মোকাবেলা করতে পারেন বলে আপনার মনে হয় কি?
 - (১) বেশীর ভাগ সময়
 - (২) মাঝে মাঝে
 - (৩) প্রায় কখনই নয়
- ১২. পরিবারের সদস্য, বন্ধু-বান্ধব অথবা প্রতিবেশীর মধ্যে এমন কেউ আছে কি যার সাথে আপনি প্রয়োজনে খোলাখুলি আলাপ করতে পারেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ১৩. জরুরী অবস্থায়, যেমন, আপনার সব কিছু যদি পুড়ে অথবা চুরি হয়ে যায় তখন আপনার আত্মীয়- স্বজন অথবা বন্ধু-বান্ধব আপনাকে সাহায্য করবে বলে আপনি বিশ্বাস করেন কি?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ১৪. অনেকটা স্বর্গীয় সুখের মত প্রচন্ড সুখের অনুভূতি কি আপনার কখনো হয়েছে?
 - (১) বেশীর ভাগ সময়
 - (২) মাঝে মাঝে
 - (৩) প্রায় কখনই নয়
- ১৫. আপনার কি মাঝে মাঝে মনে হয় যে আপনার চার পাশের পরিবেশ এবং আপনি নিজে একই শক্তির একটি অংশ?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ১৬. আপনার লক্ষ্যে আপনি একা নন, এই বিশ্বাস কি আপনাকে আতা-বিশ্বাস ও শক্তি যোগায়?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়

- ১৭. বৃহত্তর দলের (নিজ পরিবার ছাড়া) মূল্যবোধ, আগ্রহ অথবা বিশ্বাসের অংশীদার হতে পারা কি আপনি আভ্যন্তরীণ শক্তির উৎস বলে মনে করেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ১৮. আপনিও বিশ্বমানব পরিবারের একজন একথা ভেবে মাঝে মাঝে কি আপনি সুখ অনুভব করেন?
 - (১) প্রায়ই
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ/কখনও নয়
- ১৯. আপনি কি আপনার জীবনে ধর্মীয় সার্থকতা খুঁজে পান?
 - (১) ভীষণভাবে
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ২০. আপনি কি মনে করেন আপনার জীবনকে আপনি যেভাবে পরিচালিত করতে চান সেভাবে চালিত করার ক্ষমতা আপনার আছে?
 - (১) বেশীর ভাগ সময়
 - (২) মাঝে মাঝে
 - (৩) প্রায় কখনই নয়
- ২১. সংকটের সময় (যা আপনার স্বাভাবিক জীবনযাত্রা ব্যাহত করতে পারে) আপনি পরিস্থিতির যথার্থ মোকাবেলা করতে পারেন বলে কতখানি আতাবিশ্বাসী?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ২২. আপনি আপনার জীবনে যা কিছু অর্জন করেছেন সে-সম্পর্কে আপনি কি মনে করেন?
 - (১) খুব ভাল
 - (২) মোটামুটি ভাল
 - (৩) তেমন ভাল নয়
- ২৩. সাম্প্রতিক কালে আপনি যা করেছেন তাতে সামগ্রিকভাবে আপনি কতটা সুখী?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়

- ২৪. সবকিছু মিলে এখন আপনার দিনকাল কেমন যাচ্ছে বলে মনে করেন?
 - (১) খুব ভাল
 - (২) মোটামুটি ভাল
 - (৩) তেমন ভাল নয়
- ২৫. এখন যেভাবে সবকিছু চলছে তাতে ভবিষ্যতে খাপ খাওয়ানোর ব্যাপারে আপনি কতটুকু আত্ম-বিশ্বাস অনুভব করেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ২৬. অতীতের তুলনায় আপনার বর্তমান জীবনকে কেমন মনে করেন?
 - (১) খুব সুখী
 - (২) মোটামুটি সুখী
 - (৩) তেমন সুখী নই
- ২৭. অন্যদের তুলনায় আপনার জীবনকে কেমন মনে করেন?
 - (১) খুব সুখী
 - (২) মোটামুটি সুখী
 - (৩) তেমন সুখী নই
- ২৮. আপনি আপনার জীবনকে কি চিত্তাকর্ষক বলে মনে করেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ২৯. আপনি কি আপনার জীবনধারাকে উপভোগ্য বলে মনে করেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ৩০. আপনি আপনার জীবনকে কি মূল্যবান মনে করেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ৩১. আপনার পরিবার স্বামী/স্ত্রী উভয়েই কি উপার্জনক্ষম সদস্য?
 - (১) হাা
 - (২) না
 - (৩) প্রযোজ্য নয়

- ৩২. আপনার পরিবারে পারিবারিক আয় কিভাবে খরচ করা হবে সে-সম্পর্কে সদস্যদের মধ্যে ভাল সমঝোতা আছে কি?
 - (১) বেশীর ভাগ সময়
 - (২) মাঝে মাঝে
 - (৩) প্রায় কখনই নয়
- ৩৩. আপনি কি মনে করেন আপনারা পরিবারের অধিকাংশ সদস্য ঘনিষ্টভাবে একে অপরের কাছাকাছি?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ৩৪. যখন আপনার পরিবারে বিয়ে পাত্র/পাত্রী নির্বাচন, শিক্ষা, ব্যবসা, প্রভৃতি কোন গুরুত্বপূর্ণ বিষয়ে সিদ্ধান্ত নেয়ার প্রয়োজন হয় তখন পরিবার প্রধান পরিবারের সদস্যদের সাথে আলাপ আলোচনা করেন কি?
 - (১) বেশীর ভাগ সময়
 - (২) মাঝে মাঝে
 - (৩) প্রায় কখনই নয়
- ৩৫. আপনি কি মনে করেন আপনি যা করছেন তার জন্য আপনার পরিবার আপনাকে মনের জোর যোগাচ্ছে?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ৩৬. অধিকাংশ সমস্যা সমাধানে আপনার পরিবারকে বিশেষ সহায়ক বলে বিবেচনা করেন কি?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ৩৭. গুরুতর অসুস্থ অবস্থায় আপনার পরিবার আপনাকে কিরূপ দেখাশুনা করবেন বলে আপনি মনে করেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়

- ৩৮. কোন সদস্যের সংকটাপন্ন অবস্থায়, যেমন কেউ যদি বয়সের কারণে অকর্মণ্য হয়ে পড়ে, তাহলে আপনার পরিবার পুরোপুরি তার ভরণপোষণ করবে বলে আপনি মনে করেন?
 - (১) খুব বেশী
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
- ৩৯. আপনি যদি মারা যান বা কখনও অক্ষম হয়ে পড়েন তখন আপনার ছেলেমেয়েদেরকে যথার্থ সহায্য করতে কেউ থাকবে না একথা ভেবে আপনি মাঝে মাঝে দুশ্ভিন্তাগ্রস্থ হন কি?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
 - (৪) প্রযোজ্য নয়
- ৪০. আপনি কি আপনার পারিবারিক জীবন নিয়ে উদ্বিগ্ন হন?
 - (১) বেশীর ভাগ সময়
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ
- 8১. আপনাদের স্বামী/স্ত্রীর সম্পর্ক নিয়ে, আপনি কি মাঝে-মাঝে উদ্বিগ্ন হন?
 - (১) খুবই
 - (२) किছूটा
 - (৩) খুব কম
 - (৪) প্রযোজ্য নয়
- ৪২. আপনি কি মাঝে মাঝে আপনার সাথে আপনার সন্তানদের সম্পর্ক নিয়ে উদ্বিগ্ন হন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন বেশী নয়
 - (৪) প্রযোজ্য নয়
- ৪৩. প্রকৃতপক্ষে আপনার যত বন্ধু আছে আপনি তার চেয়ে অধিক সংখ্যক বন্ধু পেতে চান কি?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- 88. আপনি কি মাঝে মাঝে একজন প্রকৃত ও অন্তরঙ্গ বন্ধুর অভাব অনুভব করেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়

8¢.	আপনার	চার	পাশের	মানুষ	আপনাকে	পছন্দ	করছে	ন	এটা	কি	আপনার	সার্বক্ষণিক	চিন্তার
বিষয়		×											

- (১) খুবই
- (২) কিছুটা
- (৩) তেমন নয়
- ৪৬. আপনি কি মনে করেন আপনার বন্ধু-বান্ধব/আত্মীয়-স্বজন আপনার বিপদে সাহায্য করতে এগিয়ে আসবে?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- 8৭. যার ওপর আপনার সম্পূর্ণ আস্থা রয়েছে এবং যার সাথে আপনি আপনার ব্যক্তিগত বিষয় ও সমস্যাবলী নিয়ে খোলাখুলি আলাপ করতে পারেন এমন কোন ব্যক্তির অভাব অনুভব করেন কি?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৪৮. যে জনগোষ্ঠী পারস্পরিকভাবে বন্ধু ভাবাপন্ন এবং সাহায্যকারী, আপনি কি নিজেকে তাদের একটি অংশ বলে মনে করেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৪৯. যদি আপনার পরিবারে কিছু ঘটে তবে আপনি আপনার প্রতিবেশীদের সাহায্য পাবেন বলে মনে করেন কি?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৫০. গুরুতর অসুস্থতায় বা দুর্ঘটনার সময় আপনার আত্মীয়-স্বজন কিংবা বন্ধু-বান্ধব আপনাকে দেখাশুনা করবে বলে কতখানি বিশ্বাস করেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়

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01	নোপান	क	নোপনার	MAICAA	Taliana	MOCKIA	रान्नदोरा	ভোগেন?
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- (১) অধিকাংশ সময়
- (२) मात्वा मात्वा
- (৩) কদাচিৎ
- ৫২. আপনি কি হৃদপিন্ডের ধড়পড়ানিতে অস্বস্তিবোধ করেন?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ
- ৫৩. মাথা বিাম-বিাম করার অনুভূতি আপনার বিরক্তি ঘটায় কি?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) প্রায় কখনই নয়
- ৫৪. আপনি কি মনে করেন যে আপনি খুব অল্পতেই ক্লান্ত হয়ে পড়েন?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ
- ৫৫. ভাল ঘুম না হওয়ার কারণে কি আপনি অসুবিধা বোধ করেন?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ
- ৫৬. আপনি কি মাঝে মাঝে আপনার স্বাস্থ্য সম্পর্কে উদ্বিগ্ন হন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৫৭. আপনি আপনার ইচ্ছানুযায়ী বিশ্রাম নেওয়ার ব্যাপারে কি অসুবিধা বোধ করেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়

- ৫৮. আপনি যখন কিছু চিন্তা করেন বা কিছু করতে চান তখন মনোনিবেশ না করতে পেরে অস্বস্তিবোধ করেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৫৯. কোন কিছু আপনি যেভাবে মনে করেন যদি সেভাবে না ঘটে তবে কি আপনি সহজে ভেঙে পড়েন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৬০. আপনি কি সহজেই উত্তেজিত বা সংবেদনশীল হয়ে পড়েন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৬১. আপনি কি ছোট-খাটো বিষয়ে প্রয়োজনাতিরিক্ত ভেঙে পড়েন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৬২. ছোট খাটো বিষয়ে আপনি মাঝে মাঝে আপনার মেজাজ ঠিক রাখতে পারেন না, এটাকে কি আপনি সমস্যা বলে মনে করেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৬৩. সমালোচনা করলে আপনি সহজেই ভেঙে পড়েন কি?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ
- ৬৪. উদ্বেগ এবং মানসিক চাপের কারণে আপনি কি বিরক্তবোধ করেন?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ

- ৬৫. আপনি যা করছেন তাতে আপনার আত্মবিশ্বাসের অভাব আছে বলে কি আপনি উদ্বিগ্ন?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ
- ৬৬. আপনার জীবনের বিভিন্ন অবস্থা আপনার নিয়ন্ত্রণের বাইরে বলে মনে হয় কি?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ
- ৬৭. আপনি যা সম্পন্ন করতে চেয়েছেন তা সামান্য পরিমাণে সম্পাদিত হওয়ায় আপনি কি মাঝে মাঝে উদ্বিগ্ন হন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৬৮. আপনি যা পাওয়ার যোগ্য বলে মনে করেন তার চেয়ে কম সাফল্য অর্জন করেছেন বলে কি উদ্বিগ্ন হন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৬৯. বিনা কারণে আপনি কি মাঝে-মাঝে দুঃখ অনুভব করেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৭০. আপনার পরিবারে সদস্যদের মাঝে মনোমালিন্য ও দ্বন্দ্বের কারণে কি আপনি মাঝে মাঝে উদ্বিগ্ন হন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৭১. আপনি কি আপনার ভবিষ্যত নিয়ে উদ্বিগ্ন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়

- ৭২. আপনি কি মাঝে মাঝে আপনার মানসিক সুস্থতা নিয়ে উদ্বিগ্ন হন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৭৩. আপনার জীবন নিরানন্দময় বা একঘেয়েমিপূর্ণ বলে কি আপনি মনে করেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৭৪. আপনি কি মনে করেন আপনার জীবন দুঃখময়?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) প্রায় কখনই নয়
- ৭৫. আপনার জীবনকে কি অপ্রয়োজনীয় বলে মনে করেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৭৬. আপনি কি মনে করেন আপনার যে-সব জিনিস প্রয়োজন তার অধিকাংশই আপনার আছে?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৭৭. আপনি কি মনে করেন আপনার প্রত্যাশিত সামাজিক মর্যাদা ও জীবন যাত্রার মান অর্জন করতে পেরেছেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৭৮. আপনি যা করতে চান তা কি সাধারণতঃ সম্পাদন করতে পারেন?
 - (১) অধিকাংশ সময়
 - (২) মাঝে মাঝে
 - (৩) কদাচিৎ

- ৭৯. আপনার যা করতে ইচ্ছা তা করবার স্বাধীনতার ক্ষেত্রে আপনি প্রত্যাশিত সাফল্য অর্জন করেছেন বলে মনে করেন কি?
 - (১) বেশ খানিকটা
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৮০. আপনি যতটুকু সাফল্য লাভ করেছেন এবং এগিয়ে যাচ্ছেন সে-সম্পর্কে আপনি কিরপ মনে করেন?
 - (১) বেশ খানিকটা
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৮১. আপনার সার্বিক জীবনযাত্রাকে বিবেচনা করে আপনি কি মনে করেন যে, এটাই সে-জীবন যেভাবে আপনি চলতে চেয়েছিলেন?
 - (১) খুবই
 - (২) কিছুটা
 - (৩) তেমন নয়
- ৮২. যাবতীয় প্রচেষ্টার পর এখন আপনি কি মনে করেন যে আপনি জীবনে যথেষ্ট কৃতকার্য হয়েছেন?
 - (১) খুবই
 - (২) কিছু মাত্রায়
 - (৩) তেমন নয়

Appendix-C

English version of the Subjective Well-being questionnaire

INSTRUCTION

People are different. They live in a variety of situations and they don't feel the same way about life and the world around them. From a practical viewpoint, it is important to know how different persons feel with regard to their day-to-day concerns such as their health, family, work, etc. Such knowledge is necessary if an improvement in the quality of life of people is to be brought about.

This is a questionnaire on how you feel about some aspects of your life and about your life as a whole. Each question may be answered by any one of the given categories by putting a circle around the number which seems to represent your feelings best. For example, in the first question if you feel your general health is very good and you feel physically fit, please put a circle around the response 'very good' 1. At times you may find that your feeling is not represented perfectly by any one of the given response categories. In such cases, just choose the one closest to that you think.

You may find that some questions appear repetitive. Nonetheless, please answer them all. You don't need to have your answers agree with each other.

This questionnaire may appear rather long to you. But if you work as fast as you comfortably can, you will find that it does not really take very long to fill in.

All information given by you will be treated as confidential and will be used only for research purposes.

QUESTIONNAIRE ITEMS

1. How do you feel about your general health and physical fitness?

Very good	1
Quite good	2
Not so good	3

2.	How happy a	are you with the edu	cation you have	received?
	The state of the s		,	
		Very happy	1	
		Quite happy	2	
		Not so happy	3	
		Not applicable	4	9
3.		confident that you we your job or your p	250	adequately by someone in
		Very much	* 1	
		To some extent	2	
		Not so much	2 3	
		Not so much	3	
4.	How do you	feel about your fam	ily life?	
		Very good	1	
		Quite good	2	
		Not so good	2 3	
5.	How do you have?	feel about the relati	onship you and y	our family wife/husband
		Very good	1	
		Quite good	2	
		Not so good	3	
		Not applicable	4	
6.	How do you	feel about the relati	onship you and y	our children have?
		Very good	1	
		Quite good	2	
		Not so good	3	
		Not applicable	4	
7.	How do you	feel about the relation	onship you and y	our friends have?
		Very good	1	
		Quite good	2	
		Not so good	3	
		110130 good	9	
8.	Do you think	other people aroun	d you like you?	
		Very much	1	
		To some extent	2	
		Not so much	3	

9. Are you a	ble to concentrate well or	things you are	doing?
	Very much	Ĩ	
	To some extent	2	Ŧ
	Not so much	3	
10. Are you a	able to remain calm and to	o control yourse	If even in critical situation?
. 6	Very much	Ĩ	
	To some extent	2	
	Not so much	3	
11. Do you for expected?	eel you can manage situat	ions even when	they do not turn out as
	Most of the time	Ï	
	Sometime	_R	
	Hardly ever	2 3 .	
	Very much To some extent Not so much		end or a neighbour, to whon
13. Do you fo	eel confident that relative		will help you out if there is
3		*	
	Very much	1)	
	To some extent Not so much	2 3	
	ometimes experience morestasy or bliss?	ments of intense	happiness almost like a
	Quite often	1	
	Sometimes	2	
	Hardly ever	2 3	
	ometimes feel that you an and are integral parts of a		und you belong very much
	Very much	Ĩ	
	To some extent	2	
	Not so much	3	

11			
	nsider it a source of co at you are aiming for?		trength for an that you are
	Voncenuch	1	
	Very much	2	
	To some extent	2	
	Not so much	3	
bigger grou			you that you belong to a ith whom you share common
	Very much	1	
	To some extent	ż	
	Not so much	2 3	
	Not so much	3	
18. Do you son one large fa		oyful feeling o	f being part of mankind as of
	Quite often	1	
	Sometimes	2	
		3	
	Rarely/ never	3	
19. How do yo	u feel about the religion	ous fulfillment	in your life?
	Quite deeply	1	
	To some extent	2	
		2	
	Not so much	3	
20. Do you fee	I you have control ove	er your life the	way you want to?
	Most of the time	1	
	Sometime	2	
		2	
	Hardly ever	3	
•			y thing which substantially be with it/face it boldly?
	Quite deeply	ĺ	
	To some extent		
		2 3	
	Not so much	3	
22. How do yo	u feel about what you	have accompli	shed in your life?
	Very good	1	
	Quite good	2	
	. Not so good	3	
	. 110130 8000	3	

9

30. Do you feel your life is worthwhil	e?	nwhi	worth	is	life	vour	feel	VOU	Do	30

Very much	1
To some extent	2
Not so much	3

31. In your family, are husband and wife both earning members?

Yes	1
No	2
Not applicable	3

32. In your family, is there a good agreement on how family income should be spent?

Most of the time	1
Sometimes	2
Hardly ever	3

33. Do you think that most of the members of your family feel closely attached to each other?

Very much	1
To some extent	2
Not so much	3

34. When there is an important decision to be taken in your family, like choice of a marriage partner, choice in education, business, etc., are other members consulted by the head of the Family?

Most of the time	1
Sometimes	2
Hardly ever	3

35. Do you consider your family a source of confidence for you in what you are doing?

Very much	1
To some extent	2
Not so much	3

36. Do you consider your family a source of help to you in finding solutions to most of the problems you have?

Very much	1
To some extent	2
Not so much	. 3

37.	Do you think you would	be looked	after well	by your	family in	case you	were
	seriously ill?						

Very much	1
To some extent	2
Not so much	3

38. Do you consider that the family would be fully supporting any member in times of a crisis, e.g., if a family member becomes disabled with old age?

Very much	1
To some extent	2
Not so much	3

39. Do you sometimes worry that there is nobody who would really help your children if you were unable to do so or if you would be no more?

Very much	1
To some extent	2
Not so much	3
Not applicable	4

40. Do you worry about your family life?

Most of the time	1	l
Sometimes	2	2
Hardly ever		3

41. Do you sometimes worry about the relationship you and your wife/husband have?

Very much	1
To some extent	2
Not so much	3
Not applicable	4

42. Do you sometimes worry about the relationship you and your children have?

Very much	1
To some extent	2
Not so much	3
Not applicable	4

43. Would you	wish to have more friends	than you actually have?
	Very much	1
	To some extent	2
		3
	Not so much	5
44. Do you son	netimes feel that you miss a	real close friend?
	Very much	1
	To some extent	2
	Not so much	2 3
45. Is it a sourc you?	e of preoccupation for you	that people around you do not like
	Very much	1
	To some extent	
	Not so much	2 3
	Not so much	3
46. Do you fee	I your friends/relatives wou	ald help you out if you were in need?
	Very much	1
	To some extent	2
	Not so much	3
		· · · · · · · · · · · · · · · · · · ·
ACTUM AND DESCRIPTIONS	ss a person you can have fu ersonal matters and proble	Il confidence in and with whom you can ns?
	Very much	1
	To some extent	2
	Not so much	3
	NOT 30 IIIICII	,
48. Do you fee supportive?		who are mutually friendly and
	Very much	I/
	To some extent	
	Not so much	2 3
	140t 30 mach	3
49. If somethin would prov		amily, do you think your neighbours
	Very much	1
	To some extent	2
	Not so much	3

look after you if you

50.	Do you feel confident that relatives and are severely ill or meet with an accident	
	Very much To some extent Not so much	1 2 3
51.	Do you suffer from pains in various pa	rts of your body?
	Most of the time Sometimes Hardly ever	1 2 3
52.	Are you disturbed by palpitation/ a thu	mping heart?
	Most of the time Sometimes Hardly ever	1 2 3
53.	Are you disturbed by a feelings of gide	liness?
	Most of the time Sometimes Hardly ever	1 2 3
54.	Do you feel you get tired too closely?	
	Most of the time Sometimes Hardly ever	1 2 3
55.	Are you troubled by disturbed sleep?	*
	Most of the time Sometimes Hardly ever	1 2 3
56	. Do you sometimes worry about your h	ealth?
	Very much To some extent Not so much	1 2 3

5/.	Do you find it difficult to relax when you want to?						
		Most of the time Sometimes Hardly ever	1 2 3				
58.	Are you disturbed by the fact that your mind gets distracted when you want to something or think of something?						
		Very much To some extent Not so much	1 2 3	W			
59.	Do you get o	Do you get easily upset if things don't turn out as expected?					
		Very much To some extent Not so much	1 2 3				
60.	. Do you feel easily irritated, too sensitive?						
		Very much To some extent Not so much	1 2 3				
61.	. Do you feel that minor things upset you more than necessary?						
		Very much To some extent Not so much	1 2 3				
62.	Do you cons		ou that you s	ometimes lose your temper			
		Very much To some extent Not so much	1 2 3				
63.	63. Do you get easily upset if you are criticized?						
		Most of the time Sometimes Hardly ever	1 2 3				

	Most of the time	1					
	Sometimes	2					
		2 3					
	Hardly ever	3					
65. Are you we	65. Are you worried over the lack of confidence you have in what you are doing?						
	Most of the time	l					
	Sometimes	2 3					
	Hardly ever	3					
66. Do you exp	ou experience that the circumstances of your life are beyond your rol?						
	Most of the time	3 1 20					
	Sometimes	2					
	Hardly ever	3					
	riardly over	3					
67. Do you sometimes worry about accomplishing so little of what you want to accomplish?							
	Very much	1					
	To some extent	2					
	Not so much	3					
	1100 30 mach	3					
68. Do you worry about having less success in life than you thing you deserve?							
	Very much	Ī					
	To some extent	2					
	Not so much	3					
	Not so much	3					
69. Do you so	metimes feel sad withou	t reason?					
•							
	Very much	Ĭ					
#1 55	To some extent	2					
	Not so much	3					
70. Do you sor	metimes worry over dish v?	armony and co	onflicts between members of				
	Very much	1					
	To some extent	2					
	Not so much	3					

64. Do you feel disturbed by feelings of anxiety and tension?

71. Do you worry	about your future?					
- 17	ols	1				
	ery much	•				
	o some extent	2				
N	ot so much	3				
72. Do you someti	72. Do you sometimes worry about your mental wellbeing?					
v	ery much	Ĩ				
	o some extent	2				
	lot so much	3				
73. Do you feel yo	our life is boring/uninter	esting?				
75. 20 jour. 101. jo		C	· *			
V	ery much	1				
T	o some extent	2				
N	lot so much	3				
74. Do you feel yo	our life is miserable?					
N.	Nost of the time	1				
	ometimes	2				
	Iardly ever	3				
13	laidly ever	3	8			
75. Do you feel your life is useless?						
V	ery much	1				
	o some extent	2				
N	lot so much	3				
76. Do you feel you have most of the things you need?						
, F 7	lamumuah	1				
	ery much	2				
	o some extent lot so much	2	學			
	you have achieved the st		d the social statu			
·*	,	1				
	ery much	1				
	o some extent	2				
N	lot so much	3				
78. Do you norma	lly accomplish what you	want to?				
N	Most of the time	Ĭ				
	ometimes	2				
	lardly ever	3				

Hardly ever

79. Do you think you have achieved w freedom to do what you want to do	More than the first above the artification of a limited state of the first state of the f
Very much	1
To some extent	2
Not so much	3

80. How do you feel about the extent to which you have achieved success and are getting ahead?

Very good	1
Quite good	2
Not so good	3

81. Considering your life as a whole do you think it is the life you want most to live?

Very much	1
To some extent	2
Not so much	3

82. Considering all the efforts you have made, do you think you should have accomplished more in life?

Very much	1
To some extent	2
Not so much	3

Appendix-D

ITEM DISTRIBUTION AND POSSIBLE SCORE RANGE

		Number		Score	
Dimensions	Item number	of items	Minimum	Middle	Maximum
Subjective well- being – positive affect	1 2 4 5 6 7 8 22 23 24 26 27 28 29 30	15	15	31.5	48
Subjective well- being – negative affect	40 41 42 45 51 52 53 54 55 56 64 65 67 69 71 72 73 74 75	19	19	39	59
Mental mastery over self and environment	9 10 11 20 21 25 57 58 59 60 61 62 63 66	14	14	28	42
Rootedness, belongingness	14 15 16 17 18 19 48	07	07	14	21
Structural and cohesive aspects of the family	31 32 33 34 35 36 70	07	07	14	21
Density of social network	12 13 43 44 46 47 49	07	07	14	21
Security in health and socio- economic crisis	3 37 38 39 50	05	05	10.5	16
Expectation – achievement harmony	68 76 77 78 79 80 81 82	08	08	16	24

Appendix-E

Legends

1. Seri	al No.	a6.	1=Non-skilled- Agri 2=Semi/Business
2. Age	= Actual age		3=Skilled/Employment
3.	I= Male 2 = Female	a7.	1=Illiterate 2=Up - primary 3=Primary to SSC
4.	1=Unemployed 2=Nonskilled 3=Student		4=undergraguate 5= Graguate
	4=Skilled	a8.	1=Employed 2=Housewife
5.	1=Illiterate 2=Up - primary 3=Primary to SSC 4=undergraguate 5= Graguate	a9.	1=Up to 6000 2=6001-15000 3=15000+
6.	I= Married 2 = Unmarried	a10,	1=Rural 2=Urban 3=Industrial
a5.	I=Illiterate 2=Up - primary 3=Primary to SSC 4=undergraguate 5= Graguate	all.	1=Rajshahi 2=Dhaka 3=Khulna 4=Chittagong 5=Barisal 6=Sylhet

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Expt-achievement Harmony	14	17	19		16	24	21	19	21	23	13	22	20	20	15	20	20	20	20	20	22	23	22	19
Secu. in health & Soci-eco. sisino	11	11	7	11	ω	10	10	10	10	80	2	1	10	0	00	9	0	10	10	12	10	∞	ω	∞
Density of social network	18	16	11	15	16	17	18	17	15	17	12	13	14	12	11	13	15	15	14	15	18	16	13	11
Structural & Cohesive aspects	18	20	14	19	15	18	17	17	17	18	12	15	16	17	16	15				19			12	
& seanbarooa Belongingness	19	14	12	14	17	15	17	17	18	17	6	12	14	13	12	13	14	14	14	14	17	18	14	12
Mental mastery	17	21	18	18	16	17	16	16	20	20	13	15	17	16	14	14	19	19	17	13	13	17	18	15
əviзьрөп вwг зээддь	42	42	33	41	35	35	26	30	41	40	33	35	33	44	32	32	34	33	33	33	42	43	33	36
eviticog awa softe	33	36	38	39	35	40	44	44	43	43	26	34	41	37	30	37	37	41	42	43	40	38	41	36
81A	2	2	2	2	2	7	2	2	2	7	2	7	7	7	2	2	2	2	2	2	7	2	2	2
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Ofhers	П	2	2	2	1	-		2	Н	٢	7	7	2	7	7	2	2	2	2	2	Н	2	2	2
Fhensidyl	\vdash	\leftarrow	Н	Н	Н	Н	Н	2	П	Н	2	2	Н	2	-	П	_	2	2	2	I	H	Н	2
s i danna)	Н	Т	m	Н	Н	Н	М	Н	Н	\leftarrow I	Н	П	T	Н	Н	H	2	Н	Н	Н	Н	Н	П	Н
ənionəн	Н	0	7	7	2	2	8	O	7	7	7	0	2	7	~	7	7	7	7	2	2	7	7	2
SIA	2	7	7	7	m	2	7	0	7	2	Н	Н	7	П	0	П	-	Н	H	2	~	\leftarrow	$_{\odot}$	H
₽ I∀	2	Η	13	S	7	2	m	0	m	7	2	4	m	0	m	7	m	7	m	3	4	7	4	m
81A	Н	П	m	\vdash	Н	Н	М	Н	П	1	П	Н	Н	٦	Н	Н	Н	П	П	Η	\vdash	\vdash	Н	Н
SIA	m	3	7	m	8	4	2	S	4	2	5	4	4	m	4	2	2	3	7	m	m	7	9	5
IIA	2	2	4	5	2	7	7	00	9	4	7	9	9	5	9	4	4	2	4	5	2	4	2	7
ОТЯ	Н	Н	Н	\dashv	Н	Н	\vdash	Н	٦	П	Н	Н	T	Н	П	٦	1	Н	Н	-	2	c	П	m
OIA	2	2	Н	2	7	0	2	7	2	8	0	2	2	2	2	2	2	2	2	2	2	2	Н	٦
6∀	0	m	Н	7	2	H	7	Н	2	2	2	2	2	2	2	2	2	2	2	2	2	Н	۲	2
8A	N	2	2	2	0	Н	2	2	2	2	7	T	2	2	0	2	2	2	N	0	~	N	2	0
Λ Α	7	2	m	m	2	M	ന	m	σ	m	S	S	2	2	2	2	7	2	Н	m	4	m	N	2
9∀	2	-	2	8	3	3	2	m	σ	m	~	m	2	2	2	m	m	m	N	m	m	m	m	7
SA	2	2	5	2	5	2	5	m	S	S	S	Ŋ	2	7	S	ഗ	m	S	S	Ŋ	S	2	2	7
Marital status	2	2	2	2	2	2	\leftarrow	2	2	2	2	2	2	2	7	2	2	0	N	2	2	0	2	7
Education	4	4	4	4	4	S	S	m	S	2	4	S	2	S	4	4	4	4	4	4	4	m	m	S
Occupation	m	က	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	ന	m	m	m	4	4	m
s S	Н	- A	Т	П	-	Н	Н	-	-	Н	Н	Н	d	Н	Н	1	7	П	Н	Н	1	П	П	Н
Age	25	24	25	26	24	24	20	200	25	27	22	26	24	25	24	28	23	24	2.5	25	25	26	23	23
Sl		2	ım	4	2	9	7	- 00	0	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

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27	27	21	27	21	22	24	21	35	32	20	30	24	30	27	22	27	29	33	32	29	37	27	30	38	38	37	26	34	22	33	28	24
652	653	654	655	959	657	658	629	099	661	662	663	664	665	999	199	899	699	0.29	671	672	673	674	675	919	677	678	619	089	681	682	683	684

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685	989	687	688	689	069	691	692	693	694	695	969	697	698	669	7.0	701	702	703	704	705	901	707	708	709	710	711	712	713	714	715	716

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