

Study of Cocaine Abuse in Hong Kong

Report to the Narcotics Division

香港可卡因濫用研究：向保安局禁毒處遞交的報告

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Executive Summary

1 Research Objectives

Recent years have witnessed an increase of cocaine users in Hong Kong based on the Central Registry of Drug Abuse (CRDA) data. This study aims to review the literature on cocaine abuse in overseas countries and to explore the characteristics of cocaine abusers in Hong Kong.

2 Research Methods

We conducted an extensive literature review and administered interviews with three groups of respondents: 31 cocaine abusers, 20 frontline workers with rich experience in drug rehabilitation and treatment, and 10 drug law enforcement officers.

3 Research Findings

3.1 The Ecological Model

We developed an ecological model to synthesize the literature on risk/protective factors for cocaine abuse at the individual, interpersonal, community and societal levels; the harmful effects of cocaine abuse; and rehabilitation and treatment of cocaine abuse.

3.2 Interviews with the Professionals

The interviews with the respondents confirmed the recent upward trend in cocaine abuse in Hong Kong and highlighted the role the recent declining price of cocaine plays in increased cocaine use. The risk/protective factors on cocaine abuse identified by drug rehabilitation and treatment front-line workers include family bonding, peer influence, poor school bonding, influences from the triads, curiosity, myths of cocaine, and declining prices of cocaine.

3.3 Characteristics of Cocaine Users

The sample of cocaine users in this study demonstrated a series of characteristics.

They preferred using crack cocaine via the smoking route of administration; Most of them were introduced to cocaine by friends; Most of them obtained cocaine by paying drug dealers or friends and a substantial number of them used delivery service; They considered as fairly easy to obtain cocaine in Hong Kong; Over half of them used cocaine more than 10 times per month (54.8%), and 16.1% of them used it once or twice a day; The majority of them were poly drug users (77.4%); About two-thirds of them were cocaine dependent, and a quarter of them met the criteria of cocaine abuse; Most of them (83.9%) had prior experience of drug treatment, and some of them relapsed on the day of discharge; Their expenses on cocaine in the past year varied widely, with some spending as much as \$350,000 and some spending less than \$2,800 during the past year; and a large number of them were involved in drug dealing and created considerable income by dealing with drugs.

4 Discussion and Recommendations

Based on the literature and the empirical findings, the study discussed the implications and recommendations for Anti-drug Policies and Services in Hong Kong:

- 4.1 Setting up a working group on anti-cocaine campaign
- 4.2 Staff education and training
- 4.3 Content of educational campaign
- 4.4 Suppressive tactics should be used to tackle cocaine use
- 4.5 a holistic approach to treatment
- 4.6 Increase the number of social workers in schools and family settings
- 4.7 Better communication and co-operation between professionals and workers

The first three are oriented towards preventive education and publicity and the rest of the four are oriented towards supply and demand control.

研究摘要

1 研究目的

根據香港保安局禁毒處的藥物濫用資料中央檔案室(CRDA)的資料顯示，近年來香港使用可卡因的人數有明顯的上昇。本項研究致力于就海外有關濫用可卡因的文獻做一個綜述，並且探究香港本地的可卡因使用者的特徵。

2 研究方法

我們做了一個詳盡的文獻綜述，並且訪問了三組不同的人士：31位可卡因使用者、20位從事前線戒毒工作的專業人士、及10位來自司法領域的人士。

3 研究結果

3.1 生態學模型

我們建構了一個生態學模型(Ecological model)來總和海外的有關文獻，包括個人層面、人際層面、社區層面及社會層面影響可卡因使用的危險因子和保護因子，使用可卡因的危害，及對可卡因使用者如何進行有效的治療和戒毒措施。

3.2 專業人士訪談結果

這一系列的訪談確認了近年來可卡因使用的上昇趨勢，也表明了近年來可卡因的價格下降對可卡因使用的影響。參與戒毒的專業人士認同以下的危險因子(risk factors)和保護因子(protective factors)對可卡因使用的影響：家庭紐帶、同伴影響、學校紐帶、來自黑社會的影響、好奇心、對於可卡因的不切實際的認識、及可卡因價格的下降。

3.3 可卡因使用者的特徵

本研究中的可卡因使用者表現了如下的一系列特徵。他們更喜歡吸食霹靂可卡因；其中大多數人是通過朋友介紹而使用可卡因的；其中大多數人從朋友或毒販處獲得可卡因，且相當一部分人曾使用過毒品外賣服務。他們認為在香港要得到可卡因相當容易；其中 54.8%的人平均每個月使用可卡因超過 10 次，16.1%的人每天使用可卡因一到兩次；其中大多數人使用幾種毒品（(77.4%）；按臨床標準嚴格來說，大約三分之二的人達到了可卡因依賴的標準，四分之一的人達到了可卡因濫用的標準；他們大多數人（83.9%）曾有過戒毒的經歷，有些人在從戒毒所出來的當天又重新吸毒；過去一年他們在毒品上的花費有很大的差別，最高的花費是三十五萬塊，最低的花費是 2 8 0 0 塊；其中很多人參與販毒，並且販毒的收入非常可觀。

4 討論和建議

以文獻綜述和實證材料為依據，本項研究也探討了如何更有效地開展預防吸食可卡因的教育和宣傳，及如何從可卡因的供給和需求兩方面更有效地控制可卡因的使用。

Chapter 1 Introduction

1.1 Prevalence of Cocaine Use Worldwide and in Hong Kong

Cocaine use is estimated to affect about 14 million people or 0.3 per cent of the population aged 15-64 worldwide in 2005. It is largely concentrated in North America, West and Central Europe, and South America. For example, in the United States of America, cocaine is the second widely abused illicit drug (after marijuana) and the number of cocaine users accounts for over 40 per cent of all cocaine users worldwide, with a prevalence of 2.3 per cent among those aged 12 and above and 2.8 per cent among those aged 15-64 in 2005 (United Nations Office on Drugs and Crime [UNODC], 2007).

Comparatively speaking, the prevalence of cocaine use in Hong Kong, congruous with its Asian neighbors, is rather low, at a rate of 0.04 among those aged 15 and 64 in 2005 (UNODC, 2007). However, the new millennium has seen an increase of cocaine users in Hong Kong. According to the Central Registry of Drug Abuse (CRDA), the number of cocaine users has increased from 31 in 2000 to 696 in 2007. The proportion of youngsters taking cocaine showed an increase in the past several years (see Figure 1.1). This trend was also confirmed by law enforcement statistics such as the seizure and arrest figures (Narcotics Division and Action Committee Against Narcotics, 2006). With the overall number of reported drug abusers falling in the past several years in Hong Kong, this pattern of rise in cocaine abuse is alarming.

1.2 Routes of Administration

Cocaine is a highly addictive substance extracted from the leaves of the coca plant. There are two primary forms of cocaine: the powdered form and the freebase form (or crack cocaine). In addition to their stand-alone use, both cocaine and crack are often mixed with other substances. Cocaine could be mixed with methcathinone (similar to methamphetamine with a street name 'cat') to create a 'wildcat'. A hollowed-out cigar filled with a mixture of crack and marijuana is known as a 'woolah'. Powder cocaine or crack used in conjunction with heroin is called a 'speedball'. Cocaine used together with

alcohol represents the most common fatal two-drug combination.

It can be taken intranasally (snorting), by smoking or injection. It has a relatively short half-life and its symptoms and signs of intoxication, as well as the euphoria it produces, often decrease rapidly, as shown in Table 1.1 (adapted from Preti 2006, p.4) and Figure 1.2 (cited in Hinojosa et al. 2007, p.67).

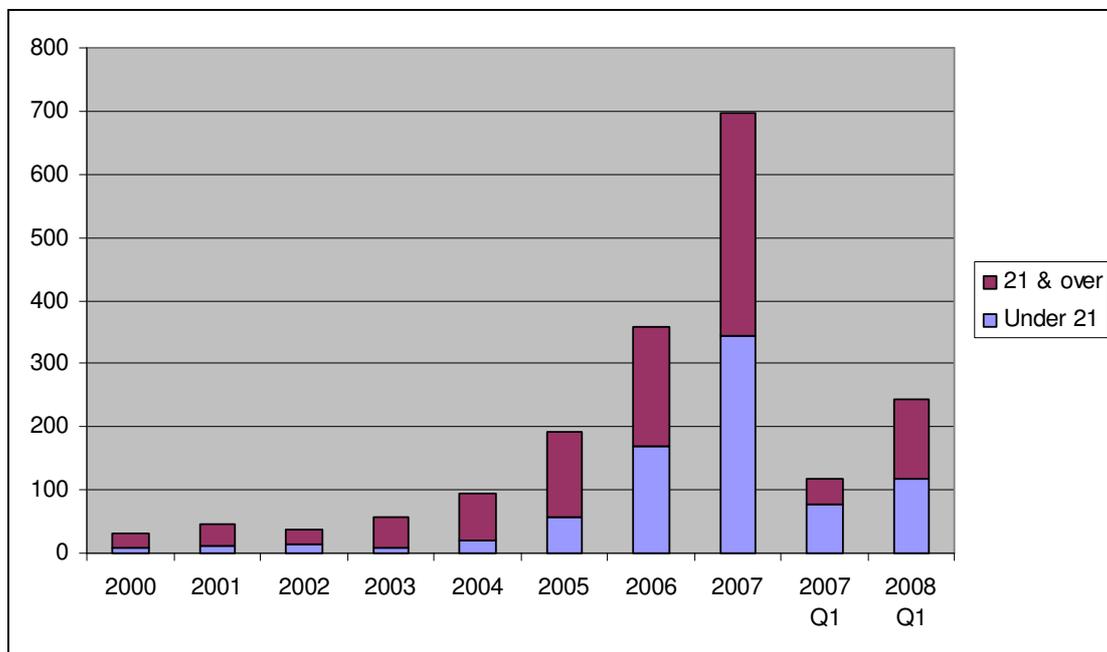
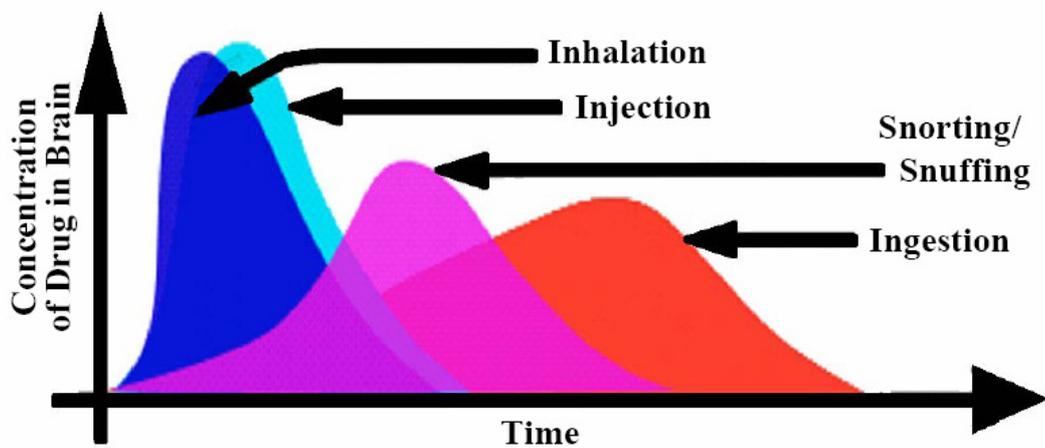


Figure 1.1 Cocaine Abusers in Hong Kong 2000-2008

Table 1.1 Pharmacokinetic of cocaine according to the route of administration

Route	Onset of action	Duration of the effects
Oral (by licking)	1 hour	Several hours
Intranasal	3-5 minutes	45-60 minutes
Intravenous	1-2 minutes	10-20 minutes
Inhalation (by smoking)	30 seconds	5-10 minutes



SOURCE: Written statement by Glen R. Hanson, Ph.D., D.D.S., Acting Director of the National Institute on Drug Abuse (NIDA), to the U.S. Sentencing Commission, regarding Drug Penalties (Feb. 25, 2002).

Figure 1.2 Time Course for Drug Distribution in Brain Based on Route of Drug Administration

In the US the predominant cocaine route of administration has changed over time. For much of the 20th century, inhaling (snorting) cocaine in its powder form was the most common route of administration. The earlier 1980s saw the development of crack cocaine which is smokeable. Crack rapidly became the most commonly used form of the drug in the US because smoking crack was less expensive and provided a more immediate and intense effect. Drug and Alcohol Services Information System (2007) delineated the

trends of cocaine route of administration from 1995 to 2005, through a series of measures. The proportion of primary cocaine admissions who smoked the drug declined from 79% in 1995 to 73% in 2005. In 1995, 63% of primary smoked cocaine admissions were younger than 35; by 2005, only 32% of primary smoked cocaine admissions were in this age group. The proportion of both inhaled and smoked cocaine admissions who were employed full time decreased between 1995 and 2005.

Shaw, Hser, Anglin & Boyle (1999) examined the sequences or progression of use between powder cocaine and crack among 2,034 arrestees in Los Angeles County. These patterns and sequence of cocaine and crack use include (1) powder cocaine only, (2) powder cocaine-crack (use powder cocaine first and then move on to crack but used both forms of the substance thereafter) (3) crack only and (4) crack-powder cocaine (used crack cocaine first and then move on to powder but used both forms of the substance thereafter). Each sequence differed in terms of user's characteristics, history of use, dependence, and contact with criminal justice system. Dunn and Laranjeira (1999) showed the transmission in the route of cocaine administration among cocaine users in Brazil. Eighty-seven percent of patients began using cocaine by snorting and 74% subsequently underwent a transition of route – 68% towards smoking and 20% to injecting, with half of all transitions occurring in the first 3 years following initiation into cocaine use.

1.3 Definition and Typologies of Cocaine Abuse

For the purpose of reporting to CRDA, drug abuse is defined as the taking of substances which harms or threatens to harm the physical, mental or social well-being of an individual, in doses above or for periods beyond those normally regarded as therapeutic (Narcotics Division and Action Committee Against Narcotics, 2006). Taking into account both effects (physical, mental and social) and pattern (dosage/period) of drug abuse, this definition is easy for general use and facilitates reporting by the network of reporting agencies. Clearly it captures those who fall into the severe end of drug involvement. Nevertheless, 'drug abuse' here is not the same as the diagnosis of 'substance abuse disorder' in a clinical sense as defined in the Diagnostic and Statistical Manual of Mental

Disorders [DSM-IV] (American Psychiatric Association, 2000). In this study we will also take the definition of cocaine abuse in a general sense, but in order to better understand the user's involvement in drugs we will try to examine where individual users fall along the continuum of cocaine-related disorders: cocaine use, intoxication, and withdrawal, abuse and dependence. Especially we will try to examine if individual users meet the diagnostic criteria for cocaine dependence or cocaine abuse according to DSM-IV.

As mentioned earlier, cocaine abusers' involvement in cocaine differs. Some are just occasional, and some could be chronic (see Table 1.2, adapted from Preti 2006, p.8). Some use cocaine only, but others use multiple drugs, e.g. cocaine use in combination with alcohol or heroin, either simultaneously or sequentially. For example, individuals with cocaine dependence frequently also use alcohol, anxiolytics, or opioids, often to counteract lingering cocaine-induced anxiety symptoms (American Psychiatric Association, 2000). Abuse of multiple drugs among cocaine abusers is associated with increased morbidity and mortality relative to the use of cocaine alone (Rush, Roll & Higgins, 1998). However, multiple substance use seems to be the predominant pattern of cocaine use. In a multi-centre cross-sectional study carried out in Europe, about 96% of all participants had used at least another substance in addition to cocaine in the previous 30 days (Prinzleve, et al., 2004). Some cocaine abusers have physical or psychiatric co-morbidity, or both. Some cocaine abusers have other mental disorders, such as major depression, preceding, co-occurring or subsequent to cocaine abuse. For some cocaine abusers, cocaine abuse makes them break the law. This is in line with the drugs-crime connections. For example, Boyum & Kleiman (2003) argued that the three most important causal links between drugs and crime are the behavioral effects of drug use, the urgent need of addicts for money to feed their habits, and the side-effects of illicit markets.

Table 1.2 Typologies of Cocaine Abusers

Type of use	<ul style="list-style-type: none">- occasional- recurrent, on the basis of availability- week-end user- remitting-relapsing user- chronic user
Pattern of drug use	<ul style="list-style-type: none">- cocaine only- cocaine and alcohol- cocaine, alcohol, and sedatives- heroin and cocaine- poly-drug user
Co-morbidity	<ul style="list-style-type: none">- no co-morbidity- physical co-morbidity- psychiatric co-morbidity- physical and psychiatric co-morbidity
Dually diagnosed	<ul style="list-style-type: none">- mental disorder preceding cocaine abuse- mental disorder co-occurring with cocaine abuse- mental disorder subsequent to cocaine abuse
Legal complications	<ul style="list-style-type: none">- absent- present

Source: Adapted from Preti (2006, p.8).

1.4 Objectives and Significance of the Study

Given the severe consequences of cocaine abuse, whether acute or chronic, it is high time that cocaine abuse in Hong Kong should be examined closely. This study strives to achieve the following three objectives:

- To thoroughly review the literature on recent research findings regarding sociological aspects, harmful effects and treatment and rehabilitation models relating to cocaine abuse;
- To examine the demographic and psychological characteristics of cocaine abusers in Hong Kong and consolidate the consequences of cocaine abuse in their personal and social contexts;
- To analyze the latest trend of cocaine abuse in Hong Kong, including its social background, connections with overseas trends, implications on local drug treatment and rehabilitation service etc.

This study has shed light on the characteristics of the cocaine abusers in Hong Kong. It contributes to dealing with drug abuse in the following ways:

1. The results will help gear preventive and publicity education towards cocaine abuse, as prevention is better than cure. With the help of the collected data, future preventive and educational programs can be more specifically designed.
2. The identification of effective cocaine treatment and rehabilitation programs overseas will help with the planning of local initiatives and resource allocation at the governmental and non-governmental levels.
3. It will help with drug law enforcement locally and internationally. Given the special characteristics of cocaine's infiltration into Hong Kong, local law enforcement has succeeded in dismantling cocaine operations. But with the

demand of cocaine increasing and its prices falling (Narcotics Division and Action Committee Against Narcotics, 2006), the challenges facing the local enforcement become even greater. Furthermore, although the price-consumption link of drugs seems easy to understand, overseas experience has demonstrated that the link is less clear, especially with multiple-drug users with access to a market of multiple drugs, as demonstrated by Reuter & Kleiman (1986) and the so-called 'heroin drought' in Australia around the year 2000 (e.g. Longo, Henry-Edwards, Humeniuk, Christie, & Ali, 2004; Weatherburn, Jones, Freeman, & Makkai, 2001).

Chapter 2 Methodology

This study used a qualitative approach and was mainly descriptive and exploratory. To achieve the three objectives, various methods were deployed, including literature review and field interviews. The literature review has been an on-going process as we endeavored to search for the most updated studies in the area of cocaine abuse in particular and drug abuse in general. The field work started with liaison with various governmental and non-governmental agencies in April 2007 and lasted until April 2008.

2.1 Extensive Literature Review

An extensive literature review was conducted to help identify the sociological aspects, harmful effects and treatment and rehabilitation models relating to cocaine abuse. It was carried out by searching the electronic databases, such as MEDLINE, PsycINFO, Sociological Abstracts, Proquest, Criminal Justice Abstracts, and the Cochrane Library, etc. We first developed a framework to guide our efforts in the search (see the ecological model Figure 3.1). The model has three parts: risk and protective factors in cocaine abuse, harmful effects, and treatment, with each part having various sections. We then adopted two procedures to retrieve the individual articles of interest to every part in the model. Firstly we used an exhaustive approach by using the broad keyword of ‘cocaine’. Secondly, we sifted all the retrieved articles into different parts of the models. For the sections without enough entries, we identified relevant keywords to conduct another search in the databases. We also periodically visited the websites of prominent agencies related to drug abuse and drug control, e.g. United Nations Office On Drugs and Crime (UNODC), World Health Organization (WHO), National Institute of Drug Abuse (NIDA) in the United States, Home Office in the United Kingdom, and Minister of Health of Canada. We also utilized RSS services in Google and news outlets with the keyword of ‘cocaine’ in English and Chinese. When relevant RSS entries reach our email boxes, we followed it up with the details. For example a local news piece in Chinese covering the use of vaccine to treat cocaine dependence came to our attention. We immediately followed it up and even contacted the authors in Texas, the United States, via email. The above efforts helped us to maximize the materials for the literature review.

2.2 Field Interviews

To achieve the second and third objectives of this study, interviews were conducted with three groups of respondents: a) individual cocaine abusers, b) front-line social workers with substantial experience of working with drug abusers, and c) drug law enforcement officers, e.g. officers from the police and customs.

2.2.1 Cocaine Abusers

Thirty-one cocaine users were recruited for individual interviews. We sent written requests to the local NGOs, the Society for the Aid and Rehabilitation of Drug Abusers, and substance abuse clinics. We also contacted over 20 agencies through our personal networks. At the end 11 agencies referred cocaine cases to us during the study period. Cases were also recruited from the Hong Kong Correctional Service Department. Altogether we recruited 31 cases. Their ages range from 17 to 59 years, and the mean age is 26.5 years. Given the upward trend of youth drug abuse in Hong Kong, we differentiated the other demographic characteristics by age (age 21 as the cutoff point), as shown in Table 2.1. Four of the cases are females. Twenty-eight (90%) of them are permanent Hong Kong residents. The majority of them (77%) are single. Twenty-four of them (77%) have a secondary school education, with two having a college education and five having a primary school education. Two of them are unemployed, two of them are students and the rest of them are from a wide range of occupations (but mainly non-professional). Over half of them (52%) have a monthly income of HKD8,000-20,000. The majority of them do not have a religion (71%). Among the respondents, 93.5% of them had at least one criminal record; a great proportion of them had more than 3 criminal records in the past.

Table 2 lists the demographic characteristics of cocaine abusers reported to the CRDA in 2006 and 2007. When comparing the sample of cocaine users as used in this study with the group of cocaine abusers as reported to the CRDA, we see some similarities and differences. There are less female cocaine users in our sample than in the CRDA data. The proportion of young cocaine users is similar in the two samples. While the CRDA

data include some non-Chinese cocaine users, the cocaine users in our sample are all Chinese. The proportions of cocaine users with a primary school education and those with a tertiary education are higher in our sample than in the CRDA data. Different criteria were used to measure occupation, but it seems the proportion of cocaine users who are unemployed is lower in our sample. The proportion of cocaine users who have a criminal record in our sample is higher than in the CRDA data. But the comparison is for reference at best. It is not known to what extent the CRDA data represents the whole population of cocaine users in Hong Kong.

Table 2.1 Demographic characteristics of cocaine users

		Under 21 (n=14)	21 or over (n=17)
Gender	Male	11	16
	Female	3	1
Nationality	Hong Kong	14	14
	Mainland China	0	3
Marital Status	Single	13	11
	Cohabitation	1	1
	Married	0	3
	Widowed	0	2
Education	Primary School	1	4
	Junior Secondary School	7	6
	Senior Secondary School	6	5
	College	0	2
Occupation	Retail & Shop Sales	2	4
	Transport and Logistic	2	2
	Plant and machine operators	2	1
	Service workers	3	4
	Elementary Occupations	2	1
	Professionals	0	1
	Businessman	0	1
	Self-Employed	1	1
	Unemployed	1	1
	Student	2	0
Monthly Income	<8,000	7	2
	8,000-20,000	5	11
	20,000-40,000	0	3
	100,000-150,000	1	1
	>600,000	0	1
Religion	None	11	11
	Christian	1	4
	Catholicism	1	0
	Buddhism	2	1
Criminal Record	Yes	12	17
	No	2	0

Table 2.2 Number and percentage of cocaine abusers reported to the CRDA, 2006-2007

		Year of reporting			
		2006		2007	
		No.	%	No.	%
Sex	Male	284	79.1	581	83.5
	Female	75	20.9	115	16.5
	Total	359	100.0	696	100.0
Age group	1-20	170	47.4	343	49.3
	21+	189	52.6	353	50.7
	Total	359	100.0	696	100.0
Ethnicity	Chinese	335	96.8	674	98.7
	Filipino	@	*	@	*
	Pakistani	@	*	-	-
	Vietnamese	@	*	@	*
	Nepalese	@	*	@	*
	Total	346	100.0	683	100.0
	(excl. unknown)				
Educational attainment	No Schooling	@	*	@	*
	Primary	20	5.7	39	5.8
	Lower Secondary	227	64.7	459	68.5
	Upper secondary	95	27.1	158	23.6
	Tertiary	8	2.3	12	1.8
	Total (excl. unknown)	351	100.0	670	100.0
Activity status	Full-time	122	36.3	273	40.6
	Casual worker	29	8.6	78	11.6
	Worker in illicit trade	17	5.1	25	3.7
	Unemployed	137	40.8	233	34.7
	Home-maker	7	2.1	@	*
	Students	22	6.5	58	8.6
	Total (excl. unknown)	336	100.0	672	100.0
Whether previously convicted	Yes	245	70.8	449	67.5
	No	101	29.2	216	32.5
	Total (excl. unknown)	346	100.0	665	100.0

Source: Central Registry of Drug Abuse (CRDA)

@ less than 6

* not applicable

- nil

A semi-structured protocol was used to measure the following domains of the cocaine users: a) personal history prior to 18 years old; b) cocaine use; c) use of other drugs and treatment; and d) coping strategies. The domain of personal history prior to 18 years old includes questions such as with whom they stayed, parental divorce/separation, parental substance use (alcohol and drugs), history of physical abuse and sexual abuse, and involvement in crime. The domain of cocaine use includes details of first time cocaine use, details of cocaine use in the past year, details of cocaine use in the past month, general situation of cocaine use, and diagnoses of cocaine abuse/dependence by using the criteria of DSM-IV. The domain of use of other drugs is composed of poly drug use, drug treatment history, involvement in drug dealing or trafficking, and the Chinese Drug Involvement Scale (CDIS), as validated by Lam, Ng, and Boey (2002) in Hong Kong. CDIS has 22 items and is a global assessment of an individual's beliefs and values relating to drug use, apart from actual drug abuse behavior.

The domain of coping strategies used a multidimensional self-report measure known as the COPE questionnaire. This is a 53-item inventory developed by Carver, Scheier and Weintraub (1989) which is used to assess how people respond to stress in different ways. There are five scales measuring aspects of problem-focused coping strategies (active coping, planning, suppression of competing activities, restraint coping, and seeking of instrumental support), five scales measuring emotion-focused coping strategies (seeking of emotional social support, positive reinterpretation, acceptance, denial, and turning to religion), and three scales measuring avoidance coping strategies (focus on and venting of emotions, behavioral disengagement, and mental disengagement). Responses were coded on a 4-point scale ranging from 1 ("I usually don't do this at all") to 4 ("I usually do this a lot"). Its reliability and validity have been demonstrated in a number of studies for the general population as well as some clinical samples (Carver, Scheier, and Weintraub, 1989; Hasking and Oei, 2002; Hyman, Pliwal and Sinha, 2007). However, given its length and time required to finish the full interview protocol, participants in the first few cases showed some signs of impatience in responding to the COPE questionnaire. As such, we decided to adopt an alternative open-ended approach by asking the cases to tell us how they generally cope with stress in life.

2.2.2 Front-line Drug Treatment Professionals

Eighteen front-line workers from local NGOs and two psychiatrists were invited for the interviews, in the form of group interviews or individual interviews. They are all very experienced in the field of drug treatment and rehabilitation, and 85% of them had worked in the field for more than 5 years, with some serving for more than 10 years. A large proportion of them are social workers and some of them are clinical psychologists. The interview was centered on the following aspects: trend of cocaine use; experience of working with cocaine users; social and demographic characteristics of the clients; diagnosis, treatment and rehabilitation of the patients, including effectiveness, retention and drop-out; and future strategies for prevention, control and treatment of cocaine use.

2.2.3 Drug Law Enforcement Officers

Ten people from the Customs and Excise Department, the Police Force, the Correctional Service Department and the Legislative Council were invited for interviews, in the form of group interviews or individual interviews. They all have extensive experience in the areas of drug law enforcement. The questionnaire was focused on the trend of drug use as reflected in the arrests, seizures, and price, effectiveness law enforcement strategies, and punishment and sentencing for drug-related offences.

2.3 Methodological rigor

In the course of carrying out this study, we have attempted to ensure the methodological rigor of this study. We have pilot tested the protocol for the cocaine users. When recruiting cocaine users, we used various channels in order to include respondents from different agencies and organizations. We also tried to ensure diversities when recruiting front line workers, in order to tap their varied experiences in drug rehabilitation and treatment. Since multiple methods have been used to collect data in this study, we have endeavored to verify and triangulate the findings obtained from various sources. Consistencies in information will be highlighted and any contradictions will be pointed out.

Chapter 3 Literature Review

3.1 Ecological Model of Cocaine Abuse

The review in this chapter will focus on three areas:

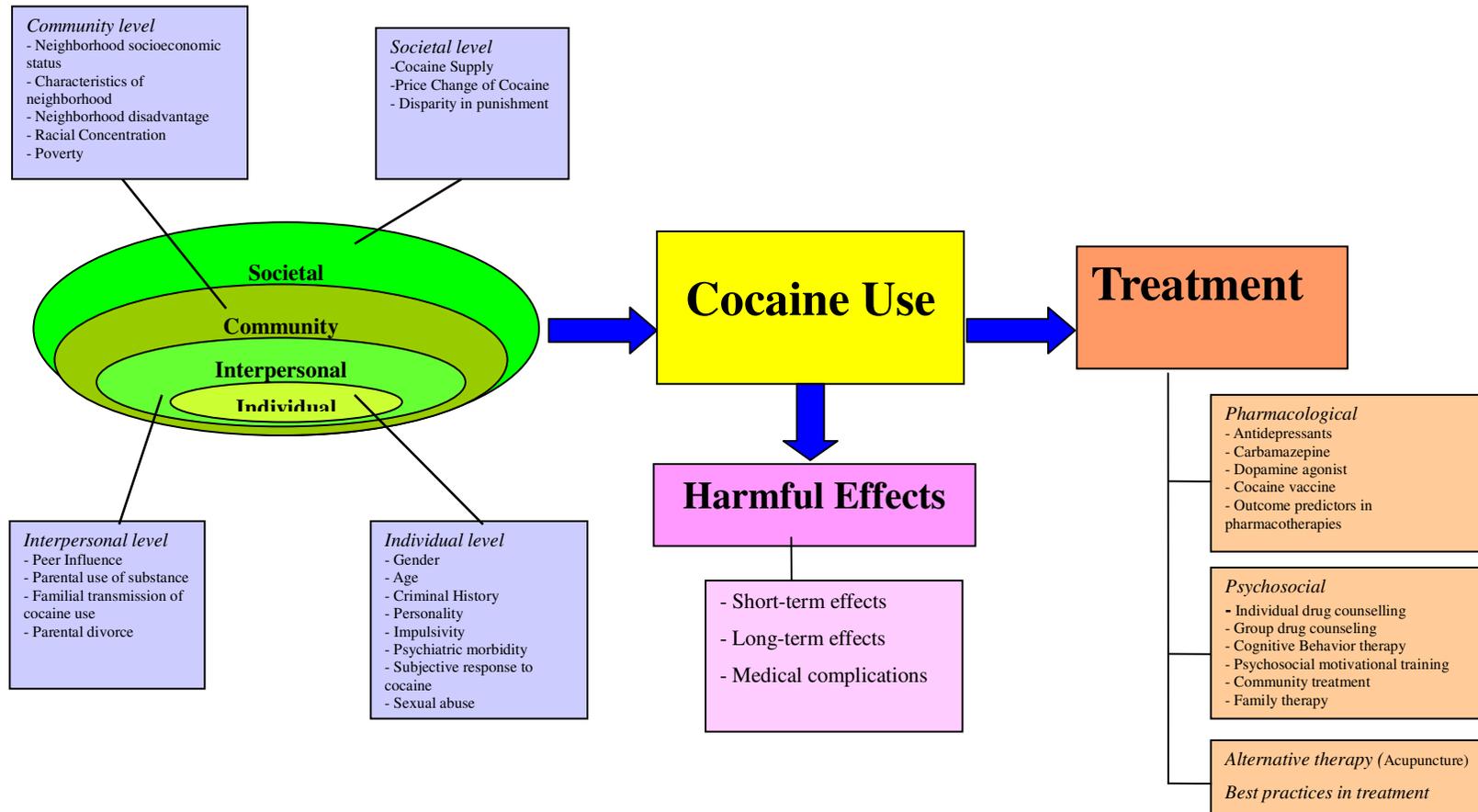
- Selected risk factors and protective factors related to cocaine abuse
- Harmful effects of cocaine abuse
- Treatment strategies of cocaine addiction

We constructed an ecological model to guide the above efforts in literature review (see Figure 3.1). To construct the model, we drew on Hawkins, Arthur and Catalano (1995) on preventing substance abuse, Gruenewald et al. (1993) about drinking behavior and WHO (2002) about violence.

3.2 Risk and protective factors of cocaine abuse

In a review on preventing substance abuse, Hawkins, Arthur and Catalano (1995) go beyond the individual level and provide a comprehensive multi-level framework on risk factors for adolescent substance abuse. The framework is comprised of five levels: individual factors, family factors, school factors, peer factors, and contextual factors. Drawing on Gruenewald et al. (1993) and WHO (2002), in our model risk and protective factors are grouped under four levels: individual, interpersonal, community and societal.

Figure 3.1 Ecological Model of Cocaine Abuse



The individual level in the model seeks to identify the biological and personal history factors that an individual brings to his or her behavior, for example, personal history and personal factors that increase the risk of cocaine use. The interpersonal level explores how social relationships increase the risk for cocaine use, for example, relations with peers, intimate partners and family members. The community level examines the community contexts in which social relationships are embedded, such as schools, workplaces and neighborhoods, and seeks to identify the characteristics of these settings that are associated with cocaine use. The societal level examines the larger societal factors that influence cocaine use.

3.2.1 Individual Level

Factors at the individual level, including gender, personality (especially impulsivity), developmental history, psychiatric morbidity and sex abuse play an important part in one's substance abuse behavior. Meanwhile, some individual factors are inter-correlated with factors at other levels.

Gender

National and student surveys show that females are less likely to use cocaine than males. For example, in Canada men were 60% more likely to use cocaine than women (Mckenzie and Single, 1997). Powis et al. (1996) found that women tended to be younger, use smaller amounts of cocaine than men, and were less likely to inject drugs, were less likely to report the experience of undertaking treatment, and cocaine use by women were substantially influenced by relationships with males. Also, most females who inject cocaine were introduced to this practice by cocaine-injecting sexual partners.

Personality and Cocaine Abuse

In the literature personality traits have been shown to be related with substance abuse. For example, Tarter (1988) has summarized findings that high activity and emotionality and low sociability seem to make up a temperamental vulnerability for the development of substance abuse. There is a well established relationship between sensation seeking

and substance abuse (see Zuckerman 1994). Ball, Carroll, Babor, and Rounsaville (1995) found that sensation seeking, impulsiveness, and agreeableness are important dimensions in substance abuse typologies.

As for cocaine abuse, Yates, Fulton, Gabel and Brass (1989) compared the personality traits between groups of cocaine abusers, and their controls (non-cocaine alcohol abusers, and community controls). They found that narcissistic personality was more common in cocaine abusers and they are more likely to report schizoid features, compared to alcohol abuse controls. Cocaine abusers also demonstrated multiple personality features compared to community controls. Ball (1995) found that among 450 cocaine abusers seeking outpatient treatment ZKPQ scales of Impulsive Sensation Seeking, Neuroticism-Anxiety, and Aggression-Hostility were associated with greater drug abuse and psychiatric severity and symptoms and worse outcomes. Ball (1995) also noted that patients scoring higher on impulsive sensation seeking, aggression-hostility and activity (meaning the need for activity, a busy life, and challenging work; a high energy level; and the inability to relax and do nothing) reported earlier first use of cocaine. Also patients scoring higher on Neuroticism-Anxiety reported more past treatment episodes, and those scoring higher on impulsive sensation seeking were less successful at remaining for at least one month or completing treatment and were also more often in need of immediate referral inpatient treatment.

Ball (1995) pointed out that although it could be argued that treatment-seeking cocaine abusers share higher scores on personality dimensions as a consequence of their current drug involvement, there is considerable data supporting the predisposing role of several genetically and biologically influenced traits similar to those assessed by the ZKPQ. Such personality traits may also be clinically useful as they can be measured fairly easily and early, before severe problems develop. To do so may facilitate the identification of types of individuals at relatively higher risk for substance abuse, toward whom prevention efforts can be targeted.

When people experience life events that are perceived as stressful, they will appraise the

situation and mobilize available resources to manage the circumstances (Lazarus and Folkman, 1984). Coping strategies can be broadly classified into three categories: problem-focused, emotion-focused and avoidance (Carver, Scheier, and Weintraub, 1989). The first coping strategies is regarded as functional in most circumstances, the second might be adaptive in some situations (for example, when the situation is beyond personal control) but the third is generally viewed as maladaptive or dysfunctional by researchers (Skinner, Edge, Altman, and Sherwood, 2003). There is convincing evidence that substance users (including cocaine users) tend to use the coping strategy of avoidance more likely (Hyman, Paliwal and Sinha, 2007). Individuals with a dispositional use of avoidance rather than problem-focused coping strategies were shown more likely to initiate drug use, consuming more drugs once started and more likely to relapse (Wagner, Myers, and McIninch, 1999).

Impulsivity and Cocaine Use and Retention in Treatment

Substance abuse studies have traditionally focused on the compulsive aspects of the disorder in which craving plays a central role (Mathew, Claghorn, & Lergen, 1979). In recent decades, there has been an increased interest in exploring the role of personal impulsivity in substance abuse. Brandy, Myrick, and McElroy (1998) reviewed studies on the evidence for an association between impulsivity and substance abuses. The association is robust, regardless of the populations examined, the inventory to measure impulsivity used, and the abused substance concerned. In terms of cocaine abuse, Cascella et al. (1994) found that impulsivity was significantly correlated with self reported euphoria after intravenous cocaine administration, implying that more impulsive cocaine-dependent individuals may be biologically at a greater risk for relapse. Moeller et al. (2001) found that there was a significant correlation between impulsivity and self-reported average daily cocaine use as well as cocaine withdrawal symptoms. They also found that subjects with high baseline impulsivity remained in the study a significantly shorter period than did subjects with lower baseline impulsivity. The results show that impulsivity is a significant predictor of cocaine use and treatment retention, and suggest the need for targeting impulsivity in cocaine dependence treatment. These findings imply that impaired inhibition is important in drug seeking behavior along with augmenting

incentive and motivational aspects of drug use.

Psychiatric Morbidity

Psychiatric epidemiologic surveys point to common associations (co-morbidity) between major psychiatric disorders and substance abuse. Several studies tried to sketch the relation between psychosis and cocaine use. Although the relation was noted, it is difficult to examine their causality. Chronic stress has been implicated in the comorbidity of substance use and other psychiatric disorders (Brady & Sinha, 2005). Posttraumatic Stress Disorder (PTSD) is strongly associated with increased risk for substance use disorders (Breslau, Davis & Schultz, 2003). The major PTSD symptoms of intrusion, hyperarousal, and avoidance may motivate substance use (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). In a study of individuals with alcohol or cocaine dependence, Waldrop, Back, Verduin, and Brady (2007) showed that individuals with PTSD reported significantly greater use of substance in response to negative situations, such as unpleasant emotions and physical discomfort, as compared to individuals without PTSD. They also found that cocaine dependent individuals were significantly more likely than alcohol dependent individuals to report using in temptation situations, regardless of PTSD status. Besides, cocaine dependent individuals with PTSD reported greater use of cocaine during pleasant times with others, as compared to those without PTSD. Waldrop, Back, Verduin, and Brady (2007) argued that while cocaine use may exacerbate PTSD symptoms, cocaine may actually improve the ability to tolerate social settings for some PTSD individuals.

Subjective Responses to Cocaine Use

Drug use can produce both positive subjective responses such as euphoria or liking and negative subjective responses such as craving or wanting ('always wanted more'). Studies show that such subjective responses were related to cocaine initiation and continued use of cocaine. Lambert, Mcleod and Schenk (2006) investigated the relationship between positive and negative subjective responses at the time of initial cocaine use on the one hand and adult cocaine dependence and life-time use rates on the other hand through a prospective longitudinal study of 202 participants. The results

showed that when cocaine was first tried, positive response and negative response were significant predictors of cocaine dependence. Logistic regression showed that positive responses and negative responses increased significantly the odds of DSM-III-R cocaine dependence and life-time use. The results of this study demonstrated that individual difference in subjective responses could measure risk for cocaine abuse.

Sexual Abuse and Crack Use

Studies showed that victims of sexual abuse would be more likely to have substance abuse behavior in adulthood (Finkelhor, 1979, Russell, 1986, Mullen, 1994). Freeman, Collier and Parillo (2002) investigated how early life sexual abuse enhances the risk of cocaine use in a sample of 1,478 community-recruited women sexual partners of male injection drug users who were participants in the NIDA-supported Women Helping to Empower and Enhance Lives (WHEEL) project. This study assessed the association between child and adolescent sexual abuse—including specific type of abuse and perpetrator of abuse—and lifetime crack use in this sample of women. About 64% of sample women had ever used crack and 56% had been sexually abused by age 18. In logistic regression analyses, any sexual abuse in childhood, penetrative sexual abuse in childhood, and sexual abuse by a family member in childhood were significantly associated with lifetime crack use. Sexual abuse in adolescence was indirectly associated with lifetime crack use through running away from home and rape in adulthood. The findings of this study are consistent with the previous studies to support an association between personal history of sexual victimization in childhood and subsequent use of drugs in adolescence or in adulthood.

The literature shows that as many as 60–84% of adult women in drug treatment programs have been victimized by child sexual abuse, according to Freeman, Collier and Parillo (2002). They argued that the use of drugs by child sexual abuse victims may be related to a process of self-medication in order to cope with assault-related anxieties, depression, PTSD, and relationship difficulties.

3.2.2 Interpersonal level

Peer Influence

Among the interpersonal factors, peer influence is generally believed to be a major risk factor of adolescent drug behavior. A great number of studies have been devoted to exploring how peer influence affects one's substance use behavior (see review by Hawkins, Artbur, and Catalano, 1995). It seems that peer influence is a prominent risk factor of drug use, especially for the onset of drug use. Oetting & Beauvais (1986) argue that adolescent drug use is very strongly linked to membership in small groups or people including best friends and lovers. These small groups function in the following ways: (a) drugs are made available; (b) the youth learns to use them; (c) there is a sharing of beliefs, attitudes, values and rationales for drug use and (d) drug use plays an important role in group membership and identification (p.19). Also, peers can have effects on initial involvement of drug use via several complex mechanisms, such as by modeling drug use, provision of substances, encouraging drug use and by shaping norms and values.

Huba & Bentler (1980) also observed that the potential adolescent user of drugs has many peers who take various substances and the formation of friendship circles with such individuals appears to be a strong casual influence in drug taking. Therefore the best predictors of adolescent's substance use are the proportion of friends who are users and their friend's tolerance of use. Adolescents would probably attribute their own behavior to friends as one kind of projection and affiliation (Bauman & Ennett, 1996). In order to identify peer influence in detail, Cohen (1977) conducted a study focusing on 49 friendship groups to determine the relative contributions of influence, selection and deselection to different groups of homogeneity. He found that much of the homogeneity of peer group members in these behaviors was due to initial selection on the basis of the behaviors. The contributions of selection to the homogeneity of boy peer groups were 44%, 55% and 40% for hard liquor drinking, smoking frequency and beer drinking frequency, respectively, for girls were 69%, 52% and 79%. Furthermore, Kandel (1978) found similar result of marijuana use in best friend dyads.

Adolescents appear to attribute their own drug use to the behavior of their friends. Fisher

& Bauman (1988) conducted a study to investigate the intensity of peer influence on smoking behavior. The results show that when the best friend was not a smoker, 22.2% of the adolescents who smoked would say their best friend also smoked, whereas 2.3% of the adolescents who did not smoke said their best friend smoked. Among adolescents whose best friends were current smokers, 88.7% of adolescents who were smokers said their best friend was a smoker too. The above findings revealed a tendency of friends to give the impression to others that they are more like them than they really are. Based on an extensive review, Bauman and Ennett (1996) presented evidence that suggests peer influence for adolescent drug use may not be as strong as commonly believed. While studies abound on the association between peer influence and substance use in general, there are relatively fewer research studies on the effects of peer influence on cocaine use in particular.

Williams and Latkin (2007) used an adult sample to examine the relationship between drug influence (as measured by a combined measure of drug-using ties, support for drug use, and connection to daily users) and use of heroin and cocaine. By using a multilevel logistic regression analysis, they took into account the levels of neighborhood attributes, network attributes and individual characteristics. They found that after adjusting for other levels of factors, drug influence was significantly related to reporting current drug use. To be more specific, the odds of reporting current drug use for individuals with stronger drug influences was 8.5 times higher than for individuals with less strong drug influences.

How the properties of social networks facilitate the process of peer influence has been underdeveloped. By using a sample of newly homeless adolescents aged 17 to 20 in Los Angeles and Melbourne, Rice et al. (2005) attempted to examine how the properties of peer networks affect amphetamine, cocaine and injection drug use over 3 months. Multivariate logistic regression analyses show that higher concentrations of homeless peers in networks at recruitment were associated with increased likelihood of amphetamine and cocaine use at 3-month follow-up. Also, change in network structure over time toward increased concentrations of homeless peers was associated with increased risk of cocaine use and injecting. Higher density networks at baseline were

positively associated with increased likelihood of cocaine and amphetamine use at 3 months. The study demonstrated that for newly homeless adolescents the context of their social networks with respect to the behaviors of peers in the network affects their behavior.

Parental History of Substance Abuse

Clinical and anecdotal observations suggested that children of alcoholic parents are at an elevated risk for developing substance abuse problems. Caudill et al. (1994) argued that the impact of parental alcoholism on the children seems to be a function of many variables including family functions, parental expectancies concerning the reinforcing consequences of alcohol consumption, parenting behaviors, parental coping abilities, and psychiatric comorbidity in the alcoholic parent and its impact on the family.

Hawkins, Artbur, and Catalano (1995) reviewed studies which demonstrate parental influence on children's drug use. For example, parental and sibling alcoholism and use of illicit drugs increase risk of alcoholism, drug use initiation, and drug abuse in children. What is more, perceived parent permissiveness toward drug and alcohol use was more important than actual parent drug use in determining adolescent drug, alcohol use. Brook et al. (1990) showed that fathers' nondrug use and emotional stability enhanced effects of peer nonuse of drugs.

In one of the few available descriptions of family histories of drugs abusers, Wallace (1991) found that 51% of crack smokers were children of alcoholic parents, relative to the usual 18-25%. Caudill et al. (1994) revealed that in a sample of 299 crack smokers currently undergoing treatment, those with a parental history of substance abuse were more likely to report illicit drug use in the past year and had received prior treatment more often than those without a parental history of substance abuse. Caudill et al. (1994) argued that studies of families of alcohol and drug abusers should also consider environmental influences and other external realities that may contribute to the clients' development of a substance abuse disorder. For example, in an inner-city environment, the contribution of the family may be different than among populations from other

environments. This highlighted the importance of examining the impact of community and societal factors, as the framework of Figure 3.1 demonstrated. Furthermore, the literature also showed the interaction between family history, race and gender (Russell et al. 1990), which entails the identification of risk patterns in different races and genders. Indeed, 94% of the sample in Caudill et al. (1994) were African-American.

Familial Transmission of Cocaine Abuse

It has long been recognized that family members of a substance dependent individual are more likely to suffer from substance abuse. Evidence also proved an increased familial aggregation of psychoactive drug abuse and dependence. Epidemiological studies have examined relatives of substance use probands with and without alcohol dependence in addition to “normal” control probands (Goldman & Selemon, 1997). This study showed increase rates of alcohol dependence in relatives of substance dependent probands after controlling for the presence of alcohol dependence in probands. This finding suggested that a common addictive factor is transmitted in families. A study of twins by Swan, Carmelli, and Cardon (1997) also demonstrated that shared genetic factors could contribute to the development of both heavy alcohol and substance use. Moreover, several studies showed a specific factor in the familial clustering of substance dependence (see Bierut, et al. 1998). However, the specificity of the transmission of dependence in families could not be further examined, since all drug dependence was collapsed into a single category.

To evaluate the familial transmission of alcohol, marijuana, and cocaine dependence and habitual smoking, Bierut et al. (1998) compared familial aggregation of drug dependence and habitual smoking of siblings of alcoholic dependent and non-alcohol-dependent probands. They found that rates of alcohol, marijuana and cocaine dependence and habitual smoking were increased in siblings of alcohol-dependent probands compared with siblings of controls. In particular, siblings of cocaine-dependent probands had an elevated risk of developing cocaine dependence. In conclusion, alcohol, marijuana, and cocaine dependence and habitual smoking are all familial, and there is evidence of both common and specific addictive factors transmitted in families.

In addition, Bierut et al. (1998) also found that siblings share many characteristics that may be risk factors for development of substance dependence, and so the familial association between proband dependence and sibling dependence may be related to these factors. For example, geographic factors of living environment, family income, race and birth cohort may contribute to a familial clustering of substance dependence. Bierut et al. (1998) also pointed out that birth cohort and sex also influenced the risk of developing dependence, and the significant secular trends in the development of substance dependence.

To take into account family influence as a whole, Hawkins, Artbur, and Catalano (1995) reviewed studies which had the following findings, *inter alia*: (a) Drug salience in the household is the best predictor of children's expectations to use and actual use of alcohol, tobacco, and marijuana; and (b) Oldest brothers as well as parents each had independent effect on younger brother's use, and both drug modeling and drug advocacy by older brothers had independent effects and interacted with parental drug use to provide a risk/protective effect.

The Effect of Parental Divorce on Cocaine Use

Over the last twenty-five years researchers have repeatedly documented the negative influence that divorce has on children both psychologically and in terms of their educational outcomes. Studies have shown that children from homes broken by marital discord are at higher risk of delinquency and drug use (see the review by Hawkins, Artbur, and Catalano, 1995). Furthermore, studies have examined the role of children's ages at the time of parental divorce. For example, Needle, Su and Doherty (1990) found that adolescents who experienced parental divorce during their adolescent years were more likely to use drugs than adolescents who experienced their parents' divorce during childhood. It is unclear, however, if the effects of parental divorce will decline with time.

As for cocaine use, Jeynes (2001) found that children from recently divorced homes showed a tendency to consume cocaine more frequently than children whose parents had

been divorced four years or more. Besides, children from recently divorced homes also were more likely than their children whose parents had been divorced four years or more, to be under the influence of cocaine, while at school. Furthermore, both groups of children of divorced parents showed a greater likelihood to take cocaine and marijuana than children from intact families. Both groups of children of divorce were also more likely to be under the influence of either cocaine or marijuana, while at school. Jeynes (2001) argued that recent divorce may produce a very high level of stress and unhappiness for many children that abates to some degree after some time, but generally does not disappear entirely. In response to the unusually high level of stress and unhappiness that children experience immediately after divorce, some teens may resort to extreme means of coping with that stress that can include the use of cocaine.

3.2.3 Community Level

Apart from familial influence, neighborhood is another essential environmental factor which contributes to one's personal development. For example, Sampson, Morenoff and Gannon-Rowley (2002) extensively reviewed the neighborhood effects related to problem behaviors and health-related outcomes. Examining the social context of drug use represents a burgeoning field of research in drug abuse. For example, research from the Fighting Back program (Robert Wood Johnson Foundation, 1990) revealed that neighborhood disadvantage is significantly associated with drug use and dependence.

In addition, Boardman and colleagues (2001) explored relationships among neighborhood disadvantage, stress, psychosocial resources and adult drug use. They found a more pronounced negative effect of neighborhood disadvantage on drug use for poor respondents, suggesting cumulative risk for doubly disadvantaged individuals. Storr, Chen and Antony (2004) revealed that physical and social characteristics of neighborhood can set the stage for opportunities to become involved with drugs. The study found that residents living in the more disadvantaged neighborhoods were more likely to have experienced a recent drug purchase opportunity regardless of their own illegal drug use. Marzuk et al. (1997) found that mortality rates of overdose involving cocaine and opiates are significantly associated with the poverty status of communities in

New York City. According to Saxe et al. (2001), the visible drug sales in disadvantaged neighborhoods are more harmful than drug use and dependence itself, as visible drug sales and its commonality would normalize substance use behavior that may mislead the public's conception of drug use or enhance the opportunity to get access to drugs.

Without taking into account the multilevel nature of individual characteristics and neighborhood features, the above studies are methodologically weak. Williams and Latkin (2007) filled the gap by employing a cross-sectional multilevel design to examine the effects of neighborhood socioeconomic status on use of heroin and cocaine controlling for the effects of sociodemographic characteristics of participants and network attributes. The results showed that neighborhood poverty was significantly associated with current heroin and cocaine use, after adjusting for significant individual and network characteristics.

3.2.4 Societal Level

Apart from the factors at individual, interpersonal and community levels, the broad societal factors help create a climate in which cocaine use is encouraged or inhibited. These factors include social norms, economic situation and social policies that help to maintain acceptability and accessibility of cocaine use.

Well-publicized enforcement actions communicate social norms of disapproval against the distribution and use of illegal drugs, thereby reducing the demand of these drugs. But this is not applicable to all the individuals. Those individuals who have a strong stake in their roles in family, work, and the community may be deterred from illegal drug involvement (see Hawkins, Arthur and Catalano, 1995). Those with less commitment to roles in the larger society are less likely to be deterred by legal sanctions in the case of domestic violence (Sherman, et al. 1992).

Influence of Cocaine Price on Cocaine Use

The influences of drug price on the consumption of drug use have long been studied. In general, it is assumed that the consumption of drugs would increase when drug price

declines. Becker and Murphy's (1988) theoretical model of rational addiction implies that addictive substances are likely to be quite responsive to price. Becker, Grossman and Murphy (1991) presented evidence of smoking, heavy drinking and gambling to support this model. For example, they found that less-educated persons respond much more to changes in prices of addictive goods than do the more educated; lower-income persons respond more to changes in prices of addictive goods than high-income persons, whereas the latter respond more to changes in future harmful effects; and younger persons respond more to price changes than older persons. In the case of a much greater efforts to educate the population about the harm from drug use, they argued, the effects of a fall in drug prices on demand would be countered by the education program. However, since drug use by the poor would be more sensitive to the price fall than to greater information about harmful longer-run effects, drug addictions among the poor is likely to become more important relative to addiction among the middle classes and the rich. For similar reasons, addiction among the young may rise more than that among other segments of the population.

Supply control is thought to be effective in reducing drug consumption because users of illegal substances reportedly adjust their intake levels as drug prices fluctuate (Moore, 1990). Based on a rational choice model, this perspective expects that the change of drug price compels drug users to modify their drug intake. An individual's decision to take an addictive substance is thought to be more heavily influenced by price than the decision to take a non-addictive substance because the effect of an addictive drugs' price on a user's lifetime budget is much greater (Becker, Grossman, & Murphy, 1991.)

In 1992, the Office of National Drug Control Policy found evidence that cocaine prices and the number of DAWN¹ emergency room mentions were inversely related at the national and city levels. Hyatt and Rhodes (1995) also noticed that higher cocaine prices reduced cocaine related emergency episodes and the percentage of arrestees testing positive for recent cocaine use. Furthermore, Stolzenberg and D'Alessio (2002) examined

¹ Drug Abuse Warning Network (DAWN) is a national public health surveillance system in the US that monitors drug-related emergency department visits and deaths.

the effect of cocaine price on cocaine use among arrestees. Results from a hierarchical generalized linear modeling analysis revealed that in cities where the price of cocaine was relatively high, arrestees had a lower probability of testing positive for cocaine use. Specifically a 10 percent increase in the price of cocaine was associated with a 3 percent decrease in the odds that an arrestee would test positive for cocaine use.

Caulkins (1995) also found that cocaine consumption was responsive to price changes. According to his estimation, the elasticity of demand for cocaine was about -2.5 which means a 2.5 percent increase in the price of cocaine produces a one percent decrease in demand for the drug. He also noticed that higher cocaine prices resulted in an increase in heroin use among individuals using illegal substances. It is suspected that users would adopt heroin as a substitute for cocaine when cocaine prices are high.

However, Stolzenberg and D'Alessio (2002) also found that individuals arrested for income-generating crimes did not have a higher probability of testing positive for cocaine when the price of cocaine was relatively high. They failed to find support for the hypothesis that individuals substituted opiates or marijuana when cocaine became more expensive. Also, they found that reducing the supply of cocaine will have little impact on consumption levels because the price elasticity for this drug is relatively low. This is because cocaine is a highly addictive drug, which leads to strong craving; therefore, cocaine's price elasticity of demand is low compared with other drugs.

Differential Punishment of Powder Cocaine and Crack Cocaine

There was a differential punishment of crack offenders and powder offenders, as reflected in the 100:1 ratio in the Federal Sentencing Guidelines under the Federal Anti-Drug Abuse Act of 1986 in the US, until 2007 when the disparity was abolished. The 100:1 ratio in the two-tiered penalty system basically means that 100 times more powder cocaine than crack cocaine is required to trigger the same mandatory minimum penalty: A five-year mandatory minimum penalty for a first-time trafficking offense involving five grams or more of crack cocaine, or 500 grams or more of powder cocaine, and a ten-year mandatory minimum penalty for a first-time trafficking offense involving 50 grams or

more of crack cocaine, or 5,000 grams or more of powder cocaine.

The differential punishment was initiated at a particular historical period in the US, especially when the new form of crack cocaine was created and the expansion of crack led to a wide variety of issues, such as violence. Besides, it is based on the preconceptions about the pharmacological effects of crack on its users and especially on “crack babies” born to crack-using mothers (see Blumstein, 2003). Because crack defendants are primarily black and powder defendants are primarily white and Hispanic, the differential punishment leads to overrepresentation of blacks in the penal population.

The scientific findings showed that both forms of cocaine are potentially addictive and the route of administration could increase the risk of addiction. It is much easier to smoke a drug than to inject it, and some studies have reported that people prefer, to a small degree, the high from smoked cocaine. These differences in typical methods of administration, not differences in the inherent properties of the two forms of the drug, make crack cocaine more potentially addictive to typical users. As we indicated earlier, smoking crack cocaine produces quicker onset of shorter-lasting and more intense effects than snorting powder cocaine. These factors in turn result in a greater likelihood that the users will administer the drug more frequently to sustain these shorter highs and develop an addiction. Patients have the same symptoms and receive the same treatment regardless of form of cocaine ingested (see United States Sentencing Commission, 2007, p. 63).

The United States Sentencing Commission submitted a report in 1995 to recommend changes to the sentences. In the *Report to the Congress: Cocaine and Federal Sentencing Policy* (United States Sentencing Commission, 2007, p. 8), the United States Sentencing Commission made the following recommendations:

1. Increase the five-year and ten-year statutory mandatory minimum threshold quantities for crack cocaine offences to focus the penalties more closely on serious and major traffickers as described generally in the legislative history of the 1986 Act.

2. Repeal the mandatory minimum penalty provision for simple possession of crack cocaine under 21 U.S.C. § 844.

3. Reject addressing the 100-to-1 drug quantity ratio by decreasing the five-year and ten-year statutory mandatory minimum threshold quantities for powder cocaine offenses, as there is no evidence to justify such an increase in quantity-based penalties for powder cocaine offenses.

The guidelines took effect on November 1, 2007 after Congress decided not to overturn the changes. The U.S. Sentencing Commission made retroactive its decision allowing imprisoned crack offenders to request lighter sentences.

The differential penalties between crack and power cocaine caused blacks to be overrepresented in the penal population in the U.S., due to different preference of the two forms of cocaine across races. It illustrates how race, a factor at the individual level, interacts with penal policy at the societal level. The two-tiered system was based on unfounded evidence of the more toxic nature of crack cocaine. It is a protracted struggle to change the differential punishment so as to rectify the damage done to a specific segment of the population.

3.2.5 Longitudinal and Multi-level Findings

The studies above summarized the findings in the past several decades. But it is not unknown to what extent these findings are applicable across time and space. Some factors have significant effects on cocaine abuse (or drug abuse in general) in certain periods, but not so in other periods. Brown, Schulenberg, Bachman, O'Malley, and Johnston (2001) examined whether risk and protective factors are consistently linked to substance use across historical time, by using nationally representative data collected from 22 consecutive cohorts of high school seniors (n=188,000) from the Monitoring the Future project in the US. The risk and protective factors were classified into five conceptual

domains: (a) Social Location, including gender, race, region, and family structure, (b) Conventionality, including religious commitment and political beliefs, (c) Academics, including college plans, GPA, and truancy, (d) Employment, including hours worked/week and total income/week, and (e) Social Interaction, including number of evenings out and number of dates/week.

The study found that most risk and protective factors were significantly linked to annual cocaine use. Controlling for historical time period, predictors consistently linked to cocaine use were: being Black (Whites higher), number of parents in household (negative), religious commitment (negative), political beliefs (positive), grade point average (negative), truancy (positive), and evenings out (positive). In contrast, parental education, urbanicity, region, college plans, total weekly income, and number of dates per week were inconsistently linked to cocaine use over time.

The study by Brown, Schulenberg, Bachman, O'Malley, and Johnston (2001) underlines how important it is for researchers and practitioners to exercise caution when applying the ecological model of cocaine abuse. Furthermore, studies on factors at individual levels abound in cocaine abuse or substance abuse in general, but there are few studies to examine cross-level factors together by employing a multilevel approach. As referred to above, Williams and Latkin (2007) went a step further by adopting a multilevel design to examine the effects of neighborhood socioeconomic status on use of heroin and cocaine controlling for the effects of sociodemographic characteristics of participants and network attributes. In social sciences, e.g. criminology, more and more studies are employing the multi-level approach to disentangle the effects of different levels (e.g. Sampson and Raudenbush, 1997).

3.3 Harmful Effects

3.3.1 Short-term and Long-term Effects of Cocaine

As a psychoactive substance, cocaine abuse can inflict great harmful effects on the abusers, including acute health effects, chronic health effects, acute social problems and chronic social problems (WHO, 2004). The impact of cocaine abuse on society involves a heightened burden of illness, crime, domestic violence, lower productivity, inability to work and death (by suicide or homicide). For example, users of cocaine dependence can spend a huge amount of money on the purchase of the drug within a very short period of time. Individuals may engage in criminal activities, e.g. violence or prostitution, to obtain money for cocaine. In addition to personal consequences, cocaine use affects the lives of all the people exposed to the environment through a wider spread of infectious diseases (HIV, hepatitis B and C, tuberculosis) and increased exposure to violence (Preti, 2006).

It is generally believed that cocaine produces its effects through the structures deep in the brain. One neural system that appears to be most affected by cocaine originates in a region located deep within the brain called the ventral tegmental area (VTA). Nerve cells originating in the VTA extend to the region of the brain known as the nucleus accumbens, a key area involved in reward. In the normal communication process, dopamine is released by a neuron into the *synapse*, where it can bind with dopamine receptors on neighboring neurons. Normally, dopamine is then recycled back into the transmitting neuron by a specialized protein called the dopamine transporter. If cocaine is present, it attaches to the dopamine transporter and blocks the normal recycling process, resulting in a buildup of dopamine in the synapse, which contributes to the pleasurable effects of cocaine (see Figure 3.2).

The duration of cocaine's immediate euphoric effects depends upon the route of administration. The faster the absorption, the more intense the high. Figure 3.3 compares the intravenous and smoked cocaine on dopamine transporter and self report of 'high' (cited in Nora D. Volkow (12/2/2008)).

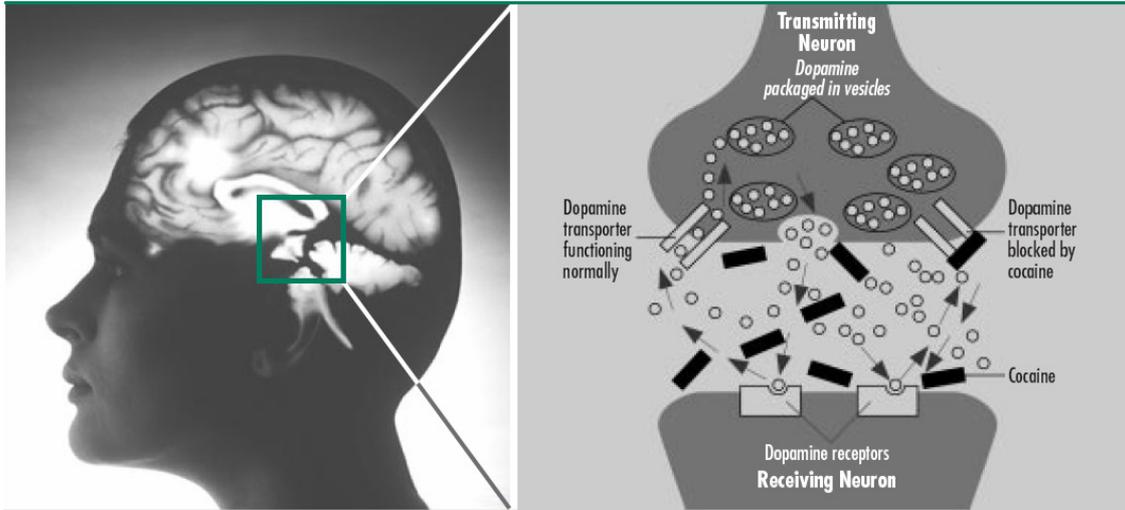


Figure 3.2 Cocaine in the Brain
 Source: NIDA (2004, p. 3)

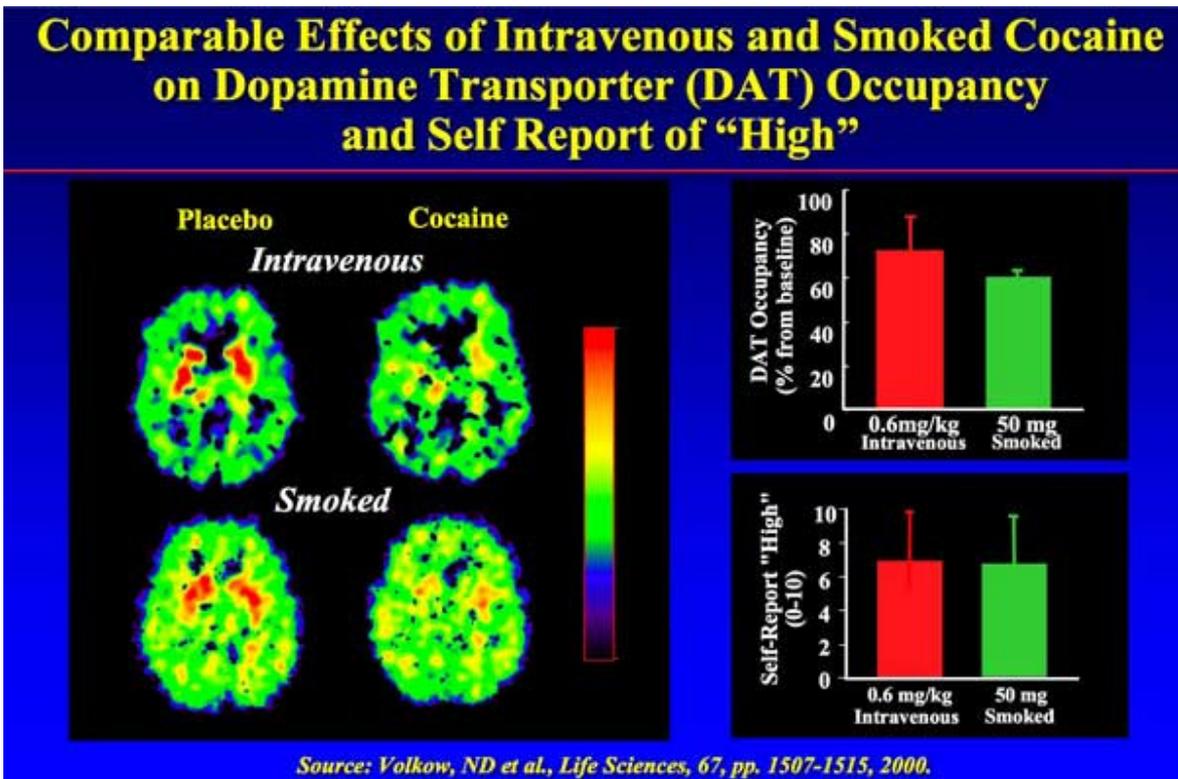


Figure 3.3

Cocaine can produce both short-term and long-term effects. The short-term effects include increased energy, decreased appetite, mental alertness, increased heart rate and blood pressure, constricted blood vessels, increased temperature, and dilated pupils. The long-term effects include addiction, irritability and mood disturbances, restlessness, paranoia, and auditory hallucinations (see NIDA, 2004).

3.3.2 Medical Complications of Cocaine Abuse

Enormous pharmacological studies have proved the acute physical effects of cocaine abuse. In general, cocaine use has been linked to many types of physical impairments, such as cardiovascular effects, cerebral ischaemia, cerebral haemorrhages, optic neuropathy, infarctions, vasospastic effects, cognitive deficits, mood and movement disorders (Volkow, 1996; Bauer, 1996; Bartzokis et al., 1999; Qureshi et al, 2000; Bolouri and Small, 2004; Frishman et al., 2003; Wilson and Saukkonen, 2004; Goldstein et al., 2007). The following paragraphs are to highlight four ordinary disease conditions induced by cocaine abuse.

Cardiovascular Effects

Cardiovascular effects including a series of heart disease are the most frequent medical complications of cocaine use. Since cocaine can disturb heart rhythm, it enhances the risk of heart attack, which can easily provoke lethal effects mainly due to myocardial infarctions. One possibility is that cocaine produces a spasm of coronary vessels, causing a decrease in blood supply to the heart. In the meanwhile, cocaine may also increase the heart's use of oxygen at the same time it is reducing the availability of oxygen to the heart. In a study involving 344 connective patients of myocardial infarction aged 18 years to 45 years from 1998 to 2000, Approximately 1 of every 4 nonfatal myocardial infarctions was attributable to frequent cocaine use. Moreover, the local anesthetic effects of high-dose cocaine may lead to alterations in the electrical conductivity of the heart and to potentially fatal arrhythmias (Johanson and Fischman, 1989).

Vasospastic Effects

Cocaine use can also produce short-term increase in blood pressure. Its vasospastic effects may also be involved in strokes, both ischemic and hemorrhagic, that have been observed in cocaine users (Johanson and Fischman, 1989). And such sympathomimetic effects of cocaine increase oxygen demand by increasing heart rate, systemic blood pressure and left ventricular contractility while reducing oxygen supply through its coronary artery vasoconstriction effects (Baumann et al., 2000).

Renal Failure

A great amount of medical studies also show that acute cocaine intoxication can lead to acute renal failure. Blowey (2005) explained that the causes of such renal failure is probably due to multiple factors and involves a direct vasoconstrictive effect of cocaine on the renal vasculature. The myoglobin-induced renal failure is possibly due to rhabdomyolysis.

Cognitive Deficits

There is a growing body of evidence showing that chronic cocaine use can lead to impaired neurocognitive functioning. Varying degrees of impairment have been reported in specific cognitive domains, including memory, verbal fluency, spatial relations, psychomotor speed, and grip strength (Hoff et al., 1996; Manschreck et al., 1990; O'Malley et al., 1990; Roberts and Bauer, 1993; Strickland and Stein, 1995). In most occasion, two areas of cognition which appear to be consistently impaired are select aspects of attention and executive functioning, namely inhibitory control and decision making.

In recent years, The Brookhaven National Laboratory had conducted a pilot-study to testify the correlation between cocaine use and cognitive deficits via comparing cocaine abusers with normal people. The result proved that cocaine abusers showed hypo-activation of the thalamus, which may also reflect dopamingeric deficits. In addition they showed hyper-activation in occipital and prefrontal cortices, which may increase visual cortical processing to compensate for inefficient visual thalamic processing. Such findings provide evidence of abnormalities in thalamo-cortical response in cocaine

abusers that are likely to contribute to the impairments in sensory processing and in attention (Tomasi et al., 2007). Another study by Bauer (1996) also supports the above findings that patients with cocaine dependence usually exhibit impaired performance in tests of motor system, which infers that the work memory is damaged too.

Besides, the decline of memory, chronic cocaine abuse is directly related to dysfunction in anterior cingulate cortex (ACC) and the prefrontal cortex, areas of the brain involved in higher thought and decision making (Hester & Garavan, 2004).

The Effect of Maternal Cocaine Use

Although the full extent of the effects of prenatal drug exposure on a child is not completely known, a great amount of medical and scientific studies have documented the harmful consequences to the babies whose mother is a cocaine user during pregnancy (Bret Morrow et al., 2000). In this study, they had demonstrated in rats that prenatal exposure to cocaine may cause long-term changes in an area of the brain responsible for short-term memory. Adolescent rats prenatally exposed to cocaine as described above had long-term changes in the frontal cortex (Morrow, Elsworth, & Roth, 2002).

Furthermore, a study included 1,227 infants who were exposed to cocaine (n = 474), opiates (n = 50), cocaine and opiates (n = 48), and neither substance (n = 655) at 1, 2, and 3 years of corrected age by certified, masked examiners found that, infant prenatal exposure to cocaine and to opiates was not associated with mental, motor, or behavioral deficits after controlling for birth weight and environmental risks (Messinger et al., 2004). But there are suggestions that prenatal exposure to cocaine can result in a long-lasting deficit in non-spatial, short-term memory in a spontaneously performed task (Morrow et al., 2002).

By controlling for postnatal environmental factors, an adoption study documents intrauterine developmental risks associated with cocaine exposure. Follow-up into school years is warranted to evaluate the extent of these effects. The children in the study group had smaller head circumferences (34th versus 54th percentiles p = 0.009), lower McCarthy

GCI scores (102.8 versus 114.2, $p \leq 0.02$), poorer receptive and expressive language performance on the Reynell test, and higher activity levels, less persistence and increased distractibility on temperament tests. On multivariate analysis, cocaine exposure was significantly ($p \leq 0.001$) associated with lower IQ and poorer language development independent of intrauterine growth retardation and other potential confounders (Nulman et al., 2001).

Such research proved that exposure to cocaine during fetal development may lead to defects in some aspects of children's cognitive performance such as information processing and attention to task which may affect their ability in school. However, it should be noted that multiple factors such as the amount and number of drugs abused, maternal nutrition, maternal health and extent of parental care would affect the development of these "crack babies" (see NIDA, 2004; Norton et al. 2000).

3.4 Treatment of Cocaine Addiction

In order to combat the physical and psychosocial problems caused by cocaine addiction, comprehensive treatment strategies are needed. In general no unique treatment has been proved to be effective to deal with cocaine addiction. Treatment for cocaine abuse includes both standard and innovative approaches, as for drug abuse in general (Sindelar and Fiellin, 2001). This section provides an overview of the pharmacological treatment and psychosocial therapies for cocaine abuse/dependence. It also briefly reviews the results of studies using acupuncture to treat cocaine addiction. At the end it provides a summary of best practices in cocaine treatment by drawing on Norton et al. (2000).

3.4.1 Pharmacological Treatment of Cocaine Dependence

Given that cocaine use could lead to a series of medical complications both physically and psychologically, pharmacological treatment is adopted as a primary treatment to cocaine dependence. Although there is no consensus regarding how to treat cocaine dependence, effective pharmacotherapy can be potentially playing a major role within a

broader treatment setting (Carroll et al., 1994). In general, the medications aim to treat abstinence symptoms and psychosis symptoms, such as depression, cue-induced craving, paranoid or insomnia (Preti, 2006). In recent years, pharmacological studies started to examine the efficacy of medicine which has been widely used in cocaine treatment including antidepressants, carbamazepine (CBZ) and dopamine agonists, and other drugs such as naltrexone, mazindol and lithium (Silva de Lima, Soares, Reisser, and Farrell 2002).

Clinical Use of Antidepressants

The past decade has witnessed a sustained search for an effective pharmacotherapeutic agent for the treatment of cocaine dependence. While administration of cocaine acutely increases intercellular dopamine, serotonin, and norepinephrine levels by blocking their presynaptic reuptake, chronic cocaine abuse leads to down-regulation of monoamine systems (Gold, 1997). Post-cocaine use depression and cocaine craving may be linked to this down-regulation. Antidepressant pharmacotherapy, by augmenting monoamine levels, may alleviate cocaine abstinence symptomatology, as well as relieving dysphoria and associated craving by general antidepressant action (Margolin, Avants & Kosten, 1995).

The Cochrane Collaboration (Silva de Lima, Farrel, Lima Reisser & Soares, 2008) presented a comprehensive review to evaluate the efficacy and the acceptability of antidepressants for cocaine dependence. Chronic cocaine abuse leads to down-regulation of monoamine system, which may be linked with post-cocaine use depression and cocaine craving. Pre-clinical findings of this kind are the theoretical foundations on which the use of antidepressants for the treatment of cocaine dependence is based. The review covered 18 randomized controlled trials and controlled clinical trials, including 1,177 participants. Positive urine sample for cocaine metabolites was the main efficacy outcome, but no significant results were obtained regardless of the type of antidepressant used. Silva de Lima, Farrel, Lima Reisser & Soares (2008) argued that it may be partly due to the high dropout rates among the patients. They also suggested that clinicians may consider adding psychotherapeutic supportive measures aiming to keep patients in treatment.

Carbamazepine for Cocaine Dependence

Carbamazepine (CBZ) is an anticonvulsant and mood stabilizing drug used primarily in the treatment of epilepsy and bipolar disorder. It is also used to treat ADD, ADHD, schizophrenia, Phantom limb syndrome and trigeminal neuralgia. Carbamazepine has been widely adopted to treat some neurological and psychiatric problems, and is sometimes used for cocaine dependence. The efficacy of CBZ for treatment of cocaine dependent patients was first suggested by an open trial with 35 participants (Halikas et al. 1989). Later Halikas (1997) also found significant results favoring the use of 400 mg of CBZ per day, although therapeutic effects as assessed by clinicians showed that placebo performed significantly better.

Silva, Farrel, Lima & Soares (2007) reviewed 5 studies including 455 participants. There were no differences regarding positive urine sample for cocaine metabolites. Scores on Spielberg State Anxiety Inventory slightly favored carbamazepine, but there was no statistical significance. A non-significant trend favoring CBZ was found in terms of dropouts (RR 0.88, 95% CI 0.75-1.03). Compared with groups using antidepressants and dopamine agonist, fewer dropouts occurred in the CBZ group (RR 0.87, 95% CI 0.71-1.06). When low retention in treatment was due to side effects, no differences were found. The number of participants presenting at least one side effect was higher in the CBZ group (RR 4.33 95% CI 1.45-12.91).

However, the review of trials found that CBZ has not been shown to help reduce cocaine dependence. The dropout rate from treatment was high, adverse effects were common, and there was no significant drop in cocaine use. In those CBZ studies, several side effects were noticed and described, including dermatological hypersensitivity reaction, dizziness, drowsiness, dry mouth, headache, nausea and vomiting.

Dopamine Agonist for Cocaine Craving

A dopamine agonist is a compound that activates dopamine receptors, mimicking the effect of the neurotransmitter dopamine. Although cocaine binds to several sites in the

brain, the biochemical receptor mechanism or mechanisms associated with its dependence producing properties are unknown. It is shown that the potencies of cocaine-like drugs in self-administration studies correlate with their potencies in inhibiting [3H]mazindol binding to the dopamine transporters in the rat striatum, but not with their potencies in binding to a large number of other presynaptic and postsynaptic binding sites. Thus, the cocaine receptor related to substance abuse is proposed to be the one associated with dopamine uptake inhibition (Ritz et al., 1987). Therefore, it is believed that if the dopamine transmission caused by cocaine use could be blocked, it may help to control cocaine craving.

In addition, therapeutic management of the cocaine addicts includes an initial period of abstinence from the drug. During this phase the subjects may experience symptoms such as depression, fatigue, irritability, anorexia, and sleep disturbances, apart from the intense craving for cocaine. It was demonstrated that the acute use of cocaine may enhance dopamine transmission and chronically it decreases dopamine concentrations in the brain. Pharmacological treatment that affects dopamine could theoretically reduce these symptoms and contribute to a more successful therapeutic approach. So dopamine agonists have been used for reducing the symptoms the patients experience during the initial period of abstinence from cocaine.

In the Cochrane Collaboration review (Soares, Lima, Reisser, and Farrell, 2003), 17 studies were included, with 1,224 participants randomized. Amantadine, bromocriptine, and pergolide were the drugs evaluated. The main outcomes evaluated were positive urine samples for cocaine metabolites for efficacy, and retention in treatment as an acceptability measure. There were no significant differences between interventions of dopamine agonist, and in trials where participants had primary cocaine dependence or had additional diagnosis of opioid dependence and were in methadone maintenance treatment. Thus, current evidence does not support the clinical use of dopamine agonists in the treatment of cocaine dependence.

In sum, the above medicines are not proven to be effective to deal with cocaine

dependency. Indeed, multi-factors are affecting the behavior of cocaine use such as personal characteristic, living environment and peer influence. Halikas and his colleagues (1991) also find that cocaine dependent subjects who participated in clinical trials may manifest vastly differing degrees of motivation for change. Such motivation may improve overall outcome significantly, but to date this has not been well demonstrated empirically. Ideally, successful pharmacological intervention should act independently of level of patient, motivation for change, whereas motivation should be the prerequisites for the use of anti-craving medication.

Cocaine Vaccine

Since 2000, psychiatrists and scientists have started designing cocaine vaccine to deal with cocaine addiction. Kosten et al. (2002) used a randomized, double blind, placebo controlled, phase I clinical trial to assess the safety and immunogenicity of a therapeutic cocaine vaccine TA-CD in 34 former cocaine abusers. The vaccine was well-tolerated and had no serious drug-related adverse events, although three subjects at the highest dose experienced brief post injection twitching. Overall, the therapeutic vaccine was well tolerated with dose related increases in antibody levels, and a high proportion of patients recruited into the study were retained.

The vaccine TA-CD is designed to generate drug-specific antibodies, which is bound to cocaine and prevents it from traveling to the brain from the bloodstream, neutralizing its psychoactive effect. The vaccine does not take away the desire or the craving for cocaine but the antibodies it generates would block the priming effect and the reinforcement of the craving if a recovering addict takes cocaine after giving up the drug.

In sum, cocaine vaccine is a newly invented medicine. Its efficacy has not yet been well documented. But it is sure that this is a unique method to deal with cocaine addiction. But a lot of cocaine addicts have complex social and psychological issues. So experts in the field of drug treatment pointed out, if these underlying issues aren't addressed, people with cocaine vaccine may shift from cocaine to other drugs, even when they have had the cocaine vaccine (BBC, 2004). So comprehensive and multi-level treatments are proved to

be relatively effective to cope with cocaine use (Meyer, 1992).

Selected Treatment Outcome Predictors in Pharmacotherapies to Cocaine Addiction

Although no effective pharmacotherapies for cocaine dependence have been found to date, a few variables have been found to significantly predict cocaine treatment response (Poling et al. 2007). These variables include cocaine use variables, such as days of cocaine use in the month before treatment, baseline urine cocaine results, and cocaine withdrawal symptoms (see Table 3.1). Comorbid depression and alcohol use have also been shown to be risk factors for relapse. Among personality variables, impulsivity and similar personality traits may predict treatment response. Initial promising findings with genetic polymorphism, brain activation, and stress response have also been found and need to be replicated in future studies.

Table 3.1 Selected treatment outcome predictors for cocaine dependence

Predictor	Outcome	References
Age, Race	No effect in most studies	
Gender	Mixed findings	Kosten et al., 1993 Weiss et al., 1997 Reiber et al., 2002 Wong et al., 2002
<i>Cocaine use variables</i>		
Days of cocaine use ^a	Poor outcome	Carroll et al., 1993
Cocaine urine result at baseline ^b	Positive cocaine predicts poor retention and outcome Negative urine predicts better response to desipramine	Alterman et al., 1996 Alterman et al., 1997 Ehrman et al., 2001 Patkar et al., 2002 Sofuoglu et al., 2003
<i>Cocaine withdrawal symptoms</i>		
	High severity predicts poor retention and outcome Low and high severity predict better response to GABA medications and propranolol	Mulvaney et al., 1999 Kampman et al., 2001 Kampman et al., 2004 Sofuoglu et al., 2006 Kampman et al., 2001
<i>Use of other drugs</i>		
Alcohol	Mixed findings, increased risk of relapse with continuing use	Carroll et al., 1993 Schmitz et al., 1997 McKay et al., 1999
Smoking	Higher Fagerstrom scores predict worse outcome	Patkar et al., 2003
<i>Co-morbid psychiatric disorders</i>		
Depression	Mixed findings, increased risk of relapse during follow-up	Hasin et al., 2002 McKay et al., 2002
Antisocial personality Disorder	No effect or worse outcome	King et al., 2001 Arndt et al., 1994 Leal et al., 1994 McKay et al., 2000
Disorder	Better response to contingency management	Messina et al., 2003
<i>Personality traits</i>		
Impulsivity	Poor treatment retention	Moeller et al., 2001
Novelty seeking	Poor treatment retention	Roll et al., 2004
<i>Biological markers</i>		
Prolactin	Not significant	Patkar et al., 2004
DHEAS ^c	Increased levels predict retention	Wilkins et al., 2005
Stress response	Higher stress response predicts relapse	Sinha et al., 2004
Cue-induced brain activation with FMRI	Greater activation predicts relapse	Kosten et al., 2006

^a Self-reported days of cocaine use during the month before entering treatment

^b Cocaine use as shown by urine toxicology on the day of treatment entry.

^c Dehydroepiandrosterone sulfate.

Source: Poling et al., 2007, p.193

3.4.2 Psychosocial/Behavioral Treatment

Merely pharmacological treatment may not bring great effects to the patients. Substantial studies recommend that psychosocial therapy and pharmacological medication should be run at the same time (Elkin et al., 1989; Gold, 1996). In general, a series of psychosocial treatments have been widely used, including cognitive therapy, individual and group drug counseling, and supportive-expressive dynamic therapy.

Individual Drug Counseling (IDC)

According to the philosophy underlying the IDC approach, addiction is a complex disease that damages the addict physically, mentally, and spiritually. Because of the holistic nature of the illness, the optimal treatment addresses the needs of the addict in many areas. The philosophy of this approach incorporates two important elements: endorsement of the disease model and the spiritual dimension of recovery. These elements differentiate the approach from some other forms of treatment currently in use and reflect the influence of the 12-step philosophy. The twelve-step ideology offers patients seeking recovery a new way of living which will support them in breaking the cycle of addiction and in maintaining abstinence. Essentially, the twelve steps provide a developmental approach for recovering from addiction. The steps are organized in an order, going from the most basic changes onward to the more advanced changes that individuals motivated to recover may seek to integrate into their lives (Mercer and Woody, 1999).

Crits-Christoph et al. (1999) investigated the efficacy of four psychosocial treatments: cognitive therapy (CT) plus group drug counseling (GDC), supportive-expressive (SE) psychotherapy plus GDC, individual drug counseling (IDC) plus GDC, and GDC. They found that all treatments decreased drug use substantially, with cocaine use in the past 30 days improving from a mean of 10.4 days at baseline to a mean of 3.4 days at the 12-month assessment. They also reported that IDC+GDC group yielded statistically and clinically superior outcomes compared with the other treatments. By month 6, 39% of patients in the IDC+GDC group reported use of cocaine in the past month, compared

with 57% of patients in CT+GDC, 49% in SE+GDC, and 52% in GDC alone. Using the same data, Crits-Christoph et al. (2001) used psychosocial and other addiction-associated problems as the outcomes for the four treatments. It found no significant differences between treatments on measures of psychiatric symptoms, employment, medical, legal, family-social, interpersonal, or alcohol use problems. They concluded that the superiority of individual drug counseling in modifying cocaine use does not extend broadly to other addiction-related problems.

Group Drug Counseling

According to the clinical manual of cocaine abuse treatment by NIDA (Daley, Mercer, and Carpenter, 2002), the group drug counseling (GDC) approach was developed based on extensive clinical experience conducting addiction recovery groups and on a review of the relevant literature. Group therapy is one of the primary approaches used to treat drug addiction, including cocaine dependence. The GDC model addresses common issues in the early and middle stages of recovery from addiction. The philosophy of the GDC approach is that cocaine addiction and other chemical addictions are complex biopsychosocial diseases that are often chronic and debilitating. Many biological, psychological, sociocultural, and spiritual factors interact to contribute to the development and maintenance of cocaine and other types of substance addictions (Daley and Marlatt 1997). Addiction causes or exacerbates a variety of biopsychosocial problems in the addicted person as well as in their families.

The GDC model strongly encourages participation in 12-Step self-help recovery programs such as Cocaine Anonymous (CA), Narcotics Anonymous (NA), and Alcoholics Anonymous (AA). The importance of actively participating in these programs is emphasized in group sessions. Talking at meetings, learning and using the 12 Steps, using slogans, socializing before and after meetings, calling other members, and relating to a sponsor are ways clients can actively participate in the fellowship. Analysis of data showed that clients who actively participated in self-help activities had better outcomes than those who attended meetings without actively participating (Weiss, 1996).

In general, GDC would be run into 2 phases with different treatment objectives and each last for 12 weeks. In phase I, GDC mainly concentrates on psychoeducational group sessions aiming at equipping participant's knowledge and information on different contents such as factors contributing to addiction, relapse risk factors, cocaine and other drug cravings and biopsychosocial issues in recovery. Phase II of the group treatment program is a semi-structured group focusing on problem-solving (Daley, Mercer, and Carpenter, 2002).

Problem-oriented discussions provide group members with a context in which they take responsibility for addressing current problems, figure out coping strategies, receive ideas from other members regarding problems, and receive feedback from the group regarding their attitude or approach to dealing with life problems or ongoing recovery. Apart from individual effort, family members may exhibit behaviors intended to help the addicted member. Family involvement is important in the treatment of addiction (O'Farrell and Fals-Stewart 1999, pp. 287-305). There is an association between relapse and social supports across a range of addictions. Involving the family or significant other of the addicted client in individual or multiple family group sessions can reduce the risk of relapse. For example, during the GDC therapist can also provide assistance to patient's family. Family members can be taught about and encouraged to attend support groups, or family members can learn about strategies that can help them cope better with an addicted relative.

In the US, The GDC model run by NIDA usually includes a one-time family Psychoeducational Workshop (FPW) conducted during the first month of treatment (Daley and Raskin 1991; Daley et al. 1992). Psychoeducational workshops have been used with all types of psychiatric and addictive disorders. Such workshops have a positive impact on participants by lessening the family's burden, increasing helpful behaviors, and decreasing unhelpful behaviors.

In conclusion, GDC would only be effective if patients could stay in the group for more than 3 months. Evidence shows that drug abusers need a minimum of 3 months in

outpatient treatment to benefit from treatment (Simpson et al. 1997). Because keeping clients in treatment for 3 months or longer is important, clinicians should use multiple strategies to improve treatment adherence.

Cognitive Behavioral Therapy

Cognitive-behavioral therapy (CBT) is a short-term, focused approach to helping cocaine-dependent individuals become abstinent from cocaine and other substances (Carroll 1998). The underlying philosophy is that learning processes determine the development and continuation of cocaine use, and the same learning processes can be used to help individuals reduce their drug use. CBT is a highly individualized training program that helps cocaine abusers unlearn old habits associated with cocaine abuse and learn or relearn healthier skills and habits.

According to the therapy manual of NIDA (Carroll 1998), there are sequences of training to modify individuals' mind and irrational beliefs. The first few sessions focus on skills related to initial control of cocaine use such as identification of high-risk situations and coping with thoughts about cocaine use. When the above basic skills are mastered, training is broadened to include a range of other problems with which the individual may have difficulty coping (e.g., social isolation, unemployment).

In addition, to strengthen and broaden the individual's range of coping styles, skills training focuses on both intrapersonal (e.g., coping with craving) and interpersonal (e.g., refusing offers of cocaine) skills. Patients are taught these skills as both specific strategies to control cocaine use or as general strategies that can be applied to a variety of other problems.

Carroll (1998) evaluated the efficacy of CBT in comparison to CM and TSF (12- Steps Facilitation) in a group of subjects that met criteria for both cocaine and alcohol dependence. The study found that both CBT and TSF were more effective than Clinical Management in retaining clients in treatment and reducing cocaine use. Also, patients who were more severely dependent on cocaine stayed in treatment longer, attained longer

periods of abstinence, and had fewer urine screens positive for cocaine when treated with CBT compared with Clinical Management. Again, this suggests that abusers with more intense involvement with cocaine may benefit from the additional structure, intensity, or didactic content of CBT, which focuses specifically on reducing access to cocaine and avoidance of high-risk situations for relapse.

In other clinical populations, follow-up studies of cognitive-behavioral treatments have indicated the durability of their effects with some consistency. For example, cognitive-behavioral treatments have been found to be superior or comparable to acute or continued tricyclic pharmacotherapy in preventing relapse of depressive and panic episodes (Miller et al. 1989; Simons et al. 1986). However, CBT may not be applicable to every patient, for example patients who suffered acute psychosis. On some occasions, the CBT programs may be excessively standardized which ignore the individualistic characteristics (Craske & Zucker, 2001).

Psychosocial–Motivational Interviewing

In treating substance abuse patients, only well established treatment models and effective medicines may not ensure the effectiveness of the treatment. Personal motivation for change is believed as the fundamental factor in the modification of problem behavior. It also noted that patients with low motivation to change have a higher risk to drop out from treatment, especially for patients who are ambivalent about changing.

In order to induce self motivation to make changes, Miller and Rollnick (1991) developed motivational interviewing to induce or increase patients' problem recognition, compliance, and the probability of treatment entry. Motivational interviewing is a clinical style that creates a supportive, nonjudgmental environment through which patients can resolve ambivalence and move to a point of decision and commitment to change. Saunders, Wilkinson, and Philips (1995) conduct a research to study how motivational interviewing takes effects on heroin dependence. Results demonstrated that subjects under motivational interviewing had more commitment to drug abstinence and also reported fewer opiate-related problems. Similar studies also reported reductions in

marijuana and tobacco use following brief motivational interventions (Colby et al., 1998; Stephens, Roffman, Cleaveland, Curtin, & Wertz, 1994, DiClemente, & Mullen, 2001).

Stotts, Schmitz, Rhoades and Grabowski (2001) conducted a study to assess the efficacy of motivational interviewing with cocaine-dependent patients. One-hundred and five participants were randomly assigned to motivational interviewing or detox-only conditions. Results indicated that although subjects and control groups completed the detoxification program at equal rates, completers who received motivational interviewing demonstrated increased use of behavioral coping strategies and reported fewer cocaine-positive urine samples. Patients under motivational interviewing with lower initial motivation were more likely to complete detoxification: 80% of subjects under motivational interviewing submitted negative test result of cocaine use, compared with 62% without motivational interviewing. It indicated that motivational interviewing is beneficial at the beginning stage of drug treatment as it can prepare and enhance patients' self motivation to make good changes. However, we should also note that personal relapse record of drug use may also lessen the motivation to get rid of drugs. Thus motivational interviewing may probably provide better effects at the beginning of treatment.

Community Treatment

Similar with motivational interviewing, community reinforcement approach is another effective treatment to enhance one's motivation to make changes in their substance use behavior. This approach aims to reinforce participants to sustain zero drug use in order to help them to maintain a healthy life style. Increasing cocaine abstinence is the primary goal of this approach.

Community reinforcement approach originally developed as an effective treatment for alcohol dependence with an incentive program (Vouchers) wherein patients can earn points exchangeable for retail items by remaining in treatment and cocaine abstinent. This multi-component treatment as a whole and several of its components have been demonstrated to be efficacious in controlled clinical trials conducted with cocaine-

dependent adults in outpatient clinics (see Budney and Higgins, 1998, p.1).

Since cocaine dependence is a life-threatening problem characterized by behavior patterns that make treatment entry, compliance, and lifestyle change very difficult, the community reinforcement approach with vouchers (CRA + Vouchers) aims to make every effort to facilitate treatment initiation, ongoing attendance, and behavior change that will support a drug-free lifestyle. The general approach taken to achieving this goal is perhaps best described as individualized, empirically based, and behavioral.

The voucher program is a contingency-management procedure that systematically reinforces treatment retention and cocaine abstinence. Points are awarded for cocaine-negative urine test results, and the number of points is increased for each consecutive negative urine sample. Failure to submit a scheduled specimen is treated as cocaine positive. This procedure not only provides a reward for each cocaine-negative test but provides a greater incentive for patients who maintain long periods of continuous abstinence (see Budney and Higgins, 1998).

In the NIDA therapy manual (Budney and Higgins, 1998), it is suggested that to achieve and maintain abstinence patients need to make major lifestyle changes, particularly in the areas of family relationships, vocation, social networks and recreational activities. It is believed that high levels of satisfaction in a cocaine-free lifestyle are needed to compete with the reinforcement derived from drug use and the drug-using lifestyle. Therefore, increasing satisfaction in the above four areas are a major goal for reducing the probability of continuing or resuming cocaine use.

Urinalysis testing is used to measure the patient's progress in achieving cocaine abstinence, which is the basis for receiving positive reinforcement (social and material) to further increase abstinence. CRA+Vouchers is designed as a 24-week treatment program. During weeks 1-12, the therapist schedules two 60-minute individual counseling sessions each week. Additional patient contacts in the form of brief phone calls or in-person sessions are employed as needed. During weeks 13-24, the therapist schedules one 60-

minute counseling session including drug avoidance skills each week, depending on the patient's needs. Urinalysis monitoring is scheduled for three times a week (see Budney and Higgins, 1998).

Five controlled clinical trials were conducted to examine the efficacy of CRA+Vouchers (see Budney and Higgins, 1998, p. 2). In two trials, CRA+Vouchers was superior to standard drug abuse counseling in retaining patients in treatment and documenting clinically significant periods of continuous cocaine abstinence. A third trial demonstrated the efficacy of the vouchers component. In a 24-week, randomized trial, cocaine dependent outpatients were randomly assigned to receive CRA + Vouchers or CRA alone. Results showed that patients who received CRA+Vouchers stayed in treatment significantly longer and achieved greater durations of continuous cocaine abstinence than patients assigned to CRA alone. A fourth clinical trial further supported the efficacy of the voucher program in promoting sustained periods of cocaine abstinence among patients enrolled in outpatient care. A fifth trial tested the efficacy of another component of using patients' significant others to provide social reinforcement when the patient successfully abstained from cocaine abuse, but the study yielded no evidence to support the efficacy of this approach.

In two of the trials with positive outcomes where follow-up assessments were conducted 12 months after treatment entry, evidence supported the greater efficacy of the complete treatment package (CRA+Vouchers), compared to drug abuse counseling or CRA alone. In a review of the use of incentives in the treatment of cocaine dependence, 11 of the 13 studies (85 percent) showed positive treatment effects (see Budney and Higgins, 1998, p. 2).

Brief Strategic Family Therapy

The NIDA therapy manual on Brief Strategic Family Therapy (BSFT) describes in detail how to use this method to treat adolescent drug abuse (Szapocznik, Hervis, and Schwartz, 2003). BSFT is a brief intervention used to treat adolescent drug use that occurs with other problem behaviors. Its focus is on the family system rather than on individual

functioning. The primary emphasis is on identifying and modifying maladaptive patterns of family interaction that are linked to the adolescent's symptoms (p.55). So it intends to address the nature and characteristics of the interactions that occur in the family that either help or hinder the family's attempts to get rid of the adolescent's problem behaviors. A BSFT counselor diagnoses the problem in terms of specific dimensions of family interactions and then implements strategies to correct problems along these dimensions. Family-based interventions have been studied as treatments for drug-abusing adolescents and have been found to be efficacious in treating both the drug abuse and related co-occurring problem behaviors (see Szapocznik, Hervis, and Schwartz, 2003, p.1).

BSFT interventions are strategic because they are practical, problem-focused, and planned (p. 11-13). In terms of practical, BSFT uses strategies that work quickly and effectively, even though they might seem unconventional. The BSFT counselor uses whatever strategies are most likely to achieve the desired structural (i.e., interactional) changes with maximum speed, effectiveness, and permanence. In terms of problem-focused, the BSFT counselor works to change maladaptive interactions or to augment existing adaptive interactions (i.e., when family members interact effectively with one another) that are directly related to the presenting problem (e.g., adolescent drug use). In terms of planned, in BSFT the counselor plans the overall counseling strategy and the strategy for each session. After the counselor determines what problematic interactions in the family are contributing to the problem, he or she then makes a clear and well-organized plan to correct them.

3.4.3 Acupuncture for cocaine addiction

Auricular Acupuncture is one of the alternative therapies which are used in the US and Europe to treat cocaine addiction. The National Acupuncture Detoxification Association (NADA) in the US also codified this therapy as an effective treatment of cocaine addiction. In recent years, studies were carried out to investigate and testify the efficacy of acupuncture on controlling cocaine addiction. However, the results are inconclusive,

with some showing promising results while others reporting no difference. The following section introduced two similar studies with opposing results.

In a study by Avants et al. (2000), 82 cocaine-dependent, methadone-maintained patients were randomly assigned to 1 of 3 conditions: auricular acupuncture, a needle-insertion control condition, or a no-needle relaxation control. Treatment sessions were provided 5 times weekly for 8 weeks. The primary outcome was cocaine use assessed by 3-times-weekly urine toxicology screens while the patient remained in treatment. Longitudinal analysis of the urine data showed that acupuncture completers provided significantly more consecutive cocaine-negative urine samples than did either of the two control groups. Acupuncture completers were also significantly more likely to provide 3 consecutive cocaine-free urine samples in the final week of the study. However, patients assigned to acupuncture completed significantly fewer treatment weeks than patients assigned to either of the two control groups.

However, Margolin et al. (2002) showed no efficacy of acupuncture in treating cocaine addiction. A sample of 820 cocaine-dependent adult patients receiving methadone maintenance was randomly assigned to receive auricular acupuncture, a needle-insertion control condition or a relaxation control condition. As in the previous study, treatments were offered 5 times a week for 8 weeks. Main outcome measures are cocaine use during treatment and at the 3- and 6-month pos-randomization follow-up based on urine toxicology screens and retention in treatment. Results showed no differences in cocaine use by treatment condition and no differences between the conditions in treatment retention.

Overall, the use of acupuncture as a stand-alone treatment for cocaine addiction is inconclusive at best. Various variables could affect the results, for example patients' perception of acupuncture treatment. Research in the future will need to examine acupuncture's contribution to addiction treatment when provided in an ancillary role.

3.4.4 Best Practices in Treatment

There seems to be a conflict as to what criteria to use in evaluating outcomes of treatment. Effectiveness treatment should go beyond the measure of cocaine use alone. As Sindelar and Fiellin (2001) argued, treatment of drug abuse should aim to address a number of issues: effectiveness of treatment, motivation to seek care, access, retention, and cost-effectiveness. As in the case of pharmacotherapies to cocaine addiction, there are also a lot of factors affecting the treatment outcome in psychosocial therapies. For example there is evidence that people with addictions to more than one drug may not respond as well to treatment compared to those abusing only one substance (e.g. Brown, Seraganian and Tremblay, 1994). So Nora D. Volkow, Director of NIDA, cautioned that the NIDA therapy manuals for drug addiction should be viewed as a supplement to, but not a replacement for, careful assessment of each patient, appropriate case formulation, ongoing monitoring of clinical status, and clinical judgment.

Norton, et al. (2000, p.27) provided a summary of best practices in cocaine treatment. There are four guidelines.

Best Practice Guideline #1: The literature does not yet provide sufficient evidence for the efficacy of specific drugs in the treatment of cocaine dependence. However, several antidepressant drugs have shown promise in retaining users in the initial stages of treatment, particularly depressed patients and those who “snort” cocaine. There appears to be some evidence that drugs used in the treatment of opiates or alcohol dependence maybe useful in reducing cocaine use in patients addicted to cocaine and heroin or cocaine and alcohol.

Best Practice Guideline #2: The literature shows good evidence that behavioral treatment procedures (particularly contingency management and cognitive behavioural therapy) are effective in reducing cocaine use and retaining clients in treatment. Further, other active, directive therapeutic approaches using different theoretical approaches may be as effective as CBT.

Best Practice Guideline #3: Enhanced treatment (greater frequency of contact, a

comprehensive recruitment plan with more treatment components) is associated with reduced cocaine use at follow-up.

Best Practice Guideline #4: Consistent with other literature in the substance-abuse field, research continues to support the cost-effectiveness of outpatient/day-treatment versus inpatient treatment. However, some cocaine-dependent clients may require the additional support provided by residential care or inpatient treatment, e.g. clients who are homeless.

Chapter 4 Research Findings

This chapter describes in detail the findings from the three groups of interviewees in the study:

- Cocaine users
- Frontline workers
- Legal professionals

The findings from cocaine users include the following:

- Personal history prior to 18 years old
- Cocaine use
 - a. First time cocaine use
 - b. Cocaine use in the past year
 - c. Cocaine use in the past month
 - d. General situation of using cocaine
 - e. Diagnoses of cocaine abuse/dependence
- Use of other drugs and treatment
 - a. Poly drug use
 - b. Drug treatment history
 - c. Involvement in drug dealing or trafficking
 - d. The Chinese Drug Involvement Scale (CDIS)
- Coping strategies

The findings from the frontline workers are grouped into the following three levels, based on the risk and protective factors of the ecological model (Figure 3.1):

- Individual Level
 - Curiosity
 - Tolerance of other drugs
 - Hedonism
 - Myths on cocaine
- Interpersonal Level
 - Peer Influence
 - Poor Family and School Bonding
- Community Level
 - Triads
 - District Difference
- Societal Level
- Suggestions from frontline workers

The findings from the legal professionals include the following:

- Local Trend of Cocaine Use in Hong Kong
- Correlation between cocaine price and cocaine use
- Characteristic of cocaine users in Hong Kong
- The channels of cocaine trafficking in Hong Kong

4.1 Interviews with Cocaine Users

4.1.1 Personal History prior to 18 Years Old

As shown in Table 4.1, 32.3% of the respondents reported parental divorce/separation prior to 18 years old and 16.1% of them reported parental substance use. Only one respondent reported being victimized by physical abuse and none of them reported experience of sexual abuse.

Table 4.1 Personal history prior to 18 years old

	Under 21 (n=14)	21 or over (n=17)
Parental Divorce/Separation		
Yes	5 (16.1%)	5 (16.1%)
No	9 (29.0%)	12 (38.7%)
Parental Drug Use		
Yes	4 (12.9%)	1 (3.2%)
No	10 (32.3%)	16 (51.6%)
History of Physical Abuse		
Yes	0	1 (3.2%)
No	14 (45.2%)	16 (51.6%)
History of Sexual Abuse		
Yes	0	0
No	14 (45.2%)	17 (54.8%)

4.1.2 Cocaine use

First-time Cocaine Use

As shown in Table 4.2, 64.5% of the respondents started using cocaine within the past five years, among whom two-thirds are under 21 years old. At the first time of cocaine use, two-thirds of the respondents used crack cocaine, more so among those under 21 years old. About 80% of the respondents used cocaine via the route of free-basing or smoking. Ninety percent of the respondents used cocaine at the first time inside Hong Kong. The venues for their initial cocaine use range from own home, friends' home, work place, disco/night club/Karaoke box, or streets, but about half of them used it in disco/night club/Karaoke box. About 80% of them were introduced to cocaine use by friends. The introducers are overwhelmingly male (90%), which should not be surprising, given that only four of the respondents are female. In terms of sources of cocaine, 41.9% of them reported from drug dealers.

Cocaine Use in the Past Year

As shown in Table 4.3, in the past year 77.4% of respondents used crack cocaine, and the rest of them used both forms of cocaine. That means none of them used powder cocaine only. In terms of the major routes of administration, about 90% of them used cocaine via free-basing or smoking, only two respondents via snorting and one respondent used cocaine in conjunction with heroin (speedball). In the past year, 80% of respondents used cocaine less than 20 times per month. Two respondents used it between 20-29 times (less than once daily), and three between 30 to 60 times on a monthly basis (between once to three times daily). During the past year, the expenses of cocaine varied widely, from \$1,400 to \$350,000. One third of them spent less than \$30,000, half of them spent \$40,000 to \$100,000, and one respondent spent \$350,000. The mean of expenses of cocaine in the past year is \$74,255, and the median is \$50,200.

In terms of sources of cocaine, about two-thirds obtained cocaine by paying drug dealers or friends, or through home delivery. About 20% of respondents used home delivery to purchase cocaine. Two respondents obtained cocaine from their friends free, while one respondent exchange heroin for cocaine (see Table 4.4).

Table 4.2 First time cocaine use

	Under 21 (n=14)	21 or over (n=17)
Time of Use		
< 1 Year	7 (22.6%)	5 (16.1)
2-5 Years	6 (19.4%)	2 (6.4%)
5-10 Years	1 (3.2%)	7 (22.6%)
> 10 Years	0	3 (9.7%)
Form		
Powder Cocaine	0	8 (25.8%)
Crack Cocaine	14 (45.2%)	7 (22.6%)
Both form of Cocaine	0	2 (6.5%)
Route of administration		
Snorting	0	7 (22.6%)
Free-Basing	5 (16.1)	3 (9.7%)
Smoking	9 (29.0%)	6 (19.4%)
Country of cocaine use		
Hong Kong	13 (41.9%)	15 (48.4%)
Outside of Hong Kong	1 (3.2%)	2 (6.5%)
Place of cocaine use		
Own home	0	2 (6.5%)
Friend's home	5 (16.1)	3 (9.7%)
Work place	0	1 (3.2%)
Disco/night club/Karaoke box	6 (19.4%)	9 (29.0%)
Streets	3 (9.7%)	2 (6.5%)
Introducer		
Friend	11 (35.5%)	14 (45.2%)
Partner (boy/girl friend)	3 (9.7%)	0
Family member	0	2 (6.5%)
Self	0	1 (3.2%)
Gender of Introducer		
Male	14 (45.2%)	14 (45.2%)
Female	0	3 (9.7%)
Access to Cocaine		
From Friends	2 (6.5%)	8 (25.8%)
Buy from drug dealers	6 (19.4%)	7 (22.6%)
From Partners (girl/boy friend)	2 (6.5%)	0
Self	4 (12.9%)	2 (6.5%)

Table 4.3 Cocaine use in the past year

	Under 21 (n=14)	21 or over (n=17)
Form		
Powder	0 (0%)	0 (0%)
Crack	10 (32.3%)	14 (45.2%)
both	4 (12.9%)	3 (9.6%)
Major Route of administration		
Snorting	0 (0%)	2 (6.5%)
Free-basing	9 (29.0%)	9 (29.0%)
Smoking	5 (16.1%)	5 (16.1%)
Speedball (injection with cocaine and heroin)	0 (0%)	1 (3.2%)
Frequency(times per month)		
<10 time	3 (9.7%)	11 (35.5%)
10-19 times	9 (29.0%)	3 (9.7%)
20-29 times	0 (0%)	2 (6.5%)
30-60 times	2 (6.5%)	1(3.2%)
Expenses of cocaine		
Under \$2,800	1	3
\$10,000-30,000	3	3
\$40,000-100,000	8	7
\$140,000-20,000	1	2
\$240,000	0	1
\$350,000	1	0

Table 4.4 Source of cocaine in the past year

	Under 21 (n=14)	21 or over (n=17)
Buy from drug dealers	1 (3.2%)	2 (6.5%)
Buy from friends	4 (12.9%)	6 (19.4%)
Buy from friends/drug dealers	0	1 (3.2%)
Buy from friends or free from boyfriend	2 (6.5%)	0
Cocaine delivery service	3 (9.7%)	3 (9.7%)
Cocaine dealer himself	4 (12.9%)	2 (6.5%)
Free from friends	0	2 (6.5%)
Use heroin for exchange	0	1 (3.2%)

Cocaine Use in the Past Month

During the past month only one respondent used powder cocaine, and the majority of them used crack cocaine. The form of cocaine used determined the route of administration: the major route of administration was via free-basing, and some of them smoked cocaine. Three respondents did not spend any money on cocaine during the past month. For others, the expense on cocaine was as low as \$400 to as high as \$35,000. The mean is \$7,034 and the median is \$4,000. The price of cocaine ranged from as low as \$180 to as high as \$1,200 per portion (see Table 4.5). This variation in price might be attributed to two reasons: the sources of obtaining cocaine and the unit of weight used for the pricing. For different respondents a proportion might mean different weight and purity. In the past month, two respondents did not use cocaine at all. Nine of them used cocaine 1-4 times and the same number of them used cocaine 5-9 times. Five of them used it 12-13 times, or on average three times a week. Six of them used cocaine 30 times during the past month, or on a daily basis (see Table 4.6).

Table 4.5 Cocaine use in the past month

	Under 21 (n=14)	21 or over (n=17)
Form		
Powder	0	1
Crack	12	15
both	1	0
Major Route of administration		
Snorting	0	1
Free-basing	11	10
Smoking	2	4
Speedball	0	1
Total expenses on cocaine		
Under \$2,000	1	4
\$2,001-4,000	4	7
\$4,001-10,000	6	2
\$10,001- 20,000	2	3
\$20,000	0	1
\$30,000	1	0
\$35,000	0	1

Table 4.6 Times of using cocaine in the past month

	Under 21 (n=14)	21 or over (n=17)
0	1	1
1	0	1
2	0	3
3	0	3
4	0	2
5	2	3
8	1	2
9	1	0
12	2	1
13	2	0
30	5	1

General Situation of Cocaine Use

All respondents reported a downward trend of price, although the price in a particular year varies for different respondents, possibly due to different channels of obtaining cocaine or the different units of weight used among the respondents, as referred to earlier. In terms of availability of cocaine, none of them thought it was 'very difficult' to obtain cocaine, and 24 out of 28 respondents regarded it as 'easy' or 'very easy'. Eight respondents 'never' worried about losing control in cocaine use, and only four respondents worried 'often'. But 16 out of 29 respondents (55.2%) were not concerned about being addicted to cocaine. In terms of perceived risk of harm in using cocaine, the respondents tend to think that the more often the higher risk, with twenty respondents perceived a high risk of harm in using cocaine regularly (see Table 4.7).

Respondents were asked to list up to three reasons of favoring cocaine. Table 4.8 listed all the first choices the respondents gave. The choice of unique rush feeling accounted for 38.7%, the largest proportion. It was followed by 'relaxing and comfortable feelings' (25.8%). The other choices were 'curiosity' (12.9%), 'social and business needs' (9.7%), 'higher social status' (3.2%), and 'kill time' (3.2%). Table 4.9 listed all the second choices the respondents gave. 'Unique rush feeling' and 'social and business needs' topped the list. Table 4.10 listed the third choices of favoring cocaine, with 'curiosity' and 'unique rush feeling' being ranked the first and second. When all the choices are taken together as in Table 4.11, choices in descending order are 'unique rush feeling' (80.6%), 'relaxing and comfortable feelings' (54.8%), 'social and business needs' (48.4%), 'curiosity' (45.2%), 'higher status' (6.5%) and 'kill time' (6.5%).

In terms of 'unique rush feelings', respondents reported that the feeling could not be produced by other drugs, and cocaine can offer stronger rush feeling than other drugs. In terms of 'relaxing and comfortable feelings', some respondents elaborated that when they were under the effects of cocaine they did not have to face the troubles and worries in real life. Some respondents listed 'curiosity' as a reason for favoring cocaine. For them, the process of cooking the freebase form of cocaine was interesting. For example, some respondents reported that they enjoyed creating new tools or utensils to cook the freebase

cocaine. One respondent even told us that a certain standard of flask was good for cooking freebase cocaine and where we can buy it. In terms of 'social and business needs', some respondents explained that when having a party to use cocaine could give them and their friends more fun. Thus cocaine use could help them to enhance friendship. Some respondents were involved in criminal activities and especially dealing drugs, and they reported that they had to use cocaine to smoothen their business deals. In terms of 'higher social status', some respondents explained that cocaine had a symbolic meaning, signifying a superior status among substance users. In other words, they were differentiated from other drug users. Some respondents favored cocaine because it could help them kill time. For example, to cooking freebase cocaine could help them kill time when they felt bored.

They were also asked to list up to three reasons of disliking cocaine. Table 4.12 listed all the first choices the respondents gave. About 61.3% of respondents listed 'too expensive'. The other choices are 'physical harmfulness' (16.1%), 'strong craving' (9.7%), 'emotional problems' (6.5%), and other reasons (6.5%). Table 4.13 listed all the second choices the respondents gave. 'Strong craving' (44.4%) and 'physical harmfulness' topped the list. Table 4.14 listed the third choices of disliking cocaine, with 'strong craving' ranked the first. When all the choices are taken together as in Table 4.15, choices in descending order are 'too expensive' (80.6%), 'strong craving' (64.5%), 'physical harmfulness' (48.4%), 'emotional problems' (22.6%), and 'complicated procedure of cooking cocaine' (9.7%).

Diagnoses of Cocaine Abuse/Dependence

By the criteria of DSM-IV, about two-thirds of the cocaine users were cocaine dependent, and 16% of them met the criteria of cocaine abuse. The rest of the two respondents were occasional users only (Table 4.16).

Table 4.7 General situation of cocaine use

	Under 21 (n=14)	21 or over (n=17)
Availability to Cocaine		
Very difficult	0	0
Difficult	1	2
Sometimes difficult	0	2
Easy	5	11
Very easy	6	2
Loss of Self-control		
Never	4	4
Rare	1	4
Sometimes	5	8
Often	3	1
Ever concerned about being addicted to cocaine		
Yes	7	6
No	5	11
Perceived risk of harm in using cocaine 1 to 2 times		
No risk	2	5
Low risk	3	5
Median risk	4	2
High risk	5	5
Perceived risk of harm in using cocaine occasionally		
No risk	5	3
Low risk	5	8
Median risk	3	3
High risk	1	3
Perceived risk of harm in using cocaine regularly		
No risk	1	0
Low risk	2	1
Median risk	4	2
High risk	7	13

Table 4.8 **First choices of favoring cocaine**

	Under 21 (n=14)	21 or over (n=17)
Unique Rush Feelings	1 (3.2%)	11 (35.5%)
Relaxing and Comfortable Feelings	5 (16.1%)	3 (9.7%)
Social and Business Needs	2 (6.5%)	1 (3.2%)
Curiosity	3 (9.7%)	1 (3.2%)
Higher Status	0	1 (3.2%)
Kill Time	1 (3.2%)	0
Other	2 (6.5%)	0

Table 4.9 Second choices of favoring cocaine

	Under 21 (n=14)	21 or over (n=15)
Unique Rush Feeling	3 (10.3%)	5 (17.2%)
Relaxing and Comfortable Feelings	4 (13.8%)	2 (6.9%)
Social and Business Needs	4 (13.8%)	4 (13.8%)
Curiosity	3 (10.3%)	0
Higher Status	0	2 (6.9%)
Kill Time	0	2 (6.9%)

Table 4.10 Third Choices of favoring Cocaine

	Under 21 (n=11)	21 or over (n=12)
Unique Rush Feeling	4 (17.4%)	1 (4.3%)
Relaxing and Comfortable Feelings	1 (4.3%)	2 (8.7%)
Social and Business Needs	1 (4.3%)	3 (13.0%)
Curiosity	3 (13.0%)	4 (17.4%)
Higher Status	1 (4.3%)	1 (4.3%)
Other	1 (4.3%)	1 (4.3%)

Table 4.11 Three reasons of favoring cocaine

	%
Unique rush feeling	24 (80.6%)
Relaxing and comfortable feelings	17 (54.8%)
Social and business needs	15 (48.4%)
Curiosity	14 (45.2%)
Higher status	2 (6.5%)
Kill time	2 (6.5%)

Table 4.12 First choices of disliking cocaine

	Under 21 (n=14)	21 or over (n=17)
Too expensive	9	10
Strong craving	2	1
Physically harmfulness	2	3
Emotional problems	0	2
Other	1	1

Table 4.13 Second choices of disliking cocaine

	Under 21 (n=12)	21 or over (n=13)
Too expensive	2	0
Strong craving	6	6
Physically harmfulness	2	4
Emotional problems	1	1
Complicated procuring of cooking cocaine	1	1
Other	0	1

Table 4.14 Third choices of disliking cocaine

	Under 21 (n=8)	21 or over (n=10)
Too expensive	2	2
Strong craving	3	2
Physically harmfulness	1	3
Emotional problems	2	1
Complicated procedure of cooking cocaine	0	1
Other	0	1

Table 4.15 Three reasons of disliking cocaine

	%
Too expensive	25 (80.6%)
Strong craving	20 (64.5%)
Physically harmfulness	15 (48.4%)
Emotional problems	7 (22.6%)
Complicated procedure of cooking cocaine	3 (9.7%)
Other	4 (12.9%)

Table 4.16 Cocaine diagnosis

	Under 21 (n=14)	21 or over (n=14)
Cocaine dependence	11 (35.5%)	10 (32.3%)
Cocaine abuse	3 (9.7%)	2 (6.5%)
Less than 10, not applicable in DSM-IV	0	2 (6.5%)

4.1.3 Use of Other Drugs and Treatment

Poly Drug Use

All of the respondents are poly drug users. The other drugs include ketamine, ice, MDMA, cannabis, heroin, midazolam, codeine, Amphetamine, Nimetazepam, and Zipiclone (see Table 4.17).

Drug Treatment History

Twenty-six respondents reported experience of drug treatment. Among them, one respondent underwent 39 times and the rest of them 10 times or less. For 20 respondents, the first drug treatment was compulsory. After the first treatment, some of them relapsed on the day of discharge, some was abstinent for a few days or even a few months, and some other was abstinent for a year. Out of 23 respondents who answered the question on confidence with drug treatment, 16 (9 under 21 and 7 over 21) said 'yes', 4 said 'no', and 3 'half-half'. That means notwithstanding the large number of drug treatment they had had, they were still confident, and more so among young cocaine users. But one cocaine user confessed that he wanted to get out as soon as possible in order to make money (as much as \$40,000 per month through drug dealing).

Involvement in Drug Dealing or Trafficking

Out of 30 respondents who answered the question on involvement in drug dealing or trafficking, 19 of them reported involvement in drug dealing, with 14 involved in drug dealing with a partner. Out of 19 respondents who were involvement in drug dealing, 14 dealt with cocaine, 9 with ketamine, 6 with Ice, 4 with cannabis, 3 with heroin, and 2 with MDMA. Eleven respondents were willing to estimate the average income from drug dealing. It ranged from as low as \$3,000-5,000 to as high as \$300,000 per month (see Table 4.18).

Table 4.17 Poly-drug use

	Under 21 (n=14)	21 or over (n=17)
Ketamine		
Yes	14 (45.2%)	10 (32.3%)
No	0	7 (22.6%)
Ice		
Yes	6 (19.4%)	10 (32.3%)
No	8 (25.8%)	7 (22.6%)
MDMA		
Yes	5 (16.1%)	6 (19.4%)
No	9 (29.0%)	11 (35.5%)
Cannabis		
Yes	2 (6.5%)	9 (29.0%)
No	12 (38.7%)	8 (25.8%)
Heroin		
Yes	0	8 (25.8%)
No	14(45.2%)	9 (29.0%)
Midazolam		
Yes	4 (12.9%)	4 (12.9%)
No	10 (32.3%)	13 (41.9%)
Codeine		
Yes	1 (3.2%)	3 (9.7%)
No	13 (41.9%)	14 (45.2%)
Amphetamine		
Yes	0	2
No	0	0
Nimetazepam		
Yes	1	1
No	0	0
Zipiclone		
Yes	1	0
No	0	0

Table 4.18 Monthly Income from drug dealing (n=11)

	Under 21 (n=8)	21 or over (n=3)
3,000-5,000	1	0
20,000-40,000	3	0
40,000-80,000	3	1
100,000	1	1
300,000	0	1

The Chinese Drug Involvement Scale (CDIS)

The mean, median and standard deviation (*SD*) of the CDIS scores were 85.6, 84.0 and 11.9 respectively. In the validation of the scale by Lam, Ng, and Boey (2002), the mean and *SD* of the sample of students were 38.9 and 15.45 respectively and the mean and *SD* of the sample of drug users were 64.8 and 15.2 respectively. The mean of our sample was much higher than that of the drug user sample in Lam, Ng and Boey (2002), and even much higher than that of the student sample in their study. It showed the beliefs and values relating to drug use and actual drug abuse behavior in our sample. We also ran independent-samples t-test to test the difference between the two age groups (under 21 and over 21) and found no difference between them ($t(27)=.88, p=.39$).

4.1.4 Coping Strategies

In general when under stress people adopt problem-focused coping or emotional-focused coping. The former is aimed at problem solving or doing something to alter the source of the stress, while the latter is aimed at reducing or managing the emotional distress that is associated with (or cued by) the situation (see Carver, Scheier and Weintraub, 1989). In the multidimensional coping inventory as developed by Carver, Scheier and Weintraub, there are fourteen scales, including active coping, planning, suppression of competing activities, restraint coping, seeking social support for instrumental reasons, seeking social support for emotional reasons, positive reinterpretation and growth, acceptance, turning to religion, focus on and venting of emotions, denial, behavioral disengagement, mental disengagement, and alcohol-drug disengagement. The above scales were used to guide the coding of the cocaine users' responses into 'yes' or 'no'.

Table 4.19 Cocaine users' coping strategies when under stress (n=29)

	Under 21 (n=15)	21 or over (n=15)
Active coping	1	0
Planning	0	1
Suppression of competing activities	0	0
Restraint coping	0	0
Seeking social support for instrumental reasons	1	0
Seeking social support for emotional reasons	7	4
Positive reinterpretation and growth	1	1
Acceptance	0	0
Turning to religion	0	0
Focus on and venting of emotions	2	1
Denial	0	0
Behavioral disengagement	0	0
Mental disengagement	10	10
Alcohol-drug disengagement	11	14

Twenty respondents answered the question on coping strategies. When under stress, 25 respondents indicated they would use drugs or alcohol or gambling (only one respondent indicated gambling), a proportion of 86.2%. Twenty of 29 respondents would choose various ways of mental disengagement, e.g. sleeping, going to karaoke, driving at high speed, going to a party, etc. Eleven of them would seek social support for emotional reasons, e.g. talking to friends or family. Only one or two respondents indicated 'active coping', 'planning', 'suppression of competing activities', 'seeking social support for instrumental coping', 'positive reinterpretation and growth', or 'focus on and venting of emotions'. None of them indicated 'restraint coping', 'acceptance', 'turning to religion', 'denial' or 'behavioral disengagement' (see Table 4.19). It showed that the respondents tended to adopt emotion-focused coping strategies.

4.2 Interviews with 20 Frontline Workers

We used the model as depicted in Figure 3.1 to summarize the findings from this group of respondents: individual level, interpersonal level, community level and societal level. They also provided recommendations for better service provision in drug treatment in Hong Kong.

4.2.1 The Individual Level

In the interviews, the front-line workers explained that the following four factors at the individual level played an important role in cocaine abuse: (1) curiosity, (2) hedonism, (3) myths about cocaine, and (4) tolerance of other drugs. For them, some of the factors are crucial for the onset of cocaine use.

Curiosity

Most frontline workers argued that curiosity is one of the major factors to induce the onset of cocaine use among the young and adults. Many of their clients are poly drug users. When they get bored with ketamine, ecstasy, ICE and MDMA, they are motivated to try cocaine. Adult heroin addicts in their 30s to 40s also have the curiosity to try cocaine because of the boredom after a long history of heroin abuse. The following remarks by a social worker from a local NGO reflected the role of curiosity in onset of cocaine abuse:

In recent years, we observed a slight increase in cocaine use among our clients. Among my intake cases, nearly half of the clients in their 30s started using cocaine due to the boredom with heroin or other psychotropic drugs in 2004. As these clients had a long drug use history, they had already got used to the effects of the drugs which they had consumed for years. Therefore, they started seeking further excitement from cocaine.

The interviews with frontline workers reflected the role of curiosity among both the young and adults in the onset of cocaine use. They believed that such curiosity is inter-

related with a substance user's level of tolerance of drugs, which will be addressed below.

Tolerance of Other Drugs

As stated earlier, many of their clients are poly drug users with a substantial history of drug use. In general, young clients usually consume ketamine, ICE, LSD, MDMA and codeine. In addition to those drugs, adult clients use Midazolam, heroin and cannabis. From a pharmacological perspective, drugs users would reach a steady state after repeated dosing of a specific drug. Consequently, they will seek other drugs which can produce stronger excitement. Two outreach social workers in the New Territories explained the onset of cocaine use among the youngsters as follows: "In general, cocaine is not their onset drugs use. Many of them have used ketamine for a period of time. They try cocaine because they find that the euphoric feelings of ketamine could not satisfy their needs and cocaine could provide a stronger rush feeling to them." Another outreach social worker from a different district of the New Territories shared similar points: "As many of the teenagers are poly drug users and they have already adapted to the rush effect of ketamine and they would like to try something exciting or something which can provide strong feelings. So when cocaine is accessible to these teenagers, the chance for them to try cocaine is high."

In sum, the above also implies the inter-relationship between curiosity and tolerance level of ordinary drugs. It seems that the higher the tolerance level of a specific drug the higher the motivation to seek other drugs with stronger effects.

Hedonism

A large proportion of the frontline workers explained that for drug users cocaine has a symbolic meaning of a higher status. It is because cocaine is relatively expensive compared with other drugs such as ketamine. Therefore both teenagers and adults are attracted to try cocaine because of this consideration. Some outreach workers made the following remarks: "Some youngsters may think that there is a symbolic meaning of using ketamine, and some of them even claimed that it is a childish habit. On the other hand, they recognize cocaine as a 'high class drug' which represents a higher status

among the peers. Therefore they are eager to use cocaine.”

According to social workers from drug treatment centers, such phenomena are applicable to heroin addicts who switch to cocaine. They remarked, “as heroin addicts usually have a low self image in general, they would like to try cocaine in order to feel superior. On the other hand, a larger proportion of substance users would think that if they use cocaine, others would think that they are rich and thus they can afford cocaine. This kind of ‘vanity’ would induce people to try cocaine”.

Myths on Cocaine

Among the subculture of drug users, they share a myth that cocaine would not lead to addiction because it has no withdrawal symptoms. According to the clinical psychologists from CSD, since some substance abusers are not aware of the psychological withdrawal symptoms, they tend to think that cocaine would not lead to addiction and therefore they would overlook the risk of addiction and share the misunderstanding among the peers.

The leader of an outreach team observed another myth on cocaine among female users. According to him, “there is a myth among female drug users that drug use could lose weight. Indeed a lot of weight lose medicines contain amphetamine or ice. After taking the drugs, they don’t have the appetite to eat, thus they lose weight.” This myth is shared among the youngsters and as a result some female users would use cocaine in order to lose weight or keep slim. Other social workers reported that using cocaine is regarded as fashionable by some people, a myth which also attracts youngsters to try cocaine.

4.2.2 The Interpersonal Level

According to the frontline workers, there are two main factors at the interpersonal level that are associated with cocaine use, including (1) peer influence and (2) poor family and school bonding.

Peer Influence

An outreach social work team leader explained that drug users (among young people) are

influenced by peer pressure. Since peers are very important for them at the developmental stage of adolescence, they are afraid of being ignored or isolated if they refuse to take drugs with their friends. If they consume cocaine together, they can share the cost of a portion of cocaine in order to lessen individual financial burden. A social worker in a drug treatment center remarked, “Since initial cocaine use is recommended by their peers, the clients are strongly affected by peer influence. Most often this group of clients would bear the price of a portion of crack cocaine with their friends and usually they would use cocaine together after work for entertaining and ‘killing Time’”.

A large proportion of frontline workers shared an observation on an interesting pattern of drug use among their clients: most clients would use different drugs in different groups of friends. For example, they use ketamine together when they are with group A, but they may use cocaine together when they are with Group B. This variation on cross-group drug use is based on a client’s multiple group membership and different preferences of drugs across groups. The Center-in-charge of a substance-abuse counseling centre also observed such a phenomenon among her clients. Therefore a client’s preference of drug types is determined by which group he is affiliated with at a particular time.

Poor Family and School Bonding

Apart from peer influence, frontline workers observed that the youngsters always have different kinds of psycho-social problems, such as pressure from jobs and school, family relationships, and love. In particular many of them do not have a happy family life. Their emotions are easily influenced by their parents. Some people would avoid going home as they don’t want to listen to the marital problems of their parents all the time. Instead they choose to hang on the streets or visit friends’ home, which may elevate the risk of having access to drugs. An outreach social worker observed that in rough estimation, 80%-90% of them have different family problems, such as single family, parent-child conflict and parents’ marital problems.

Many frontline workers reported that drug users share poor academic performance while attending school. They claimed that these youngsters were treated as trouble-makers in

school and were always punished by the teachers. The outreach social worker who made the observations on school bonding above argued that the youngsters who hung on streets or parks rather than going home due to family problems tended to have school problems. They were labeled as trouble-makers and could not gain acceptance in school, but they could gain a sense of belonging from the triads. Obviously failing to gain acceptance in school, they do not like going to school. So it is logical that when their family and school bonding are weakened, peer influence will play a more important role in their life. Therefore if they meet up with peers who use drugs, their possibility of using drugs is heightened.

4.2.3 The Community Level

Triads

The most obvious influence at the community level is from triads. Triads are the major suppliers of different kinds of drugs. People who use drugs are closely related with triads, and the closer the relationship the more access to drugs. Some workers pointed out that at the initial stage of drug use many youngsters can get drugs free of charge – a strategy used by triads to ‘fish them to depend on drugs gradually’.

District Difference

According to some outreach social workers in the New Territories bordering the Mainland, cross-boundary drug use is prevalent. Drugs in the mainland are relatively cheap. Compared with youngsters living in Kowloon, it is relatively convenient for youngsters living in North District to visit the Mainland. Many youngsters living in these districts would go to the mainland to use drugs twice a week. One of the social workers explained this phenomenon in detail:

Some of the youngsters would visit discos in the Mainland twice a week to take drugs. It is because housekeepers (燈頭) in the disco there could provide a safe environment for them to take drugs. There are several reasons for cross-boundary substance abuse. First, the price of drugs is lower. Second, the youth may think

that the risk of being arrested is lower. For example mainland discos do not impose an age restriction and teenagers at the age of 12-13 could easily get into a disco. Finally the youngsters could make friends especially girlfriends or boyfriends there, which may be an attractive point to them.

Another social worker shared a similar point on cross-boundary drug use in Shenzhen by teenagers from Sheung Shui due to a lower price and a high likelihood of finding a girlfriend (in the case of male drug users). In sum, cross-boundary substance abuse is mainly attributed to geographical location, drug price and accessibility of drugs.

4.2.4. The Societal Level

The declining price of cocaine also plays an important role in cocaine use behavior. Based on the observations of social workers, the past several years saw a growing cocaine use coupled with declining cocaine price. Ten years ago cocaine use cases were rarely reported. However, starting from 2004 and 2005, they saw a slight increase in reported cocaine cases from the centers. They also heard from the youngsters and clients that many of their peers started trying cocaine as its price kept declining from \$800 per portion previously to \$400 per portion in 2006. At the time of the interviews for this study, the frontline workers reported that the price of a drop of crack cocaine costs only \$250-\$350 (latest information from their clients). Therefore it is postulated that more of the youngsters will initiate cocaine use because of the declining cocaine price.

A social worker in the New Territories also shared a similar view that starting from early 2007 more teenagers and clients (the size of this population is unclear) reported use of cocaine. They also heard from clients that since the price of cocaine kept declining from \$800 to \$400 or \$350 for a portion, many teenagers could afford to buy crack cocaine by sharing the cost together. The information above showed the increasing popularity of cocaine use was highly associated with the declining price of cocaine.

4.2.5 Suggestions from Frontline Workers

Many respondents provided suggestions on two areas, including preventive education and effectiveness of existing approach to drug treatment in Hong Kong.

Many of the social workers suggested preventive education on drug abuse be further developed through holding more workshops not only in secondary schools but also in primary schools. However, they also noted the difficulties in soliciting the cooperation from the schools. One of the social workers emphasized the importance of school cooperation in treating young drug users, but lamented the cold response from the schools. For example when they approached schools with known drug problems to provide workshops on drug education and prevention, the schools gave them a cold shoulder. Some other schools refused to release any information on drug use to them, most likely in order not to ruin the schools' reputation.

These social workers also advocated more vigorous promotion of prevention education in primary schools. It is their conviction that if the children could master an accurate understanding of drug abuse at the stage of primary school, they may not try drug use so easily when they are promoted into secondary school. An outreach social worker illustrated the point as follows:

The age of onset of drug use keeps declining in this region, and preventive education in primary school is needed to enhance the awareness of parents, children and schools. This may help prepare the children to avoid drug abuse when they are promoted to secondary school. But we noticed that many principals of schools at risk of substance abuse rejected our request to hold education workshops in their schools because they worried that it would affect their schools' reputation.

Some frontline workers also pointed out that drug education should be provided to existing drug users as well, especially given that many of them hold misunderstandings on drug use, such as the myth that cocaine would not cause addiction. A social worker who shared this point of view argued as follows:

Although the government has invested a large amount of money on drug education or preventive education, the focus is on those who have not used drugs. For example many of the resources are devoted to preventive education in schools, but inadvertently it seems to ignore the youngsters who use drugs but are not severely addicted. If more resources could be invested on this group of youngsters, it may help prevent them from sliding into severe drug use.

Furthermore, some frontline workers suggested that existing drug treatment practices should be evaluated adequately in order to ensure their effectiveness. As they noted, the existing policy in Hong Kong mandates a clear distribution of drug treatment provision among outreach, outpatient and institutional (inpatient) services. They argued that it is a 'must' to assess if such a clear boundary of work distribution is effective. In addition, some social workers suggested that law enforcement agencies should launch more raids or intensive operations to tackle drug dealing in order to control the supply of cocaine.

4.3 Interviews with Drug Law Enforcement Professionals

4.3.1 Local Trend of Cocaine Use in Hong Kong

The Police Force

Police records showed that cocaine started to spread in Hong Kong in 2004. Prior to 2004, there were few listed cases of cocaine use. A decade earlier, cocaine was usually used by wealthy people with a higher income, such as those who were educated overseas. In recent years, the police noticed some changes in the trend of cocaine use. Since the price of cocaine keeps declining, cocaine use is not restricted to wealthy people but spreads to people with a lower income. Table 4.20 shows the downward change of cocaine price over the years 2001 – 2007. Table 4.21 differentiated the prices of powder cocaine and crack cocaine in 2007. Prices for either form of cocaine decreased since January 2007, but started rebounding since May 2007.

In the past cocaine users usually bought or used cocaine in private parties or through dial-a-drug service, thus it was quite hard for the police to break into those venues. In 2004 the police arrested cocaine users with a low income, reflecting that cocaine has started spreading into different social classes. Table 4.22 shows the upward trend of persons arrested on cocaine offences since 2004.

There are more cases of buying cocaine in discos in recent years, and the type of people involved varies greatly. In the past, the major market of cocaine was Europe. Recently there has been a shift of market to Hong Kong. There is no evidence that cocaine use is prevalent in Hong Kong, but the number of cocaine trafficking cases has increased since 2005. Table 4.23 shows the seizures of cocaine from 2001 to 2007. For the police, it is difficult to predict the likelihood of having a cocaine/crack epidemic in Hong Kong in the future, because there are so many variables that can affect the pattern of drug trafficking or drug use in Hong Kong.

Table 4.20 Average Retail (Street) Price of Cocaine

	Price (per gramme)
2001	\$1,113
2002	\$1,261
2003	\$1,152
2004	\$951
2005	\$745
2006	\$791
2007 (Jan-Sept)	\$784

Sources: Narcotics Bureau of the Hong Kong Police Force.

Table 4.21 Average Retail Price of Illicit Drugs in Hong Kong (2007)

	Powder cocaine (per gramme)	Crack cocaine (per gramme)
Jan	\$1,059	\$942
Feb	\$904	\$875
Mar	\$810	\$881
Apr	\$587	\$574
May	\$697	\$803
June	\$719	\$896
July	\$772	\$794
Aug	\$727	\$888

Sources: Narcotics Bureau of the Hong Kong Police Force.

Table 4.22 No. of Persons Arrested on Cocaine Offences of All Ages

	No. of Persons
2001	42
2002	43
2003	59
2004	103
2005	217
2006	296
2007 (Jan-Sept)	462

Sources: Narcotics Bureau of the Hong Kong Police Force.

Table 4.23 Seizures of cocaine

	Seizures (kg)
2001	29.70 kg
2002	8.30 kg
2003	6.63 kg
2004	55.53 kg
2005	11.61 kg
2006	14.88 kg
2007 (Jan-Sept) [#]	35.21 kg

Sources: Narcotics Bureau of the Hong Kong Police Force.

[#] The figure of 2007 (Jan – Aug) is provisional as the full results of examinations in the period by the Government Laboratory are not yet available.

The Correctional Service Department (Rehabilitation Unit)

Many of the inmates in Hei Ling Chau Addiction Treatment Centre are heroin addicts with a low income. It is not common for the Addiction Treatment Centre to target primary cocaine abusers. As cocaine is a relatively expensive drug, it is not popular among the inmates, especially the middle-aged group. Thus, the officers in the Drug Treatment Centre did not perceive an upward trend of cocaine use. As of August 2007, less than one fifth of around 500 inmates in the Treatment Centre reported cocaine use experience. In 1992, there were inmates from Training Centers who sold cocaine prior to admission, but they normally sold cocaine to artists and did not use it themselves. The records show that there were only two primary cocaine users of every 100 inmates from April 2006 till 2007.

From the recent records, the officers noticed that more inmates reported cocaine use experience after 2003, usually smoking or free-basing crack cocaine. In 2004-2005, the officers heard that the price of a portion of cocaine dropped rapidly from \$800 to \$500. Therefore more of the inmates can afford the expense. According to the officers, the slight change of cocaine use related to inmates in custody does not serve as adequate evidence for cocaine prevalence in Hong Kong.

The Customs and Excise Department

According to the respondents from the Customs and Excise Department, although it is getting cheaper, cocaine is still relatively expensive, compared with ketamine. There is no emerging evidence to support the widespread use of cocaine in the near future under normal circumstances. Although it is suspected that some criminal organizations attempt to expand the cocaine market to East Asia, it does not imply that drug users in Hong Kong would prefer cocaine than other types of drugs.

Legislative Council Member

The legislator we interviewed did observe an increasing number of cocaine users. The trend of drug abuse varies from time to time. For example, in the past heroin was popular, followed by party drugs. In different generations, youngsters or substance users in general are attracted to drugs that they have not tried previously. This kind of curiosity produces new drug trends. It is also applicable to the increasing popularity of cocaine use. In the past decade cocaine was expensive and not popular. Recently its price has dropped rapidly and thus many youngsters can afford it.

4.3.2 Correlation between Cocaine Price and Cocaine Use

The Police Force

The interviewed police officer opined that the price of cocaine is linked to its prevalence of use. It seems the cheaper cocaine becomes, the more use there is in the community. Sometimes drug seizures affect the price of drugs, but it is not always true. With the price of cocaine dropping, even youngsters with a low income nowadays can afford it. One of the most important reasons for the upward trend of cocaine use is that nowadays young people are more willing to experiment with new types of drugs.

The Correctional Service Department (Rehabilitation Unit)

CSD officers share with the police on the relation between cocaine price and cocaine use. When the price of cocaine drops, more inmates report cocaine use experience. To some extent, they do not agree that there are unique reasons for cocaine use, compared with other types of drug use. But there could still be some reasons to explain why people

would be attracted to cocaine. First, many of them are poly drug users and it is likely for them to seek new drugs due to curiosity. Second, they can interact with different people in their social life and the chances for them to get access to cocaine are high. Third, cocaine is more expensive than other drugs and is regarded as a “high class” drug, and thus using cocaine is prestigious and shows a superior status among their peers. Finally, many of them have the myth that cocaine would not lead to physical dependence and they share a misunderstanding that cocaine does not cause addiction. The above factors serve to enhance cocaine’s attractiveness to the users. Taken together, the declining price of cocaine is just one of the attractions of cocaine, rather than a unique one.

4.3.3 Characteristic of Cocaine Users in Hong Kong

The Police

Cocaine is used among the high class, middle class and low class people. But high class people always use cocaine at private parties or private residences, thus it is difficult for the police to break into such venues. Moreover, both high class and middle class people would not collect the drugs personally. Instead, they would call someone else to do so, such as through home delivery.

The Correctional Service Department (Rehabilitation Unit)

Inmates with a habit of cocaine use are younger than heroin users. Many of them are at the age of 20-30 years old. In the past only inmates who had a close relationship with triad leaders could obtain cocaine. But nowadays even youngsters without any triad affiliation can easily buy cocaine from discos or through the networks of their friends.

4.3.4 The Channels of Cocaine Trafficking in Hong Kong

The Police

Nowadays cocaine usually comes from the Mainland. After cocaine is imported to Hong Kong, drug dealers would use the old fashion to distribute the drug for retailing. For example, they buy several kilos of cocaine from mainland China, and then distribute it in

ounces (about 28 grams). Normally an ounce of cocaine would be sold to middle level traffickers, who would further distribute it or make crack cocaine to sell to different households. Normally the buyers would not collect the drug by hand. Instead, they would rather pay some guys to pick it up for them. This is a most traditional method.

The Customs and Excise Department (Drugs Investigation Bureau)

The Customs and Excise Department provides very comprehensive information on drug trafficking in general and cocaine trafficking in particular.

According to the Department, Hong Kong is not a major transit/transshipment point in the international drug market. Cocaine trafficking has been steady and accounts for a small proportion of trafficking of dangerous drugs in Hong Kong. In 2006, the Department arrested nine couriers of eight different nationalities at the Hong Kong International Airport for trafficking a total of 7.2 kilograms of cocaine. Through a joint operation of “Operation Scenthound” (神犬行動) with the Anti-Smuggling Bureau of General Customs Administration of the Mainland and the Drug Enforcement Administration of the United States, officers seized 141 kilograms of cocaine and arrested seven persons in the Mainland and 1 kilogram of cocaine and arrested two persons in Hong Kong. In 2007, apart from the exceptional case involving 160 kilograms of high-grade cocaine hidden inside two containers of bottled distilled water from Panama, the Customs arrested 12 couriers with a total of 10.5 kilograms of cocaine. The Department does not notice an apparent upward trend of cocaine trafficking in recent years.

The major market of cocaine is the United States and Europe. Cocaine occasionally flows through Hong Kong to destinations including mainly European countries and sometimes mainland China. Drug traffickers usually adopt diversionary routes to traffic cocaine to Europe, usually from South America to the US/South Africa, to East Asia (including Hong Kong), and then to Europe. Intelligence exchange and joint operations with overseas Customs Administrations and law enforcement agencies shows that international drug trafficking syndicates intend to expand the cocaine market to mainland China.

Some of those syndicates stock cocaine in mainland China and seek also channels to sell it to near-by regions including Hong Kong. Taking advantage of the very heavy passenger and vehicular traffic at the various entry and exit points, traffickers usually adopt land routes through mainland China to smuggle small quantities of cocaine into Hong Kong.

The Department started to notice cocaine trafficking in Hong Kong since the 1980s. It was steady until 2004 when there was a slight increase of cocaine import. It was generally difficult to describe the characteristics of those arrested for cocaine trafficking. But most obviously many of the arrested traffickers were South Americans and they usually adopted the method of internal concealment via air in cocaine trafficking. Among the nine couriers arrested at the Hong Kong International Airport in 2006, as referred to earlier, three of them concealed pellets of cocaine inside the body cavity. In July 2007, a Peruvian woman, from Brazil to Hong Kong via Johannesburg, was arrested with 99 plastic pellets of cocaine, weighing 1.4 kilograms and concealed inside her body cavity. Table 4.24 lists the closed cocaine offences in 2006-2007.

According to the Department, it is not popular for the drug traffickers to import cocaine via overseas speed-post or express parcels. But this method was used occasionally, primarily to transmit a small quantity of cocaine each time in order to avoid detection. To effectively tackle this modus operandi, the Department adopts the strategy of risk management at various entry and exit points of Hong Kong. They have mandated a series of risk indicators to enhance the detection of suspicious parcels and travelers. For example, it would arouse customs officers' suspicion if distilled water is imported from a distant country. In such a case, the officers would enhance surveillance on these parcels, e.g. through scanning tests. In addition, the Department maintains the air cargo clearance system, the land border system and the customs control system to process information on all import and export cargos quickly to reduce the risk of drug trafficking.

Some traffickers would pretend as travelers and enter at the peak hours in order to avoid detection. Some others would import drugs via cargo from the Mainland to Hong Kong. Although the heavy volume of vehicular and passenger traffic at the land boundary

between mainland China and Hong Kong continues to pose difficulties in the fight against trafficking of drugs into Hong Kong, enhanced security check at high risk periods is a common countermeasure against the above phenomena. For example, the customs officers would keep a close eye on youngsters who return to Hong Kong during small hours from the Mainland. Those who haunt discos and nightclubs in the Mainland would return during this period. There is a possibility that they would assist in drug trafficking, with ketamine being the most popular drug under such circumstances. Sometimes the customs officers also arrested cocaine traffickers at the land control points, but the amount of cocaine involved is relatively small.

In terms of anti-narcotics strategy in general, the Department adopts a three-pronged approach to combat drug trafficking, including drug investigation, recovery of drug or crime proceeds and control of precursor chemicals used in the illicit manufacture of drugs. It exercises stringent control at entry and exit points to prevent the inflow of drugs and their transit through Hong Kong. The Department has taken an active role in tracing proceeds derived from drugs and organized crimes. Moreover, the Joint Financial Intelligence Unit operated by the Customs and the Police investigates suspicious transaction reports from the financial institutions.

The Department maintains a licensing system under the Control of Chemicals Ordinance to regulate the trade of 25 chemicals, which are commonly used for the illicit manufacture of narcotic drugs and psychotropic substances. Potassium permanganate is an essential chemical for the illicit manufacture of cocaine, so the Customs maintains a licensing system for the manufacture, import and export of the chemical. The licensing system plays a major role in controlling overseas cocaine production, rather than directly controlling the supply of cocaine in Hong Kong. In October 1999, the Customs assisted the U.S. Drug Enforcement Administration (DEA) to hold the Second International Potassium Permanganate Meeting in Hong Kong, in order to further address the criminal diversion of potassium permanganate into the illicit drug trafficking market.

The customs & excise intelligence system (CEIS) also plays an important role in drug

investigation and co-operation with other countries. The CEIS provides various kinds of intelligence products and risk management application tools to facilitate cargo clearance, investigation, intelligence analysis, and research on smugglers ' modus operandi and crime trends. For example, if a company reports export of Potassium Permanganate to a country, the Department would counter check with the corresponding law enforcement agency to validate the import of Potassium Permanganate in their country. As noted earlier, it is suspected there is a cocaine stock in the Mainland which could be spread to the markets in East Asia. Therefore, in 2008 the Department has been maintaining a close cooperation and information exchange with their counterpart in the Mainland to monitor the changes.

The Department is planning to increase the number of drug-sniffer dogs, in order to enhance the effectiveness of drug combating operations. The Department perceives preventive education as essential to combat drug abuse. If people are more aware of the side effects of drugs such as the medical complications, it will produce some deterrence effects. For example, ex-drug abusers could be invited to share the risks and consequences of drug abuse.

Table 4.24 Closed Cocaine Offences in 2006-2007 (as at 04.22.2008)

Sentence	Seizure quantity (Cocaine)	Date of sentencing	Nationality & Sex of the Arrestees	Date of offence
Imprisonment 21 years	1 kg	8.2007	2 Colombian men	3.2006
Imprisonment 21 years	2.9 kg	1.2007	1 Filipino woman	4.2006
Imprisonment 16 years & 8 months	1.5 kg	8.2007	1 Hong Kong man	1.2007
Imprisonment 15years	1.1 kg	2.2008	1 Peruvian man	8.2006
Imprisonment 14 years	1 kg	7.2007	1 Ghanaian man	12.2006
Imprisonment 13 years & 4 months	985 gm	10.2007	1 Peruvian woman	7.2006
Imprisonment 10 years & 8 months	270 gm	2.2008	1 Hong Kong man	8.2007
Imprisonment 10 years	644 gm	4.2007	1 Colombian man	9.2006
Imprisonment 7 years & 4 months	294 gm	4.2008	1 Hong Kong man	9.2007
Imprisonment 7 years	272 gm	1.2008	1 Hong Kong man	8.2007
Imprisonment 7 years	280 gm	11.2007	1 Hong Kong man	5.2007
Imprisonment 6 years & 6 months	264 gm	3.2008	1 Hong Kong man	9.2007

Source: The Hong Kong Customs and Excise Department

Chapter 5 Discussion and Conclusion

5.1 Cocaine Use among the 31 Cocaine Users

- The cocaine users are mostly young, male, single, with an education of senior secondary or lower, non-professional, and non-religious.
- Among them, 93.5% had a criminal record.
- They preferred using crack cocaine via the smoking (free-basing) route of administration, which remains more or less stable across time (first time, last year, and last month). This shows the popularity of crack cocaine among the users.
- Among the respondents, 64.5% of them started using cocaine within the past five years. This is consistent with reports from various sources that cocaine has become more affordable in Hong Kong during the recent years.
- They more or less understood that cocaine use was harmful. This is somewhat inconsistent with the front line workers' observations that cocaine users, especially young cocaine users, held the misunderstanding that cocaine would not lead to addiction.
- They favored cocaine because of its 'unique rush feelings', 'relaxing and comfortable feelings', 'social and business needs', or 'curiosity', among other reasons, in descending order. "Unique rush feelings" and 'relaxing and comfortable feelings' show the perceived difference of cocaine from other drugs among cocaine users. 'Social and business needs' shows the instrumental use of cocaine among some cocaine users. 'Curiosity' plays a less important role in sustaining cocaine use, unlike the important role it plays in the onset of cocaine use among both the young people and adults, as observed by front line workers.
- They disliked cocaine because of 'too expensive', 'strong craving', 'physical harmfulness', among other reasons, in descending order. 'Too expensive' was chosen by over 80% of respondents, showing that cocaine is still perceived to be relatively expensive, regardless of recent drop of price.
- Most of them were introduced to cocaine by friends. Most of them obtained cocaine by paying drug dealers or friends. A substantial number of them used delivery service.

- They considered as fairly easy to obtain cocaine in Hong Kong.
- In terms of frequency of using cocaine, 54.8% of them used cocaine more than 10 times per month, and 16.1% of them used it once or twice a day.
- The majority of them were poly drug users (77.4%).
- About two-thirds of them were cocaine dependent, and a quarter of them met the criteria of cocaine abuse.
- Most of them (83.9%) had prior experience of drug treatment, and some of them relapsed on the day of discharge. Nevertheless, most of them were still confident with the prospect of recovery. However, one user confessed his impatience with staying in the drug treatment centre because it impeded his opportunity to make money (as much as \$40,000 per month through drug dealing).
- Their expenses on cocaine in the past year varied widely, with some spending as much as \$350,000 and some spending less than \$2,800 during the past year.
- A large number of them were involved in drug dealing and created considerable income by dealing with drugs. To some extent, they used drug dealing to finance their drug use.

5.2 Risk Factors for the Cocaine Users

5.2.1 Family Bonding

Their self-reports of personal history prior to 18 years old showed that there was a high proportion of parental divorce/separation among them. Indeed, the literature shows that parental divorce is related to a higher risk of drug use generally and cocaine use particularly. The frontline workers' field experiences also supported the vital role poor family bonding plays in 'pushing' the kids to the streets and to be associated with drug-using peers and even triad members. This is alarming, given that family disharmony in Hong Kong was rather common. For example Shek (2002) showed that roughly 10-30% of adolescents perceived global family conflicts in their families.

5.2.2. Peer Influence

A large proportion of them were introduced to cocaine by their friends. This underlines the important part peer influence plays in the onset of cocaine abuse. The peer influence might be more essential in the case of cocaine use, compared with ordinary drug use, given that cocaine abuse is rather new to Hong Kong. Also, as the frontline workers reported, peers could share the cost of a portion of cocaine so as to lessen the financial burden. Thus, the expensive cocaine is made less expensive. Sharing of cocaine in this way might further reinforce the superior status of cocaine and encourage more youngsters to try, given that cocaine is still considered a 'high-class' drug and even as 'fashionable' among the drug users.

Furthermore, over one-third of them obtained cocaine by purchasing it from their friends in the past year. That means they were involved with a circle of drug dealing friends. This should not be too surprising, given that a high proportion of them were drug dealers themselves. Thus, the meaning of friends under the context of obtaining drugs might be rather ambiguous. The friends could just be those they got to know when using or dealing with drugs. In that case, drug using and dealing pushed them to be associated with people of the same path - Birds of a feather flock together. Expectedly, this association would further push them down the path of drug using and drug dealing.

5.2.3 Poor School Bonding

Poor school bonding, when interacted with poor family bonding, aggravated the situation for youngsters involved. When they have problem in learning, their acceptance level at school is supposed to be low, partly due to the achievement-oriented social values in Hong Kong society. Thus, there is one more pushing factor for them to be hanging out on the streets. Schools are an important front in drug education and drug prevention, given the sheer number of students in Hong Kong and the large proportion of CRDA young drug users reporting drug use at the school age. However, most of schools were not cooperative when NGOs initiated anti-drug abuse activities, according to frontline workers. This should change and is changing, when the latest inter-departmental Task Force on Youth Drug Abuse headed by the

Secretary of Justice Mr. Wong Yan Lung appealed to schools to take an active role in drug education and prevention.

5.2.4 Pulling Factors from Triads

Apart from the pushing factors above, there is a powerful pulling factor on the streets. It is the triad. They reportedly used school students to be their ‘legs’ in drug dealing by paying a nominal fee. They also ‘baited’ youngsters into cocaine use by discounting the prices of cocaine or even providing cocaine free of charge. Although the source in our study did not identify triads as playing a different role in cocaine supply, as compared with supply of other drugs, some drug dealers in our sample, when prompted, explained the involvement of triads in distributing (wholesale) cocaine.

5.2.5 Curiosity

The frontline workers all pointed out the importance of curiosity in initiating cocaine use in both young users and adult users. Curiosity is especially important for users to try cocaine, a relatively new and expensive drug. After a user is ‘hooked’ to cocaine, curiosity becomes less important to sustain cocaine use, as our question on the reasons of favoring cocaine among the cocaine users showed. Also, the factor of curiosity with cocaine could interact with the tolerance of other drugs, especially among poly drug users. Again, the two factors could further interact with peer influence in the initiation of cocaine use.

5.2.6 Myths of Cocaine

There are myths related to cocaine in society: cocaine is not addictive, cocaine use is fashionable, and cocaine could lose weight. The third myth is especially appealing to young girls in our slim-obsessed culture. The myths are likely to impede effective preventive education. So drug education and prevention in the future should address the myths.

5.2.7 Declining Price of Cocaine

All sources in our study had a consensus on the declining price of cocaine. They all reported how declining price of cocaine made more people try cocaine. But there seems to be something puzzling: cocaine prices decreased, CRDA reported cocaine users increased, police arrests related to cocaine increased, a large proportion of cocaine users in our sample reported it was fairly easy to obtain cocaine, but the Customs and Excise Department reported more or less stable cocaine seizures over the past years. There might be multiple interpretations for this scenario. But we suspect it might point to a hidden source of cocaine or hidden channel of cocaine trafficking.

In relation to price, we also had another puzzle: why was cocaine abuse not prevalent in the past several decades, just like in the US? Our sources told us that it was because cocaine used to be very expensive and thus only wealthy people could afford cocaine. But why could it be made less expensive in the recent years? Why were drug traffickers not involved in cocaine previously? A clinical psychologist explained that it was because at that time people in Hong Kong did not like the taste of cocaine. But why did people change their taste in the past several years suddenly? Perhaps it is because previously cocaine was mainly in the powder form. But in the US crack cocaine was created in the 1980s and there was a so-called 'crack epidemic' in 1984-1990. Why crack cocaine was not made available in Hong Kong earlier when the US was hit by the 'crack epidemic'? We have not found a convincing answer.

But one point is worthy noting. Now cocaine is made less expensive, and it might be made even less expensive, in order to attract more people into the market. Or conversely, when a huge demand is created, cocaine might become more expensive. Or the poly drug users become 'specialized' in cocaine or use cocaine as a primary drug. There are so many factors at play here. But the case of ketamine should provide us with some insights. Ketamine is now so affordable that youngsters use it like having a cup of coffee in a cafe.

5.3 Implications and Recommendations for Anti-drug Policies and Services in Hong Kong

5.3.1. Setting up a Working Group on Anti-cocaine Campaign

In response to the research findings that there are widespread myths among youngsters, it is suggested that a working group on anti-cocaine use should be set up under the Subcommittee of Preventive Education and Publicity Activities to discuss and formulate short-term and long-term strategies of preventive education and publicity. It is noted that most of the existing preventive education packages or drug education kits may not have included the characteristics of cocaine and the detrimental effects of cocaine use or abuse, hence resources should be devoted to inviting relevant bodies to develop new and updated education packages. Given the fact that cocaine-abuse may lead to serious harmful impacts on human bodies, proactive publicity activities are deemed necessary to raise public awareness. The working group may focus their discussion on enhancing publicity on the serious legal consequences of possession and trafficking of cocaine, and the harmfulness of cocaine-use on individual, family and the entire community.

5.3.2 Staff Education and Training

Statistics and findings showed that the number of cocaine use cases has been on the rise, mostly among young males over the past five years. It is high time to enhance staff education and training. First, personnel who are involved in preventive drug education, drug abuse counseling and treatment should be well aware of the updated information related to cocaine including the growing trend of cocaine use, detailed difference between crack and powder cocaine, its detrimental impacts, and effective ways of treating cocaine

users. Second, apart from providing training to social workers, residential workers, or other para-professionals, seminars and workshops should also be organized to train professionals such as school principals, teachers and school counselors. Third, the police school liaison officers and education officers in the EDB should need to update their information on this issue as well. Therefore, training seminars and workshops should be appropriately designed and provided to relevant targets accordingly.

5.3.3 Content of Educational Campaigns

As documented in this research report, peer influence is one of the most important risk factors of cocaine abuse. To counteract the peer influence, drug education should not just stay at “say no” level. It should have specific focus such as personal shame-management, modern refusal skills, learning cost-benefit analysis, and changing life style. It is important to reach boys and girls at an early stage and educate them as they are trying to use cocaine to:

- get a much higher feeling;
- escape from an unpleasant reality;
- compensate for their lost love or concern;
- seek identity; and
- satisfy curiosity.

5.3.4 Suppressive Tactics should be Used to Tackle Cocaine Sale

As the findings of this study suggests, there is a complex relationship between cocaine users and triads. In the past, youngsters do not easily get access to cocaine. However, the

research found that nowadays it is not difficult for the youngsters to get cocaine, either from friends or from drug dealers. In recent years, the retail price of cocaine has gone down to a more affordable level. Therefore, to prevent the increase of cocaine import and trafficking, the judicial and law enforcement authorities perhaps should join hands to reduce supply of cocaine by

- reviewing the present law and sentencing practices related to cocaine trafficking;
- stepping up law enforcement actions to stop import of cocaine; and
- taking a tougher action towards the triads who sell cocaine to the public.

5.3.5 A Holistic Approach to Treatment

The present study is an exploratory one, and at this stage it is difficult for the research team to propose concrete treatment programs. However, appropriate treatment could definitely reduce demand of cocaine use. By far, pharmacotherapy has not provided any effective medicine to treat cocaine. As Polling et al. (2007) pointed out, some factors predicted the outcome of pharmacotherapies to cocaine addiction. In fact those factors are also important in behavior therapies to cocaine addiction. Besides, cocaine vaccine is regarded as promising. But as experts observed, the psychosocial factors underlying drug abuse/cocaine abuse should be addressed at the same time. Otherwise, cocaine users might switch to other drugs even when they have had the cocaine vaccine. As for behavioral therapies, more vigorous empirical studies should be conducted to evaluate their applicability to the local context and especially their effectiveness. For example, family therapy has been demonstrated to be useful in treating young drug users in the US, and it also works in Hong Kong (see e.g. Sim, 2007). Some frontline workers also

suggested that the distribution of drug treatment provision among outreach, outpatient and institutional services should be reviewed to see if it is effective. It is also suggested that a working group under the Sub-committee on Treatment and Rehabilitation comprising relevant medical, sociological and psychological professionals should be formed to brain storm useful treatment programs for craving reduction as well as rehabilitation of cocaine users/abusers. It is expected that a more concrete plan for the development of more specific programs for cocaine users/abusers may be generated in the near future.

5.3.6 Increase the Number of Social Workers in Schools and Family Settings

One important finding from this study was the complex interplay of risk and protective factors of cocaine use/abuse. The key ideas underlying the risk and protective factors that are crucial to restraining youngsters from the onset and continuation of cocaine use are connections to school, family and the society. This involves early intervention in a teenager's life showing love and concern together with appropriate social disapproval of drug taking behavior. If we could cultivate the teenager's life goal and aspiration and strength family and school bonding in early stages of life development, adolescents will be socialized or re-socialized as inner-directed people whose values effectively prevent them from engaging in law-breaking behaviors. If youngsters feel cared for and understood by adults, they are likely to react to authority figures' caring attitudes in an appropriate way. More resources devoted to employing more social workers in schools and family settings as soon as possible would definitely help.

5.3.7 Better Communication and Co-operation between Professionals and Workers

This study showed that the coping strategies of mental disengagement (including alcohol/drug use and gambling) are used by the majority of cocaine users in our sample when they were under stress. The findings show that treatment should also focus on helping them cope with stress in problem-solving ways. Regarding this, it is further suggested that there should be a tighter cooperation between medical practitioners, professionals from substance abuse clinics, social workers from NGOs, drug treatment residential workers and psychiatry personnel.

Among the above seven implications and recommendations, the first three are oriented towards preventive education and publicity and the rest of the four are oriented towards effective supply control and demand control.

5.4 Future Research and Practice

It is relieving to know from the interviewees that the likelihood of having a ‘cocaine/crack epidemic’ is rather low. It is hoped that the likelihood will be even lower, if the above recommendations on preventive education and publicity and supply control and demand control are adopted. We believe that the suggestions are in line with the holistic approach as advocated by the Task Force on Youth Drug Abuse led by the Secretary of Justice.

However, the upward trend of cocaine use in the recent years in Hong Kong is irrefutable. We are facing a harsh reality, which calls for collaborative efforts in fighting cocaine use. The conventional view that cocaine users are wealthy and well educated is not supported in our study. This shows typical cocaine users are not limited to certain classes or sectors, which makes the work of anti-cocaine abuse more challenging.

As the research report shows, the factors associated with cocaine use are complex, such as early life history, schooling, social circles, and misconceptions on cocaine. How those factors individually or jointly influence a person to use cocaine should be explored more by future research studies, through using more sophisticated statistical methods. Another focus for future research should be on the unique features which differentiate cocaine users from general drug users. We find that there may be two unique features of the group of cocaine users in our study: a large proportion of poly drug users and a high level of involvement in drug dealing/trafficking to finance cocaine use. Future studies should endeavor to find more unique features about cocaine users, so that treatment and prevention are tailor-made to them.

Meanwhile, a holistic approach towards drug abuse in Hong Kong involves the judiciary and sentencing guidelines. For example, in the US there has been a debate on the differential penalties of powder and crack cocaine since the 1980s. As we reviewed earlier, the two-tiered system was amended in the US in late 2007. But in a Court of Appeal case HKSAR vs. Yeung Chi Keung (CACC355/2006), the justices made the following comments:

...we note that this case concerned the freebase form of cocaine known as crack cocaine which is particularly suitable for ingestion by smoking. This court regards the trafficking of crack cocaine as, potentially, an aggravating feature and in future cases it would be helpful, if indeed crack cocaine is more dangerous, to have evidence to that effect brought to the court's attention. Dr. Cheung's otherwise helpful report, was silent on this particular matter (p.6).

The justices hinted at the more dangerous nature of crack cocaine. In Hong Kong society there is no evidence of differential use of crack cocaine and powder cocaine between races. Hence, it is less an issue of race here. The question at issue is if crack cocaine is more dangerous or addictive than powder cocaine, a basis for the differential penalties in the US from the 1980s to late 2007. According to scientific evidence, the two forms of

cocaine are both addictive and the risk of addiction lies in the routes of administration. Thus, to punish crack users more severely has no scientific basis.

This study is only an initial step towards understanding cocaine abuse in Hong Kong. The sample size used in the study is relatively small and thus constrains sophisticated data analysis or theoretical exploration. As we reviewed earlier in chapter 3 longitudinal and multi-level findings on cocaine abuse in overseas countries, we call for future research in Hong Kong to adopt longitudinal and multi-level approaches in order to understand better the risk factors associated with cocaine abuse in the local context.

Appendix 1

Questionnaire for Cocaine Users

香港城市大學應用社會科學系

可卡因使用情況研究

訪談問卷 (1): 訪談部分

訪問員：_____ 地點：_____ 日期：_____ 編號：_____

爲了客觀深入地了解香港使用可卡因的情況，香港城市大學正開展一項香港使用的研究，以期了解可卡因使用的情況及其對社會的影響。我們**保證個人資料絕對保密。所有資料僅做綜合分析**。請您放心回答。謝謝！

第一部分 藥物使用情況

A. 第一次使用可卡因的情況

首先請您回顧一下您第一次使用可卡因的情況。

Q1. 您第一次使用可卡因係幾時？

- a. 1年前
- b. 2年前
- c. 3年前
- d. 4年前
- e. 5年前
- f. 6年前
- g. 7年前

Q2. 請問您第一次使用的是”粉末狀的可卡因”定係”固體”(霹靂)？

- a. 粉末狀的可卡因
- b. 霹靂
- c. 兩者都有

Q3. 請問您第一次係點樣吸食可卡因？

- a. 索
- b. 燒
- c. 打針
- d. 吸煙形式

Q4. 您第一次使用可卡因是在香港嗎?

- a. 是
- b. 否

Q5. 如果“否”，是在哪裡?

Q6. 是誰介紹您使用可卡因的?

- a. 配偶，男/女朋友
- b. 其他朋友
- c. 家人
- d. 同事
- e. 拆家
- f. 其他人

Q7. 這位介紹人是男還是女?

- a. 男
- b. 女

Q8. 請問你們是怎麼得到可卡因的?

Q9. 您第一次使用是在哪裡?

- a. 自己家裡
- b. 朋友家裡
- c. 公司
- d. 學校
- e. 酒吧/會所/卡拉OK
- f. 街頭或者其他公共場所
- g. 其它_____

B. 過去一年之內使用可卡因的情況

現在請您回顧一下您過去一年之內使用可卡因的情況。

(如果是戒毒中心轉介的個案，從入住戒毒中心的那一天往前推算一年)

Q10. 過去一年之內，您使用的是何種形式的可卡因?

- a. 粉末狀的可卡因
- b. 霹靂
- c. 兩者都有

Q11. 如果是“兩者都有”，以邊一種為主?

- a. 粉末狀的可卡因
- b. 霹靂

c. 各一半

Q12. 就著您最常吸食可卡因的情況黎講，請問您係點樣吸食？

- a. 索
- b. 燒
- c. 打針
- d. 吸煙形式

Q13. 過去一年之內，您用了多少次可卡因？

Q14. 每次用多少？

Q15. 價錢如何 (以每克計)？

Q16. 在過去一年內，您平均每個月要使幾多錢在可卡因上？

Q17. 在過去一年內，您難唔難擺到可卡因？(讀出選項)

- a. 很難
- b. 難
- c. 有時很難
- d. 容易
- e. 非常容易

Q18. 在過去一年之內，您多數從什麼途徑獲取可卡因的？

C. 過去一個月之內使用可卡因的情況

現在請您回顧一下您過去一個月之內使用可卡因的情況。

(如果是戒毒中心轉介的個案，從入住戒毒中心的那一天往前推算)

Q19. 過去一個月之內，您使用的是何種形式的可卡因？

- a. 粉末狀的可卡因
- b. 霹靂
- c. 兩者都有
- d. 吸煙形式

Q20. 如果是“兩者都有”，以哪一種為主？

- a. 粉末狀的可卡因
- b. 霹靂

c. 各一半

Q21. 就這種佔主導的可卡因，請問您是怎麼用的？

- a. 索
- b. 燒
- c. 打針

Q22. 過去一個月之內，您用了多少次可卡因？

Q23. 每次用多少？

Q24. 價錢如何 (以每克計)？

D. DSM-IV 臨床會談

Q25. 你有沒有曾經在一個月內吸食可卡因超過 10 次？

3--有→(I)請回答第 26 至第 32 題

2--沒有，但用過至少兩次→(II) 請回答第 33 至第 36 題

1--沒用過或只用過一次

I) DSM-IV 的藥物依賴診斷標準

以下問題主要針對曾出現於 12 個月內任何時有關使用可卡因的情況：

1= 沒有 (absent or false)

2= 間中 (subthreshold)

3= 經常有 (threshold or true)

Q26. 比起初頭，你依家係咪需要更多既可卡因先至可以達到興奮狀態？

1 沒有 → 你有無發現同一份量的可卡因已不能達到原來的效果？

2 間中 → 初頭用幾多？ _____ 依家用幾多？ _____

3 經常有 → 初頭用幾多？ _____ 依家用幾多？ _____

Q27. 你有無試過因為“唔食”或者“食少左”可卡因之後而感到不適？

1 沒有 → 當你停食一段時間後，你會否再用它來防止不適？

→ 你有沒有使用同的興奮劑來改善你不適的感覺？

2 間中 → 是什麼症狀？

3 經常有 → 是什麼症狀？

Q28. 你有無發現自己使用可卡因的份量通常比預計中超出很多？

1 沒有 → 你用係藥物上的時間是否比你預計中長很多？

2 間中

3 經常有

Q29. 你有無試過戒除或減少使用可卡因？

1 沒有 → 你想戒掉或減少使用它嗎？

2 間中 → 你有沒有試過真正完全停止使用可卡因？

→ 你試過幾多次戒除或減少使用可卡因？

3 經常有 → 你有沒有試過真正完全停止使用可卡因？

→ 你試過幾多次戒除或減少使用可卡因？

Q30. 一般黎講，你有無花很多時間去使用可卡因，或為求得到它而不擇手段？

1 沒有

2 間中 → 你需要花很多時間才能恢復正常嗎？

(要幾耐？_____小時)

3 經常有 需要花很多時間才能恢復正常嗎？

(要幾耐？_____小時)

Q31. 你有無試過有一段日子使用得很厲害，把本來放在工作、家庭、朋友或消遣上的時間都用在可卡因上呢？

1 沒有 2 間中 3 經常有

Q32. 使用可卡因有無為你帶來心理或嚴重的健康問題，例如令你情緒低落或加重你身體的疾病？

- 1 沒有
- 2 間中 → 係乜嘢因素令你繼續使用它？
- 3 經常有 → 係乜嘢因素令你繼續使用它？

注：如果少於三項得分為 3，繼續(II)

II) DSM-IV 的藥物濫用診斷標準

Q33. 你有無試過因為食完可卡因之後而神志不清或興奮,令你返唔到工或學？(又或使用可卡因有沒有令你的工作表現很差或考試不及格？)

- 1 沒有 → 咁有無因為使用可卡因而令你不能打理家務或照顧孩子？有幾多次？_____在過去一年有幾頻密？_____
- 2 間中 → 有幾多次？_____在過去一年有幾頻密？
- 3 經常有 → 如果有，有幾多次？_____在過去一年有幾頻密？

Q34. 你有無試過係可能會構成危險的情況下使用可卡因？例如係使用藥物後神志不清之下駕駛？

- 1 沒有
- 2 間中 → 在過去一年有幾頻密？_____
- 3 經常有 → 在過去一年有幾頻密？_____

Q35. 你有無因為使用可卡因而犯法？

- 1 沒有
- 2 間中 → 在過去一年有幾頻密？_____
- 3 經常有 → 在過去一年有幾頻密？_____

Q36. 有無因為使用可卡因而令你和其他人，例如家人、朋友或同事，產生問題？(例如係有無試過和其他人打架，或因為藥物而和別人爭執？)

- 1 沒有
- 2 間中 → 係乜嘢因素令你繼續使用它？
- 3 經常有 → 係乜嘢因素令你繼續使用它？

E. 使用可卡因的總體情況

現在請您回顧一下使用可卡因的總體情況。

Q37. 總的來說，您覺得可卡因難唔難擺？(讀出選項)

- a. 很難
- b. 難
- c. 有時很難

- d. 容易
- e. 非常容易

Q38. 從您吸食可卡因開始到現在，可卡因的價錢有沒有變化？

Q39. 請說出三項您“中意”可卡因既原因？

- i. _____
- ii. _____
- iii. _____

Q40. 請說出三項您“唔中意”可卡因既原因？

- i. _____
- ii. _____
- iii. _____

Q41. 你好想食可卡因以至不能控制自己的情況多唔多？(讀出選項)

- a. 從來沒有
- b. 非常少
- c. 有時
- d. 很多時候
- e. 經常

Q42. 您覺得吸食一兩次可卡因的危險性如何？(讀出選項)

- a. 沒有危險
- b. 有一點危險
- c. 中等程度的危險
- d. 很大的危險

Q43. 您覺得間中吸食可卡因的危險性如何？(讀出選項)

- a. 沒有危險
- b. 有一點危險
- c. 中等程度的危險
- d. 很大的危險

Q44. 您覺得經常吸食可卡因的危險性如何？(讀出選項)

- a. 沒有危險
- b. 有一點危險
- c. 中等程度的危險
- d. 很大的危險

Q45. 您有沒有擔心會上癮？

- a. 是

b. 否

F. 使用其它毒品的情況

現在請回顧一下您使用其它毒品的情況。

Q46. 除了可卡因，您還使用其它毒品嗎？ (use in life history)

- a. 是 --- 轉到 47 題
- b. 否 --- 轉到 52 題

Q47. 如果“是”，請問您曾經用過哪些毒品？

Q48. 請問在**過去一年**內每種毒品使用的次數？以前共吸食幾耐？（就 47 題給的答案，逐項詢問）

49 題 (毒品種類)	50 題 (過去一年內每種毒品使用的次數)	51 題(以前共吸食幾耐)
1		
2		
3		
4		
5		
6		
7		

Q52. 你有沒有使用過戒毒服務？ 有多少次？

Q53. 第一次戒毒係幾時？

Q54. 第一次戒毒係自願還是強迫？

- a. 自願
- b. 強迫

Q55 第一次接受完戒毒服務後，隔左幾耐再吸毒？

Q56. 總的來說，您對戒毒有信心嗎？

Q57. 您覺得要成功戒毒，關鍵是什麼？

第二部分：販毒情況 (for applicable cases)

Q58. 您有沒有販毒？販賣什麼毒品？如果多過一種，以什麼為主？

Q59. 您是一個人做，還是同其他人一起做？

Q60. 您知道那些毒品是從哪裡來的？

Q61. 您可以提供多點細節嗎？

第三部分：個人歷史

現在請問您 **18 歲之前的一些情況**：

Q62. 18 歲之前，您和誰一起住？

Q63. 你的父母有沒有離婚或者分居？

- a. 沒有
- b. 有 → 當時你幾歲？ ____

Q64. 你的父母有沒有使用藥物或者酗酒？

- a. 父親 0-沒有 1-有 何種藥物？ _____
- b. 母親 0-沒有 1-有 何種藥物？ _____

Q65. 你有沒有被虐待過？

- a. 沒有
- b. 有 → 被誰虐待？ _____ 當時幾歲？ ____

Q66. 你有沒有被性虐待過？

- a. 沒有
- b. 有 → 被誰虐待？ _____ 當時幾歲？ ____

Q67. 您有沒有犯過事？

Q68. 如果是，什麼時候？ 犯的是什麼事？

Q69. 有沒有坐監？

第四部分: 你個人如何面對壓力?

這部份的問題是關於你在**遇到壓力時**，你**通常會有什麼感受及會怎樣應付**。顯然，對於不同的事情，你會有不同的反應。但試想想，當你遇到極大壓力時，通常會怎樣應付。

Q70. 我想知道你生活上有沒有遇到一些唔開心的事情。(只作引子，不需要詳述!)

Q71. 這些事情對你有沒有造成心理上的一些壓力? 有沒有

Q72. 你怎樣去處理這些壓力? (**重點問題，請盡量引出受訪者的回應，及後可參閱附錄的應對量表COPE**, (Carver, Scheier, & Weintraub, 1989).

通常處理壓力的方法:

Probe Question:

- (a) _____
- (b) _____
- (c) _____
- (d) _____
- (e) _____
- (f) _____
- (g) _____
- (h) _____
- (i) _____
- (j) _____
- (k) _____
- (l) _____
- (m) _____
- (n) _____
- (o) _____
- (p) _____
- (q) _____

可卡因使用情況研究 問卷 (2): 自我填寫部分

爲了客觀深入地了解香港使用可卡因的情況，香港城市大學正開展一項香港使用的研究，以期了解可卡因使用的情況及其對社會的影響。我們**保證個人資料絕對保密**。所有資料僅做綜合分析。請您放心回答。謝謝！

第一部分

以下問題是要了解你對於服用藥物 (包括違禁或合法的藥物) 的意見，這些問題並非一個測試，因此並沒有對或錯的答案。請先細心閱讀各題，決定那一項選擇最能夠反映你的意見，然後圈上適當的數目字。請你回答所有問題。

1. 我試過服用藥物後，與他人無故發生爭執。

1	2	3	4	5	6
絕對沒有	甚少有	間中有	很多時候有	大部份時間有	經常有

2. 我的**好朋友**會覺得服用藥物是很平常的事情。

1	2	3	4	5	6
十分不同意	頗爲不同意	少許不同意	少許同意	頗爲同意	十分同意

3. 服用藥物可以令我更有自信。

1	2	3	4	5	6
十分不同意	頗爲不同意	少許不同意	少許同意	頗爲同意	十分同意

4. 我相信服用藥物後，我的煩惱會盡消。

1	2	3	4	5	6
十分不同意	頗爲不同意	少許不同意	少許同意	頗爲同意	十分同意

5. 我相信服用藥物後可以和朋友更容易相處。

1	2	3	4	5	6
十分不同意	頗爲不同意	少許不同意	少許同意	頗爲同意	十分同意

6. 我相信服用藥物可以令我玩得更開心。

1	2	3	4	5	6
十分不同意	頗爲不同意	少許不同意	少許同意	頗爲同意	十分同意

7. 我每星期均有幾次服用藥物。

1	2	3	4	5	6
絕對沒有	甚少有	間中有	很多時候有	大部份時間有	經常有

8. 我試過服用過量藥物以致暈倒。

1	2	3	4	5	6
絕對沒有	甚少有	間中有	很多時候有	大部份時間有	經常有

9. 服用藥物令我和家人產生越來越多磨擦。

1	2	3	4	5	6
絕對沒有	甚少有	間中有	很多時候有	大部份時間有	經常有

10. 遇到不如意的事情，我會服用藥物。

1	2	3	4	5	6
十分不同意	頗為不同意	少許不同意	少許同意	頗為同意	十分同意

11. 我試過服用過量的藥物。

1	2	3	4	5	6
絕對沒有	甚少有	間中有	很多時候有	大部份時間有	經常有

12. 當我和朋友一起服用藥物時，我會比他們用得更多。

1	2	3	4	5	6
絕對沒有	甚少有	間中有	很多時候有	大部份時間有	經常有

醫學上定義濫用藥物的行為，即服用違禁藥物(例如俗稱的"high天"、"high口"、"啪丸"、吸毒)，或過量服食某些合法的藥物(例如咳藥水等)。基於這個定義，請你回答13至22題。

13. 我向自己承諾，不會濫用藥物。

1	2	3	4	5	6
十分不同意	頗為不同意	少許不同意	少許同意	頗為同意	十分同意

14. 我會因為濫用藥物而感到內疚。

1	2	3	4	5	6
十分不同意	頗為不同意	少許不同意	少許同意	頗為同意	十分同意

15. 我不會濫用藥物。

1	2	3	4	5	6
十分不同意	頗為不同意	少許不同意	少許同意	頗為同意	十分同意

16. 我在過去三十天內有濫用藥物。

1	2	3	4	5	6
絕對沒有	甚少有	間中有	很多時候有	大部份時間有	經常有

17. 我許多好朋友都濫用藥物。

1	2	3	4	5	6
絕對沒有	甚少有	間中有	很多時候有	大部份時間有	經常有

18. 我的好朋友在過去一個月內曾經濫用藥物。

1	2	3	4	5	6
十分不同意	頗為不同意	少許不同意	少許同意	頗為同意	十分同意

19. 我的好朋友認為濫用藥物是愚蠢的。

1	2	3	4	5	6
十分不同意	頗為不同意	少許不同意	少許同意	頗為同意	十分同意

20. 如果經常濫用藥物，我的工作或學業會有麻煩。

1	2	3	4	5	6
十分不同意	頗為不同意	少許不同意	少許同意	頗為同意	十分同意

21. 讓人知道我沒有濫用藥物是重要的。

1	2	3	4	5	6
十分不同意	頗為不同意	少許不同意	少許同意	頗為同意	十分同意

22. 如果濫用藥物，我的健康會比人差。

1	2	3	4	5	6
十分不同意	頗為不同意	少許不同意	少許同意	頗為同意	十分同意

第三部分 背景資料

1 生日	_____年____月____日															
2 性別	1 男 2 女															
3 出生地	1 香港 2 中國大陸 3 其他 _____															
4 種族	1 中國人 2 其他 _____															
5 在港居留期	_____年															
6 婚姻狀況	1 未婚 2 同居 3 已婚 4 分居 5 離婚 6 喪偶															
7 學歷	1 未受正式教育/幼稚園 2 小學 3 中三 4 中五 5 預科 6 大專或以上 7 專科課程 9 無法回答															
8 職業																
9 個人月收入	<table border="0"> <tr> <td>1. \$0</td> <td>8. \$15,000 - \$19,999</td> </tr> <tr> <td>2. \$1 - \$1,999</td> <td>9. \$20,000 - \$24,999</td> </tr> <tr> <td>3. \$2,000 - \$3,999</td> <td>10. \$25,000 - \$29,999</td> </tr> <tr> <td>4. \$4,000 - \$5,999</td> <td>11. \$30,000 - \$39,999</td> </tr> <tr> <td>5. \$6,000 - \$7,999</td> <td>12. \$40,000 - \$59,999</td> </tr> <tr> <td>6. \$8,000 - \$9,999</td> <td>13. \$60,000 或更多</td> </tr> <tr> <td>7. \$10,000 - \$14,999</td> <td>14. 無法回答</td> </tr> </table>		1. \$0	8. \$15,000 - \$19,999	2. \$1 - \$1,999	9. \$20,000 - \$24,999	3. \$2,000 - \$3,999	10. \$25,000 - \$29,999	4. \$4,000 - \$5,999	11. \$30,000 - \$39,999	5. \$6,000 - \$7,999	12. \$40,000 - \$59,999	6. \$8,000 - \$9,999	13. \$60,000 或更多	7. \$10,000 - \$14,999	14. 無法回答
1. \$0	8. \$15,000 - \$19,999															
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3. \$2,000 - \$3,999	10. \$25,000 - \$29,999															
4. \$4,000 - \$5,999	11. \$30,000 - \$39,999															
5. \$6,000 - \$7,999	12. \$40,000 - \$59,999															
6. \$8,000 - \$9,999	13. \$60,000 或更多															
7. \$10,000 - \$14,999	14. 無法回答															
10 宗教信仰	0 沒有 <input type="checkbox"/> 有 1 基督教 2 天主教 3 佛教 4 其他 _____															
11 有無刑事紀錄	0 沒有 1 有 _____															

Appendix 2

Interview Guideline for Front-line Workers and Professionals

“香港可卡因濫用研究” 訪談問題提綱

1. 請問您從業有多少年？
2. 据您的印象，近几年您收治的病人中，可卡因濫用者的數量呈現怎樣的趨勢？增加，減少，還是比較平穩？
3. 過去兩年，您收治了多少位濫用可卡因的新症？
4. 您收治的濫用可卡因的病患來自哪些行業或從事何種職業？其年齡分佈，性別比例如何？
5. 他們吸食可卡因的原因是什麼？
6. 根據您掌握的信息，他們有什麼相似的生活經歷或心理特點？
7. 他們一般是在什麼情況下來向您求助，如形成藥物依賴、出現精神症狀等？
8. 他們的求治動機/目標是什麼？
9. 您通常如何診斷他們的情況？
10. 除了可卡因，他們還吸食哪些毒品/藥物(poly-drug use)？
11. 他們有其它的精神疾病嗎(co-morbidity)？
12. 您為這類求助者通常確立什麼治療目標？
13. 您能否介紹一下主要的治療方法？療程多久？效果如何？
14. 在香港此類治療所需費用多少？
15. 有多少病患能堅持完成整個療程？流失率是多少？
16. 一般什麼樣的病患可以堅持下來？什麼樣的病患中途退出治療？
17. 為了達到更好的治療效果，您認為還需要家庭及社區哪些配合？
18. 為了更好的幫助可卡因濫用者，您認為政府還需要哪些努力？
19. 為了預防人們吸食可卡因，您認為最關鍵的措施是什麼？

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