

**A LONGITUDINAL SURVEY OF
PSYCHOACTIVE DRUG ABUSERS IN HONG KONG***

Final Report Submitted to
Research Advisory Group
Narcotics Division
Security Bureau
Government of the Hong Kong SAR

by

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Caritas HUGS Centre
Caritas Wong Yiu Nam Centre
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Outreaching Social Work Team

Kely Support Group
Life Education Activity Programme
Neighbourhood Advice–Action Council, Eastern/Wanchai District Youth
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The Society of Rehabilitation and Crime Prevention, Hong Kong
Tung Wah Group of Hospitals CROSS Centre
Yang Memorial Methodist Social Service, Kowloon City District Youth
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- Caritas HUGS Centre
- Caritas Wong Yiu Nam Centre
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- St. Stephen's Society
- The Boys' & Girls' Clubs Association of Hong Kong, Kwun Tong District Youth Outreaching Social Work Team
- Perfect Fellowship
- The Boys' & Girls' Clubs Association of Hong Kong, Shum Sui Po District Youth Outreaching Social Work Team
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- The Society for the Aid and Rehabilitation of Drug Abusers
- The Society of Rehabilitation and Crime Prevention, Hong Kong

- Tung Wah Group of Hospitals CROSS Centre
- Yang Memorial Methodist Social Service, Kowloon City District Youth Outreaching Social Service Centre

Most of these agencies not only provided clients to participate as subjects of the six waves of interview, but also mobilized their social worker staff to conduct the interviews. Representatives of these agencies also served as members of the Advisory Committee, offering a lot of input to the refinement of the questionnaire, the development of a system for the coordination and keeping track of the interviews within each agency, and the tackling of data collection problems. A few of the above agencies did not provide subjects, as they do not have clients. Representatives of these agencies kindly served on the AC and gave valuable comments on all aspects of the survey process.

The Hong Kong Council of Social Service was the first contact I made to plan the survey. I was fortunate to receive a very positive response from the Ms. Judith Ng and Mr. Ken Chan of the Council, who immediately made arrangements for me to attend a meeting of representatives of youth outreach agencies, in which I explained the importance of the survey and solicited their support and partnership. Not only did I receive enthusiastic support from a large number of agencies, I was honored by the acceptance of my invitation to be Co-Chairpersons of the study's Advisory Committee by Ms. Christine Fang, Chief Executive of HKCSS, and Professor S.H. Lee, former ACAN Chairman, Emeritus Professor of Community Medicine, C.U.H.K., and the current Chairperson of the Alliance of Anti-Drug Abuse Professionals.

Several government departments have been very helpful to the survey. After the first wave of interview, a small number of subjects had been arrested for criminal offenses and assigned to youth facilities of the Correctional Services Department. We would like to thank CSD for giving us permission for interviewers to enter its facilities to conduct the interviews. Permission was also obtained from the Social Welfare Department for us to interview any subjects assigned to its correctional/residential home. We are thankful to SWD, although none of the subjects ended up entering this facility.

Thanks are extended to those government departments that have furnished information pertaining to the social costs part of the study. These include: Correctional Service Department, Department of Health, Hospital Authority, Education Bureau, Government Laboratory, Narcotics Division, and Social Welfare Department. We also thank those agencies that have provided information on the expenditure of their work in 2010 for the estimation of social costs of psychoactive drug abuse.

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Last but not the least, I thank my Research Assistants, Ms. Gloria Chan, who worked for the first and ground-work year of the study, and Mr. Michael Wong, who served the rest of the study period, for their hard work in the formidable task of coordinating with the large number of agencies and monitoring the progress of data collection. In my Department of Sociology, C.U.H.K., I have received advice in statistical analysis from my colleagues, including Professor Tony Tam, Professor K.F. Ting, Professor Nicole Cheung, and Mr. Adam Cheung.

EXECUTIVE SUMMARY

- (1) This is a longitudinal survey of psychoactive drug abusers in Hong Kong over a period of three years, from early 2009 to end of 2011. It is part of the larger “Socioeconomic and Health Impacts of Substance Abuse in Hong Kong—A Longitudinal Study” funded by the Beat Drugs Fund and conducted with the objectives of (i) finding the factors that may be conducive to psychoactive drug abuse, (ii) examining the harmful effects of abusing psychoactive substances in a group of identified drug abusers, and (iii) assessing the economic impact of psychoactive drug abuse on the society.
- (2) The survey recruited a sample of psychoactive drug abusers from agencies, and followed up on them for a total of six interviews, spaced out at six-month intervals. As many as thirty-six youth outreach agencies and drug T&R programmes have heavily participated in the survey. Subjects were recruited from most of these agencies, and the social worker staff of many of these agencies also served as interviewers. The selection criterion of subjects was “having ever used a psychoactive drug”. The definition of “psychotropic drug” used by the Narcotics Division was adopted for this survey. The sample size of the baseline survey at T1 was 754, and that of the last interview at T6 was 288.
- (3) The analytical framework involves the testing of a host of socio-demographic and psycho-social variables to determine if they might be conducive to the use of psychoactive drugs in the last 30 days before the interview. The model was examined for each time-point, followed by a cross-time-point analysis. The harmful effects of psychoactive drugs on health were also examined on the basis of the survey data. A small-scale exercise to estimate for the social costs involved in T&R, counseling, preventive education, and research work in Hong Kong for the year 2010 was also performed, on the basis of information on expenditure provided by related government departments and NGOs.
- (4) Logistic regressions conducted for each time-point and then across time-points showed that the most significant socio-demographic variables affecting drug use were “student status” (whether the subject was a student actively attending school) and employment (whether subject had a job if he/she was not a student). The most significant psycho-social variables were “permissiveness to drug use” and “life satisfaction”. The former even exerted influence on drug use at the next time-points. “Drug use” at one time-point also affected drug use at the next or even further time-points.
- (5) Four drug use paths from T1 to T6 were identified (Drug-free from T1 to T6; Eventually drug-free at T6; Eventually non-drug-free at T6; and Non-drug-free from T1 to T6). The way these drug use paths were affected by socio-demographic variables and psycho-social variables was quite similar to how drug use was affected by these variables in each of the time-points. Overall, the influence of socio-demographic variables was smaller than psycho-social variables.

Permissiveness to drug use, having found a goal in life and satisfaction with life are the psycho-social variables that affected drug use paths most.

- (6) The subjects did not perceive very positive health conditions of themselves, and a majority of them admitted that their health conditions had become worse since starting to use psychoactive drugs. Apart from suffering a variety of cognitive and psychological impairments such as poor memory, insomnia, low-spiritedness, lack of concentration, shaking hands, and increased suspicion, some of them had also developed medical conditions such as stomach-ache, urethritis, and bladder problems.
- (7) Based on the expenditure information provided by relevant government departments and NGOs, the total social cost on T&R, counseling, preventive education, and research was estimated to be HK\$301.42 million for the year 2010. The cost per capita was \$42.70. Costs pertaining to the domains of health care, welfare, criminal justice system, employment and productivity, etc. have not been estimated in this study. A previous study of social costs of drug abuse in Hong Kong (Cheung et al., 2000) estimated that the cost of these other domains was 6 times greater than that of the domain of drug work. Thus, the various areas of drug work are cost saving efforts in society.
- (8) On the basis of the findings, a number of recommendations are proposed as follows:
 - i) Reduce the level of permissiveness to drug use in young drug users, focusing on helping them to break the habit of drug use in their daily lives, and getting rid of the “bad habitization” attitude which deceives them into thinking that the consequences of psychoactive drug abuse are not serious.
 - ii) Raise the life satisfaction of young drug users by making school life more enjoyable so as to compete with the deviant peer subculture to which students detached from school would easily turn to.
 - iii) Keep students in school as far as possible, as being in school reduces the opportunities to be involved in drugs and other risk behaviours, and the drug prevention atmosphere has taken shape in many secondary schools since the implementation of the trial scheme on student drug test in 2009.
 - iv) Monitor and be prepared to tackle the spread of psychoactive drug abuse among young people in various socio-demographic and occupational subgroups, given rise by the increasing worldwide trend of “normalization of recreational drug use”.
 - v) As the effects of socio-demographic and psycho-social variables on drug use were only short-term (i.e., mostly confined to the same time-point), any negative effects of these variables at one time-point would not likely to be carried over to affect drug use at the next time-point. That means there is always room for better intervention work at a new time-point to be done that could reduce the likelihood of drug use at the new time-point.
 - vi) Identify early adverse health symptoms caused by psychoactive drug abuse, especially stomach problems in the case of ketamine abuse, among students and working youths. In this regard, parents, teachers, social workers/counselors, and employers could play a role in early identification and intervention.
 - vii) Commission a full-fledged study of the social costs of psychoactive drug abuse.

「香港吸食危害精神毒品人士的縱貫性調查」 報告撮要

- (一) 這調查是禁毒基金資助的「香港物質濫用對社會經濟與健康之影響：一個縱貫性研究」的一部份，由 2009 年初至 2011 年終進行。研究目的是（甲）找尋導致吸食危害精神藥物之原因，（乙）探討一群吸食危害精神藥物人士在健康方面所受的傷害，及（丙）評估吸食危害精神藥物造成的社會經濟代價。
- (二) 本調查的樣本由服務吸食危害精神藥物人士的機構受助人組成，每位被訪者每隔六個月接受一次訪問，總共六次。共有三十六間外展及治療康復機構參與本調查，機構除提供受助人作被訪者之外，其社工則負責所有該機構被訪者的訪問。選擇被訪者的條件是曾經吸食危害精神毒品，而危害精神毒品的定義是參考禁毒處的界定。第一次訪問的樣本人數是 754 人，第六次（即最後一次）訪問的樣本有 288 人。
- (三) 分析架構檢視社會人口變項與社會心理變項會否導致過去三十日吸食危害精神藥物。首先對每個時間點進行分析，然後作跨時間點的分析。從調查的資料，亦會探討吸食危害精神藥物對健康的影響，以及由政府及非政府機構提供的 2012 年度開支的資料，來評估有關吸毒者的治療、輔導、預防教育及研究的社會成本。
- (四) 每個時間點及跨時間點都進行羅吉斯迴歸分析，結果顯示在社會人口因素當中，最顯著地影響吸食危害精神藥物的是「學生身份」（是否經常上學的學生）及就業（如非學生，有否工作）。最顯著的影響吸食危害精神藥物的社會心理因素是「對藥物濫用的認可態度」與「生活滿足」。前者還影響下個時間點的吸毒行為。此外，一個時間點的吸毒行為亦會影響下一個或數個時間點的吸毒行為。
- (五) 從第一個時間點到第六個時間點的藥物使用情況，可分辨出四條路徑出來（由第一時間點到第六時間點都沒有使用藥物；最後第六時間點是沒使用藥物；最後第六時間點有使用藥物；由第一時間點到第六時間點都有使用藥物）。社會人口因素與社會心理因素對這四條路徑的影響，與其對每個時間點的吸毒行為的影響非常相似。總的來說，社會人口因素的影響力不及社會心理因素，而最能影響吸毒行為的社會心理因素是「對藥物濫用的認可態度」、「是否找到人生目標」及「生活滿足」。
- (六) 被訪者一般對自己健康狀況沒有太好的評價。大部份人承認自從濫用危害精神藥物之後健康變差。除了記性轉壞、失眠、情緒低落、不能專注、手震、多疑等認知與心理上的損害外，有些人還出現身體疾病，例如胃痛、尿道炎及膀胱問題。

(七) 從政府部門及非政府機構提供的支出資料，有關吸毒的治療康復、輔導、預防教育及研究方面工作於 2010 年的開支，評估出社會成本為港幣 3 億 142 萬圓。人均成本是港幣 42 圓 7 角。本研究沒有計算醫療照顧、福利、刑事司法系統、就業與生產力等範疇的社會成本。根據十多年前進行的一項全面性的香港藥物濫用社會成本研究的結果，這些範疇的成本是治療康復、預防教育及研究總成本的六倍。故此，投放資源到藥物工作其實會減輕吸毒問題的社會成本。

(八) 基於以上研究結果，所提出的建議如下：

(1) 減低年青濫藥者對濫藥的認可程度，幫助他/她們去除濫藥的生活習慣，及改變其濫藥「壞習慣化」的態度，避免誤以為濫用危害精神藥物後果不會太嚴重。

(2) 加強學校生活的吸引力，以提高年青濫藥者的生活滿足程度，並抵禦朋輩越軌次文化的影響。

(3) 盡量令學生回校上學，因為在校園內濫藥的機會總比在校外為少。自 2009 年起大埔中學試行自願驗毒計劃後，學校裏預防毒害的氣氛已加強，有助宣傳遠離毒品的訊息。

(4) 由於「消遣性藥物濫用正常化」的影響，危害精神藥物的濫用將擴展至不同社會背景及職業的青年人，故此政府必須開始監察不同社會背景及行業的青年人的濫藥情況，及早準備應付日益普遍的濫藥現象。

(5) 由於社會人口因素及社會心理因素對吸毒行為的影響大都只是短暫的，個別時間點的不利的社會人口及社會心理因素不會進而影響下個時間點。這表示如果下個時間點若能改善這些因素，仍可以有助減低下個時間點的吸毒傾向。

(6) 從學生及在職青少年當中，及早識別他/她們的不良健康症狀，例如吸服氯胺酮所引起的胃病。在這方面，家長、教師、社工/輔導員及僱主都可扮演重要角色。

7) 委託研究機構進行一個全面的精神藥物濫用的社會成本研究。

1. INTRODUCTION

The rapid increase of psychoactive drug use in young people since the early 2000s has aroused unprecedented attention of the Hong Kong SAR Government and the public to the youth drug abuse problem in Hong Kong. An inter-departmental Task Force on Youth Drug Abuse, led by the Secretary for Justice, was established in 2007 to tackle the youth problem of psychotropic drug abuse (Task Force on Youth Drug Abuse, 2008). A trial scheme on school drug testing was implemented in all secondary schools in the Tai Po District from 2009-2010, and then extended to 2010-11 (Narcotics Division, 2010c, 2011).

Signs of increasing psychotropic drug abuse were first noted in the mid-1990s, when cannabis and cough medicine abuse increased sharply (Cheung and Ch'ien, 1996). Two governor summits on drugs were organized by Chris Patten, then Governor of Hong Kong, in 1995 and 1996, to discuss the growing seriousness of youth drug abuse and strategies to tackle the problem (Cheung, 1998). The high tide of psychotropic drug abuse arrived in 2000, when ecstasy and ketamine made their initial appearance on the Hong Kong drug scene, and immediately became the drugs of choice among young drug abusers, setting off a “New Drug Era” in Hong Kong (Cheung, 2011). The Beat Drugs Fund (BDF), established after the 1995 and 1996 governor summits, has since 2000 provided extra amounts of resources for work in the publicity, treatment & rehabilitation, and research areas. In terms of research, more and more studies of various aspects of psychoactive drug use, especially ketamine, have been underway since 2000. The BDF has funded a variety of studies to explore young people’s party drug use, treatment services for psychoactive drug abusers, ways to reduce misunderstanding of psychoactive drugs, and also the physical harms of ketamine, etc. (Narcotics Division, 2012b). In addition to BDF-funded projects, research studies on this topic funded by other academic or professional sources of research grants have also been increasing (e.g., Cheung and Cheung, 2006; Joe Laidler, 2005).

The present study, which is part of the larger “Socioeconomic and Health Impacts of Substance Abuse in Hong Kong – A Longitudinal Study” funded by BDF, was conducted with the following objectives:

1. To find the socio-demographic and psycho-social variables that may be conducive to psychoactive drug abuse;
2. To study the harmful effects of abusing psychotropic substances in a group of identified drug abusers; and
3. To assess the economic impact of psychoactive drug abuse to the society

A longitudinal survey of a group of psychoactive drug abusers was designed to collect questionnaire interview data for six time-points, with a six-month interval between any two of them. The survey aimed to find out the socio-demographic and psycho-social factors that contribute to psychoactive drug abuse. It also examined the harmful health effects of psychoactive drug abuse. In addition, the social costs of psychoactive drug abuse with respect to treatment/rehabilitation, counseling, preventive education, and research were also assessed.

This longitudinal research design distinguishes this survey from other previously conducted studies of psychoactive drug abuse, which are cross-sectional in nature. Unlike cross-sectional studies, which could only show the presence of associations between variables, a longitudinal design enables causal relationships between the variables to be examined. A decade ago, an ACAN-funded longitudinal study of chronic drug abusers, the first of its kind in Hong Kong, was conducted by the author (Cheung, 2003; Cheung, 2009). While that study focused on adult chronic abusers (mostly heroin abusers), the present longitudinal survey studied a group of psychoactive drug abusers who were mostly young abusers and who had not yet entered a chronic drug addict career.

2. ORGANIZATION OF THE SURVEY

This longitudinal survey is more complicated than the previous one mentioned above (Cheung, 2003; Cheung 2009). The previous study focused on chronic drug abusers; this one was on psychoactive drug abusers, who were younger and more unstable as agency clients. The previous study interviewed subjects at three time-points; this survey had six waves of interviews. To keep track of a group of hundreds of young psychoactive drug abusers for six interviews was a formidable task.

It soon became clear that the only solution to the puzzle was to solicit the support and collaboration of as many out-reach and treatment/rehabilitation agencies as possible. Getting the support of agencies in the form of supplying clients as study subjects has not been difficult, as agencies are always willing to provide such help to serious studies. But what this study needed from agencies was much more than the supply of clients. Since the clients who participated in the survey would have to be traced for six time-points that spanned a period of three years, each agency would have to keep the records of these clients, contact them (and even track them down if they have finished service or left agency prematurely), arrange interviews, etc., for the entire three-year period, the amount of work and the duration of study would be a very heavy workload for the agencies. In order to receive such strong commitments from agencies, without which this survey would not be feasible, I decided that I should propose the format of “collaboration”. I thought that, if agencies considered the survey to be meaningful and were treated as collaborators of the survey, then they would have a much stronger incentive to participate in the survey to the required extent.

My prediction was correct. I was fortunate to have the opportunity to attend a out-reach group meeting in June 2008 organized by the Hong Kong Council of Social Service, where seventeen member out-reach agency representatives were present. I presented my plan of the survey, emphasizing that a longitudinal survey design was badly needed to understand the current problem of young people’s psychoactive drug abuse. The response was very positive. After the meeting, I also sent letters to other agencies whose representatives were not able to attend the meeting to solicit their collaboration. Eventually, thirty-six agencies had agreed to be collaborators of the survey. I was very touched by the devotion of these agencies to finding out the major causes of the youth drug abuse problem, and the enormous amounts of time and manpower that they agreed to commit, regardless of their very busy work schedules. Of course, agencies could not be “formal” collaborators, from the project administration standpoint. However, these agencies have been *informal collaborators* in the whole survey period, starting from giving comments on the drafts of the questionnaire, working out an effective scheme for record keeping of subjects, keeping track of subjects, and above all, conducting the interviews. They were, dearly, genuine collaborators, regardless of whether they were formal or informal.

To facilitate the collaboration with agencies, an Advisory Committee was established. We were fortunate that Ms. Christine Fang, Chief Executive of Hong Kong Council of Social Service, and Professor S.H. Lee, Former ACAN Chairperson and current Chairperson of Alliance of Anti-Drug Abuse Professionals, had agreed to serve as

Co-Chairpersons of the Advisory Committee. Representatives of participating agencies were members of AC. There were also a few agencies that did not have clients to offer, but were still interested in coming to the meetings. About two months before each wave of interview was launched, an AC meeting would be held to discuss matters relating to the questionnaire, data collection, tracking down of hard-to-find subjects, arrangements for subsequent interviews, etc. Input of the agencies had been extremely useful at different stages of the whole survey.

3. QUESTIONNAIRE, ANALYTICAL FRAMEWORK AND DATA COLLECTION

Practical considerations in the organization of the survey as mentioned above suggested that agency staff who were social workers should be mobilized to do the interviews with their client subjects. Since agency staff were very busy, and since they were not professional interviewers, the questionnaire must not be too long and complicated. Also, those subjects who were drug users would not be able to attend to a long questionnaire either. Therefore, only the most essential questions were asked in the questionnaire.

The Questionnaire

For the questionnaire of the baseline T1 interviews, there were three parts. The questions were as follows:

Part 1: Socio-demographic Characteristics

- Sex
- Age of last birthday
- Whether born in Hong Kong
- Whether of Chinese ethnicity
- Number of brothers and sisters
- Whether living with family, relatives, friends
- Marital status
- Religion
- Education
- Whether a student
- Whether had suffered traumatic events in childhood

Part 2: Experience of First Drug Use

- Age, which drug, with whom, venue
- Reasons for first use
- Whether any family members/friends were using drugs when subject first used drug
- Whether had sought treatment or counseling services
- Whether drinking or smoking at first drug use

Part 3: Drug use in the Past 30 Days

- Whether used drugs in past 30 days
 - If “no”, reason for not using
 - If “yes”, which drug(s), how frequently
- Cost of drugs, sources of money for drugs

- Friends' drug use
- Selling drugs
- Health problems
- Whether travelled to Mainland for drug use
- Severity of dependence scale (Gossop et al., 1995) (alpha=.67 in this study)
- Whether had thought about stopping use
- Perceived health condition
- Present health compared with before drug use
- Whether parents know
- Whether drinking and smoking
- Permissiveness to drug use (alpha=.70 in this study)
- Education level: aspired and actual (Educational strain: difference between aspired and expected)
- Experience of discrimination
- Views of life: goal in life, life satisfaction, sense of uncertainty, conventional value
- Blaming parents and school for not knowing how to teach children/students
- Rosenberg self-esteem scale (Rosenberg, 1965) (alpha=.83 in this study)
- Hopelessness scale (simplified version of Chinese version of Beck et al's Hopelessness scale (Beck et al., 1974), developed by Shek (2005)) (alpha=.70 in this study)
- Comparison with people in similar age group in social skills, responsibilities, and mentality
- Beck depression scale (Beck et al., 1961)

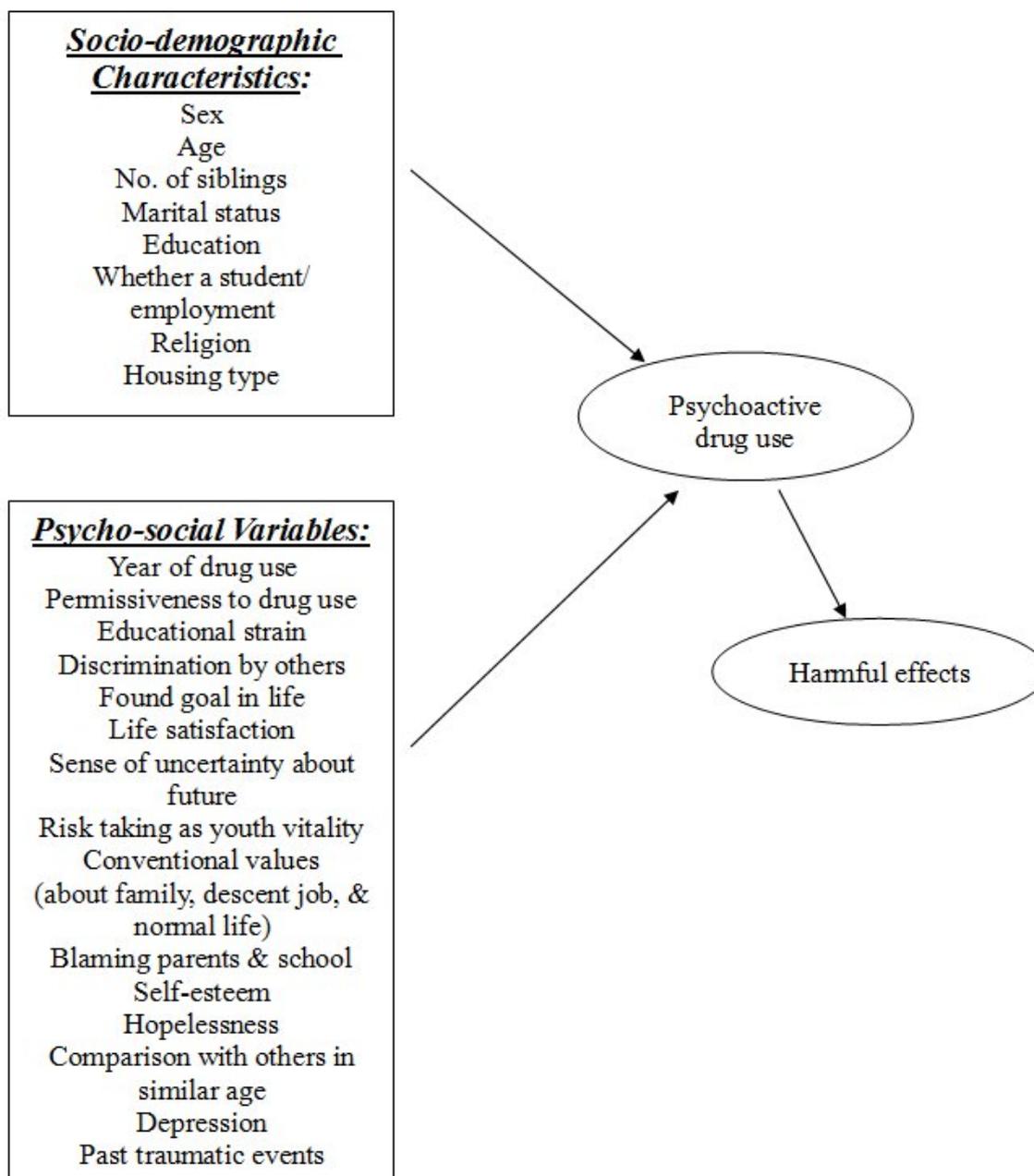
From T2 onwards, the questionnaire would not contain “Part 2: Experience of First Drug Use”. Also, in “Part 1: Socio-demographic Characteristics”, the questions on whether born in Hong Kong, whether of Chinese ethnicity, and number of siblings were not repeated.

The questionnaire was pre-tested with a dozen drug users, who would not be recruited to be participants of the survey. Modifications of the questionnaire were made, and the questionnaire was finalized at the first Advisory Committee meeting held on August 26, 2008. A copy of the questionnaire can be found in Appendix One.

Analytical Framework

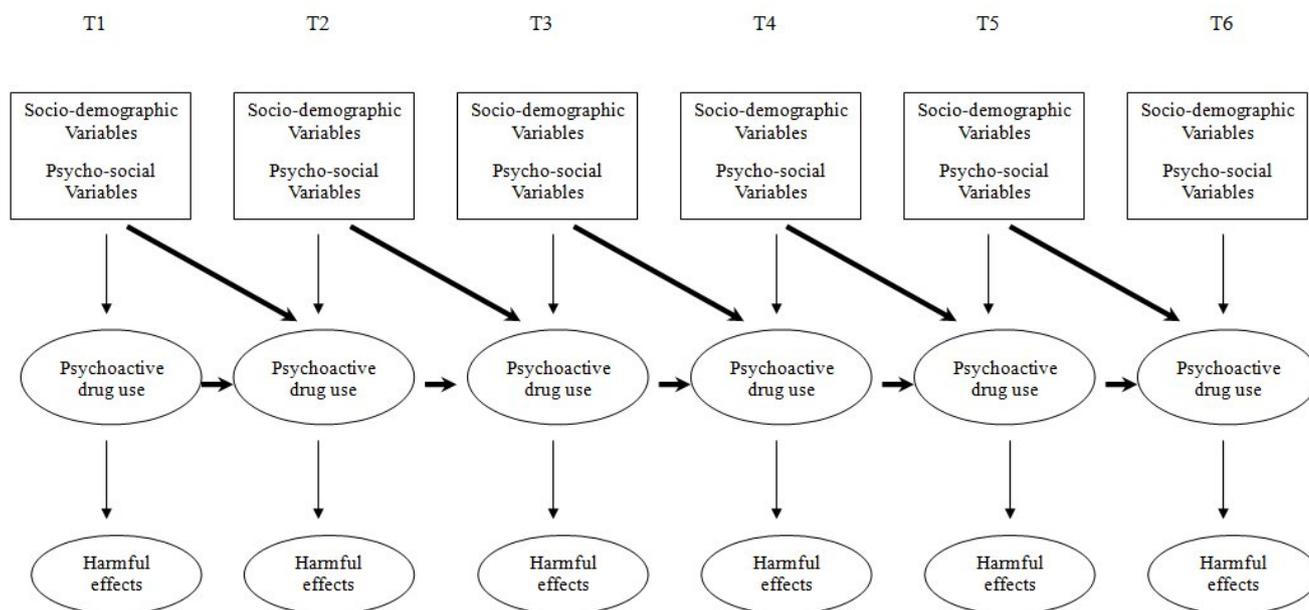
The general framework is to examine the influence of socio-demographic characteristics and psycho-social factors on the abuse of psychoactive drugs, and the effects of psychoactive drug abuse on health. Figure 1 illustrates the framework:

Figure 1: General Framework



Being a longitudinal survey, this study has the benefits of ascertaining the causality of the relationships of the socio-demographic and psycho-social variables to drug use, and also the harmful effects of drug use. Figure 2 illustrates the influence of variables at one time-point and to other time-points.

Figure 2: Selected Causal Influence of Independent Variables on Psychoactive Drug Abuse From T1 to T6



At each time-point, socio-demographic variables and psycho-social variables may be associated with psychoactive drug use. These two sets of variables may also influence psychoactive drug use at the next time-points. Likewise, psychoactive drug use at one time-point may also affect psychoactive drug use at subsequent time-points. These causal relationships are represented by thick arrows in Figure 2. The arrows in the figure are for illustrative purposes only, as variables at one time-point may affect variables at not only the next time-point as indicated in the figure, but also subsequent time-points. For example, the socio-demographic and psycho-social variables at T1, and also drug use at T1, may influence not only psychoactive drug use at T2, but T3 to T6 as well.

Sample and Data Collection

All participating outreach and T&R agencies recruited subjects from clients of their agencies. The criterion for selection was “having ever used a psychoactive drug”. The definition of “psychoactive drug” used in the study followed the categorization by the Narcotics Division, which broadly divided substance of abuse into “narcotics analgesics”, which includes heroin, opium, morphine and physeptone/methadone, and “psychotropic substances”, which includes hallucinogens, depressants, stimulants, tranquilizers, and other substances such as ketamine, cough medicine and organic solvents (Narcotics Division, 2010a). The term “psychoactive drug” and “psychotropic drug” as used by Narcotics Division, were used interchangeably in this survey.

The broad definition of psychoactive drug use had made the selection of subjects an easy task. Most subjects of the agencies were users of one or more psychoactive drugs,

regardless of whether they had also used heroin. We knew that among psychoactive drug users, ketamine has been, for many years now, the drug of choice, although a wide range of other psychoactive drugs are also consumed. In fact, the boundary between ketamine and other psychoactive drugs is always crossed, due to the popularity of multiple psychoactive drug use.

We also did not put a limit on age. Ketamine and ecstasy were “new” psychoactive drugs that emerged in the late 1990s (Cheung, 2011). Some of the adolescents who started to abuse these drugs since the 1990s would now be in their late twenties or early thirties. Older abusers were more likely to have abused heroin when they were young, but many of them would have also used older kinds of psychoactive drugs available across generations such as hallucinogens and stimulants. These drug users also met our selection criterion.

Altogether, the thirty-six participating agencies recruited a total of 754 subjects for the baseline T1 sample. Most of them were able to arrange for social workers to conduct the interviews. In each agency, there was a staff member who served as coordinator of the team of interviewers, responsible for maintaining the master list of subjects, distributing questionnaires to other interviewers and collecting from them after completion, keeping records of all the subjects, arrange for interviews at the appropriate time-points, and be the contact person for the Research Assistant of the survey research team at C.U.H.K. In addition to interviewing subjects, staff of the agencies would also keep track of those subjects who have left the agencies, or have half-disappeared. Clients of those agencies that could not provide staff to be interviewers were interviewed by trained interviewers of a research organization.

Before the first wave of interviews were conducted, all interviewers of the agencies attended briefing sessions in which I explained the content of the questionnaire, skills for effectively conducting the interviews, and the things to note during the interview.

There are both advantages and disadvantages with using social worker staff of agencies as interviewers. The first disadvantage is that social workers are not professional interviewers. This disadvantage could be reduced by organizing a thorough briefing on the questionnaire and interview. Also, the questionnaire was relatively short and simple. The interviewers would pick up and improve very quickly soon after they have started. The second disadvantage lies in their close relationships with their clients. The interview might be affected by how the social worker interviewer perceived the specific clients being interviewed, and vice-versa. There might also be the issue of social desirability that a client might under-report his/her drug use, or pose a less permissive attitude towards drug use, so as to impress the social worker interviewer in charge of his/her case. To reduce this disadvantage, interviewers were reminded to be as objective as possible during the interview, and to motivate their interviewees to be honest in answering questions.

Despite these disadvantages, there are great advantages. Most social workers were able to gain the trust of their clients and establish good rapport with them. This offers a good opportunity for the interview to be conducted. In front of the social worker, who knew his/her clients very well, the client interviewee did not need to hide his/her drug use. If the interviewer was a stranger, it would be much more difficult to obtain honest answers from the client. Thus, we believe that using the agencies’ social workers as interviewers

was a good strategy for obtaining reliable data. Also, since the staff interviewers and their client interviewees were in the same agency, it was more convenient for the interviews to take place than having to arrange for the research team to come and do the interviews.

Agency interviewers were encouraged to contact the research team for comments and advice whenever they had any questions regarding the interviews. They also shared their interview experience during the Advisory Committee meetings, each of which was held before a new wave of interviews began.

The sample size for T1, and those of subsequent time-points, are reported in Table 1.

Table 1: The Sample

| | T1 | T2 | T3 | T4 | T5 | T6 |
|--|-----|------|------|------|------|------|
| No. of subjects from out-reach agencies | 569 | 492 | 377 | 355 | 327 | 276 |
| No. of subjects from residential T&R agencies | 185 | 108 | 57 | 21 | 20 | 12 |
| Total no. of subjects | 754 | 600 | 434 | 376 | 347 | 288 |
| Retention rate compared with previous time-point (%) | -- | 79.6 | 72.3 | 86.6 | 92.3 | 83.0 |
| Retention rate compared with T1 (%) | -- | 79.6 | 57.6 | 49.9 | 46.0 | 38.2 |

We were fortunate to have a large number of enthusiastic participating agencies willing to stretch their resources to the limit in order to give full support to the survey. We realized the importance of getting a large sample for T1, as we predicted that the drop-out rates for subsequent time-points would be high, given that the clients come and go and were often difficult to keep track of. For the T1 baseline survey, we ended up having 754 subjects recruited from the agencies, which was a very impressive sample size. Three-quarters (569) of subjects of this sample were recruited from out-reach agencies, and one-quarter (185) from residential T&R agencies.

From T2 onwards, the number of subjects dropped to 600 at T2, 434 at T3, 376 at T4, 347 at T5, and 288 at T6. The retention rate was 79.6% at T2/T1, 72.3% at T3/T2, 86.6% at T4/T3, 92.3% at T5/T4, and 83.0% at T6/T5. Given that the sample was not a stable one, these retention rates were quite satisfactory. The largest drop-out rates occurred at T2 and T3. Once subjects had been interviewed three times, their continued participation was more easily secured. In fact, we have asked interviewers to issue to each subject a small card upon completion of T3 interview, noting the dates of interviews for T4, T5 and T6. A small ball pen was also given to each subject as a gift upon finishing the T3 interview. This helped to motivate and remind subjects to participate in the T4 and T5 interviews. As a result, the retention rate was high at T4 and T5, although less satisfactory at T6. If we compare the numbers of subjects from T2 to T6 with reference

to the number of subjects at T1, the retention rate decreased from 79.6% at T2, to 57.6% at T3, 49.9% at T4, 46.0% at T5, and 38.2% at T6.

The number of subjects from residential T&R agencies also decreased sharply, possibly due to the fact that clients gradually finished the programme, or left the programme prematurely, making it difficult for agencies to follow up on them. A few subjects were arrested and detained in facilities of the Correctional Services Department. Permission of CSD was obtained for these subjects to be interviewed inside CSD facilities.

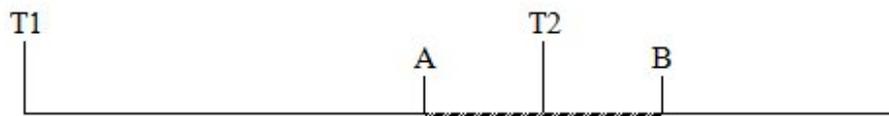
A discussion of the drop-out rates at different time-points and how they might have affected the overall sample can be found in Appendix Two.

To increase the incentive of agency clients to participate as interviewees of the survey, a remuneration of the amount of HK\$100 was rewarded to each subject after successful completion of an interview. Some agencies preferred receiving supermarket coupons of an equivalent amount instead of cash for their client interviewees. Also, as a token gift to agency staff who conducted interviews, an amount of HK\$50 was remunerated to the agency for each successful completion of an interview. Some agencies would like to centralize the amounts of remuneration for the subjects and the staff interviewers, in order to use the money to organize activities for their clients.

Consent of the subjects to participate in the six waves of interviews was obtained through consent forms before the first interview. The survey has received approval of the ethics review committee of The Chinese University of Hong Kong.

Waves of interviews were conducted at six-month intervals. In principle, the space between two interviews should be six months. In reality, some flexibility was necessary, as clients did not always show up at exactly six-month intervals waiting to be interviewed. We specified a “suitable for interview period,” in which interviews could be conducted. This period spanned from three weeks before the exact six-month date, and three weeks after the six-month date, as shown by the following diagram:

Figure 3: “Suitable for Interview” Period



T1 – T2: 6 months between T1 interview and T2 interview

A – T2: 3 weeks before supposed date of T2 interview

T2 – B: 3 weeks after supposed date of T2 interview

For subjects who were not showing up to their respective agencies regularly, it would be wise to interview them as soon as they were available, because there was no guarantee that they would make themselves available on the scheduled date of interview later. We set three weeks to be the period before the supposed interview date in which early

interviews could be conducted. For subjects whom agency staff did not get hold of until after the supposed interview date, there was also a three-week allowance for the interview to be conducted. Each subject had his/her own “suitable for interview” period.

As agencies did not start their T1 interviews on the same date, the same wave of interviews spanned about three months. The rough dates of the six waves of interviews were as follows:

- T1: April - July 2009
- T2: October 2009 - January 2010
- T3: April - July 2010
- T4: October 2010 - January 2011
- T5: April - July 2011
- T6: October - December 2011

In addition to the six waves of interviews, five focus group sessions (Appendix Three) were organized to obtain in-depth qualitative data on a variety of topics such as young people’s initiation and progression of drug use, reasons for use, and the adverse effects of psychoactive drug abuse. Data obtained from focus group sessions could be used to interpret the meanings of the quantitative results of the survey. Consent was obtained from each participant of the focus groups before the sessions were conducted.

Characteristics of the Sample

Table 2 gives the socio-demographic characteristics of the sample from T1 to T6:

Table 2: Socio-demographic Characteristics of the Sample

| Socio-demographic characteristics | T1 | | T2 | | T3 | | T4 | | T5 | | T6 | |
|-----------------------------------|-------------------------|-----|-------------------------|-----|-------------------------|-----|-------------------------|-----|-------------------------|-----|-------------------------|-----|
| | % | N | % | N | % | N | % | N | % | N | % | N |
| Gender | | | | | | | | | | | | |
| M | 65.8 | 496 | 63.8 | 383 | 63.6 | 276 | 60.1 | 226 | 61.1 | 212 | 58.0 | 167 |
| F | 34.2 | 258 | 36.2 | 217 | 36.4 | 158 | 39.9 | 150 | 38.9 | 135 | 42.0 | 121 |
| Age | $(\bar{x}=20.6; N=754)$ | | $(\bar{x}=20.3; N=600)$ | | $(\bar{x}=20.2; N=434)$ | | $(\bar{x}=19.8; N=360)$ | | $(\bar{x}=20.5; N=346)$ | | $(\bar{x}=20.7; N=288)$ | |
| 12-16 | 32.2 | 243 | 28.7 | 172 | 23.0 | 100 | 16.5 | 47 | 8.1 | 28 | 5.9 | 17 |
| 17-20 | 40.5 | 305 | 45.5 | 273 | 50.7 | 220 | 56.8 | 213 | 58.4 | 202 | 54.2 | 156 |
| 21-30 | 16.9 | 128 | 17.7 | 106 | 19.6 | 85 | 23.2 | 87 | 29.2 | 101 | 36.8 | 106 |
| 31 or over | 10.3 | 78 | 8.2 | 49 | 3.8 | 29 | 3.5 | 13 | 4.3 | 15 | 3.1 | 9 |
| No. of siblings | | | | | | | | | | | | |
| 0 | 12.7 | 94 | 13.1 | 77 | 13.1 | 56 | 9.9 | 37 | 10.2 | 35 | 12.3 | 35 |
| 1-2 | 66.1 | 500 | 68.1 | 402 | 69.5 | 298 | 72.7 | 272 | 72.3 | 248 | 71.1 | 202 |
| 3 or more | 21.2 | 148 | 18.8 | 111 | 17.5 | 75 | 17.4 | 65 | 17.5 | 60 | 16.5 | 47 |
| Marital status | | | | | | | | | | | | |
| Never married | 88.8 | 668 | 91.5 | 549 | 86.6 | 376 | 83.8 | 315 | 79.5 | 276 | 77.1 | 222 |
| Married | 11.2 | 84 | 8.4 | 51 | 13.3 | 58 | 10.9 | 61 | 20.5 | 71 | 22.9 | 66 |
| Education | | | | | | | | | | | | |
| Primary | 5.4 | 41 | 3.8 | 23 | 3.5 | 15 | 2.1 | 8 | 1.7 | 6 | 1.4 | 4 |
| F1-F3 | 57.8 | 436 | 58.1 | 347 | 53.0 | 230 | 51.1 | 192 | 49.2 | 171 | 45.6 | 131 |
| F4-F5 | 32.8 | 247 | 34.6 | 207 | 38.9 | 169 | 41.5 | 156 | 42.1 | 146 | 44.9 | 129 |
| Beyond F5 | 4.0 | 30 | 3.6 | 21 | 4.7 | 20 | 5.3 | 20 | 6.9 | 24 | 8.0 | 23 |
| Whether still a student | | | | | | | | | | | | |
| Yes, always attending school | 23.1 | 174 | 22.2 | 133 | 21.2 | 92 | 17.6 | 66 | 15.0 | 51 | 13.2 | 38 |
| Yes, but not always attending | 7.0 | 53 | 6.8 | 41 | 9.2 | 40 | 2.2 | 17 | 5.0 | 18 | 3.1 | 9 |
| No | 69.9 | 526 | 71.0 | 426 | 69.6 | 302 | 77.9 | 293 | 80.0 | 277 | 83.6 | 240 |
| Employment (non-student & ≥16) | | | | | | | | | | | | |
| No | 46.2 | 221 | 49.0 | 195 | 41.0 | 119 | 36.1 | 103 | 32.2 | 88 | 34.0 | 80 |
| Yes | 53.8 | 257 | 51.0 | 203 | 59.0 | 168 | 63.9 | 182 | 67.8 | 185 | 66.0 | 155 |
| Religion | | | | | | | | | | | | |
| No | 68.0 | 511 | 67.7 | 405 | 70.0 | 304 | 74.5 | 280 | 74.1 | 257 | 69.4 | 200 |
| Christianity/Catholicism | 24.8 | 186 | 25.2 | 151 | 24.4 | 106 | 18.7 | 70 | 19.8 | 69 | 23.6 | 68 |
| Buddhism/Taoism/other | 7.2 | 55 | 7.1 | 42 | 5.5 | 24 | 6.9 | 26 | 6.1 | 21 | 6.9 | 20 |
| Housing type | | | | | | | | | | | | |
| Public (rental or self-owned) | 58.8 | 443 | 60.7 | 362 | 60.6 | 263 | 62.5 | 235 | 60.8 | 211 | 59.0 | 170 |
| Private (rental or self-owned) | 34.7 | 262 | 34.4 | 205 | 33.4 | 145 | 31.9 | 120 | 32.9 | 114 | 35.1 | 101 |
| Room, quarters, other | 6.1 | 46 | 4.7 | 28 | 6.0 | 26 | 5.3 | 20 | 6.4 | 22 | 5.9 | 17 |
| Homeless | 0.4 | 3 | 0.3 | 2 | 0.0 | 0 | 0.3 | 1 | 0.0 | 0 | 0.0 | 0 |

In the full sample at T1, two-third (65.8%) of the subjects were male, and almost three-quarters (72.7%) were below the age of 21. The mean age was 20.6. Two-third (66.1%) had one or two siblings. The majority of the subjects (88.8%) had never been married. Almost two-third (63.2%) had received only F3 or less education, whereas one-third (32.8%) had studied up to F4 or F5. Only 31.1% of the subjects were students, and among them, 23.3% were not always attending school. Among those who were not students and who were 16 years of age or older, slightly more than half (53.8%) had a job. Slightly more than two-third (68.0%) of the subjects did not have a religion. Only about one-third (34.7%) of the subjects lived in private housing; the others mostly lived in public housing or rooms/quarters. Three subjects were homeless at T1.

In sum, the sample was a young group of psychoactive drug users, mostly male and unmarried, with lower to upper secondary school education, and living in public housing. This fits the social image of young psychoactive drug users today.

The turnover of clients in agencies was understandably high. Some interviewees would finish receiving service from their agencies soon after the first or second interviews and left. Although agency staff had made tremendous efforts to continue to track them down and motivate them to continue with subsequent interviews, some of them would not agree to continue their participation, and others might not be located by former social workers any more. Some interviewees would leave the agencies prematurely and not be found. As a result, the sample consisted of unstable subjects, and the drop-out rate was bound to be high. We have earlier reported the retention rates of T2 to T6 interviews.

Quite expectedly, the drop-out rate was higher among young and male subjects than female and older subjects, as can be seen from Table 2.

We next examine the psycho-social characteristics of the sample (Table 3).

Table 3: Psycho-social Characteristics of the Sample

| <i>Psycho-social characteristics</i> | T1 (N varies from 542 to 587) | T2 (N varies from 446 to 497) | T3 (N varies from 345 to 377) | T4 (N varies from 326 to 357) | T5 (N varies from 285 to 327) | T6 (N varies from 245 to 277) |
|---|--|--|--|--|--|--|
| | \bar{x} (s.d.) | \bar{x} (s.d.) | \bar{x} (s.d.) | \bar{x} (s.d.) | \bar{x} (s.d.) | \bar{x} (s.d.) |
| No. of years of drug use | 3.40 (3.14) | 3.83 (3.21) | 4.39 (3.16) | 5.08 (3.76) | 5.64 (3.68) | 6.19 (3.45) |
| Permissiveness to drug use (4=lowest; 16=highest) | 9.26 (2.19) | 8.87 (2.29) | 8.64 (2.22) | 8.24 (2.19) | 8.08 (2.37) | 8.06 (2.41) |
| How disappointed if aspired education level not achieved (1=not disappointed, 4=v. disappointed) | 2.25 (1.11) | 2.22 (1.04) | 2.11 (1.02) | 2.11 (1.06) | 2.10 (0.99) | 2.03 (1.00) |
| Ever been discriminated by other people (1=no; 3=a lot) | 1.41 (0.56) | 1.29 (0.50) | 1.26 (0.48) | 1.25 (0.46) | 1.26 (0.48) | 1.26 (0.47) |
| Found goal in life (1=strongly disagree; 5=strongly agree) | 3.07 (1.03) | 3.11 (1.02) | 3.15 (0.99) | 3.31 (1.01) | 3.36 (1.01) | 3.38 (0.92) |
| Satisfied with life (1=strongly disagree; 5=strongly agree) | 3.01 (1.04) | 3.18 (1.03) | 3.21 (1.05) | 3.27 (1.06) | 3.38 (1.05) | 3.40 (0.96) |
| Sense of uncertainty about future (1=strongly disagree; 5=strongly agree) | 3.81 (0.87) | 3.66 (0.90) | 3.68 (0.91) | 3.56 (0.90) | 3.46 (0.87) | 3.46 (0.87) |
| Thought doing extreme things shows vitality of young people (1=strongly disagree; 5=strongly agree) | 2.64 (1.07) | 2.45 (0.98) | 2.35 (0.92) | 2.29 (1.01) | 2.29 (0.99) | 2.23 (0.99) |
| Wish to have own family, job & normal life in future (1=strongly disagree; 5=strongly agree) | 4.39 (0.71) | 4.29 (0.71) | 4.37 (0.71) | 4.41 (0.73) | 4.34 (0.72) | 4.22 (0.79) |
| Thought own parents didn't know how to teach children (1=strongly disagree; 5=strongly agree) | 2.83 (1.14) | 2.82 (1.11) | 2.78 (1.10) | 2.69 (1.15) | 2.69 (1.09) | 2.72 (1.01) |
| Thought own school didn't know how to teach students (1=strongly disagree; 5=strongly agree) | 3.28 (1.15) | 3.20 (1.13) | 3.23 (1.15) | 3.08 (1.15) | 3.04 (1.11) | 3.05 (1.13) |
| Self-esteem (10=lowest; 50=highest) | 31.76 (6.19) | 32.63 (5.89) | 33.44 (5.66) | 33.79 (5.56) | 34.10 (5.35) | 34.40 (5.67) |
| Hopelessness (4=lowest; 20=highest) | 9.82 (2.94) | 9.71 (2.79) | 9.64 (2.67) | 9.37 (2.75) | 9.05 (2.54) | 9.18 (2.73) |
| Subjective maturity compared with same age group (3=much more mature; 15=much less mature) | 8.38 (2.14) | 8.37 (2.23) | 7.95 (2.16) | 7.84 (2.14) | 7.83 (2.15) | 7.87 (2.18) |
| Depression (0=lowest; 39=highest) | 13.43 (1.45) | 13.17 (0.94) | 13.13 (0.55) | 13.17 (1.08) | 13.06 (0.42) | 13.07 (0.48) |
| Stricken by drastic events in last 6 months (1=no; 2=yes) | 1.44 (0.49) | 1.41 (0.46) | 1.30 (0.46) | 1.24 (0.43) | 1.23 (0.42) | 1.18 (0.39) |
| Drug use in last 30 days (1=no; 2=yes) | 1.67 (0.47) | 1.49 (0.50) | 1.39 (0.49) | 1.36 (0.48) | 1.28 (0.45) | 1.27 (0.44) |

Most of the psycho-social variables are in ordinal and interval scales, and so their means (\bar{x}) and standard deviations (s.d.) are reported in Table 3. Let us firstly examine the full sample at T1. Subjects of the sample had an average of 3.4 years of drug use experience. Their mean score of permissiveness to drug use was 9.26, which is at the medium level of permissiveness (score ranges from 4 to 16). When asked how disappointed they would be if they knew they could not achieve the level of education they aspired, the majority of the subjects either would not be disappointed at all, or would just be a little bit disappointed. A majority of subjects either had not experienced discrimination from other people, or had only sometimes experienced it. Regarding a list of questions asking about attitudes towards life, family and school with a 5-point scale, the subjects obtained medium scores for “found goal in life” (\bar{x} =3.07) and “satisfied with life” (\bar{x} =3.01), a relatively higher score for “sense of uncertainty about future” (\bar{x} =3.81), and a relatively low score for “thought that doing extreme things shows the vitality of young people” (\bar{x} =2.64). The subjects overwhelmingly wished to have a normal family, job and life in future (\bar{x} =4.39). They had reservations that their parents knew how to teach their children (\bar{x} =2.83), and that their schools knew how to teach students (\bar{x} =3.28). The subjects cannot be said to have a low level of self-esteem, as their mean self-esteem score was 31.76, which is medium on a scale of 10 to 50. They also did not obtain high scores at the hopelessness scale (4 – 20), as their mean score was 9.82. Their mean depression score was 13.43 on a scale of 0 – 39, which, according to the simplified version of Beck’s depression scale, can be interpreted as having a moderate to slightly severe level of depression. Compared with people in their age groups, a majority of subjects considered themselves as being as mature as others were (\bar{x} =8.38 on a scale of 3 – 15). Slightly more than half of the subjects had not been stricken by any traumatic or drastic event in the last 30 days. In terms of drug use in last 30 days, one-third of the subjects did not use drugs, whereas the other two-thirds did.

Looking across the time-points, we do not notice many significant changes in the average scores of the variables from T1 to T6. This suggests that psycho-social characteristics, and drug use as well, were quite stable across the three-year study period.

4. FIRST TIME TAKING DRUGS

In the questionnaire for the first interview at T1, there was a section on the scenario of first drug use. Let us briefly report the first drug use of the subjects here (Table 4).

Table 4: First Time Taking Drugs

| | % | N |
|--|------|-----|
| Age (median=14; range: 10-37) | | 751 |
| 12 or younger | 13.0 | 98 |
| 13-15 | 58.9 | 442 |
| 16-20 | 24.2 | 182 |
| 21 or older | 3.9 | 29 |
| First drug(s) abused | | |
| Ketamine | 66.8 | 506 |
| Ecstasy | 25.4 | 192 |
| Marijuana | 21.1 | 161 |
| Nimetazepam (“ng chai”) | 5.2 | 39 |
| Methamphetamine (“ice”) | 5.2 | 39 |
| Cocaine (“coke”) | 3.5 | 26 |
| Cough medicine | 5.9 | 44 |
| Heroin | 7.0 | 53 |
| With whom | | 753 |
| Friends | 89.4 | 673 |
| School-mates | 8.4 | 63 |
| Relatives | 2.3 | 17 |
| Most popular venue | | |
| Parks and playgrounds | 24.5 | 184 |
| Other people’s home | 23.0 | 173 |
| Disco | 21.3 | 160 |
| Own home | 8.5 | 64 |
| Three most important reasons | | |
| Satisfy curiosity | 63.7 | 480 |
| Suggested by friends/school-mates | 15.4 | 116 |
| In search of fun/good feeling/excitement | 6.6 | 50 |
| Other people also using drugs | | |
| Friends/school-mates/work-mates | 96.2 | 718 |
| Spouse/partner/boy or girl friend | 24.6 | 180 |
| Brothers and sisters | 15.9 | 118 |
| Cousins | 13.4 | 97 |
| Father | 6.7 | 50 |
| Mother | 5.5 | 41 |
| Smoking cigarette | | 754 |
| No/rarely | 9.7 | 73 |
| Occasionally | 30.9 | 233 |
| Often | 59.4 | 448 |
| Drinking | | 753 |
| No/rarely | 49.9 | 376 |
| Occasionally | 39.6 | 298 |
| Often | 10.5 | 79 |

The first use of psychoactive drugs occurred at quite a young age. Among the subjects, 58.9% first used a drug between the age of 13 and 15. As many as 13% of the subjects started drug use as early as 12 years ago or younger. The mean age of first use was 14. The youngest age of first use was only 10 years old.

As expected, two-third of the subjects used ketamine as their first drug, followed by ecstasy and marijuana (25.4% and 21.1%, respectively). Most of the subjects (89.4%) first took drugs with friends (other than schoolmates), and 8.4% with schoolmates. The most common venues for first use were parks and playgrounds (24.5%), other people's home (23.0%), and disco (21.3%). Only 8.5% of the subjects admitted that they first used drugs at their own home.

The most important reason for first drug use was to satisfy curiosity (63.7% of subjects). Suggestion of friends/schoolmates accounted for 15.4% of first drug use of the subjects. At the time a subject first took a drug, were other people that he/she knew also taking drugs? Most of the subjects (96.2%) had friends, schoolmates, or workmates who were using drugs when they first tried drugs. One-quarter of the subjects (24.6%) had spouse, partner, or boy or girl friends who were also drug users. Other people who were using drugs at the time the subject first used drug included brothers and sisters (15.9%), cousins (13.4%), and even father (6.7%) and mother (5.5%).

Cigarette might have been a gateway drug. At the time they first tried drugs, 59.4% of the subjects often smoked cigarette, and 30.9% smoked occasionally. Fewer subjects were drinkers than smokers at the time they first took drugs. Half of them (19.9%) were not drinking. Only 10.5% were frequent drinkers.

In sum, the scenario of first drug use in this sample of subjects is all too familiar. They started their first drug use at a young age, due to curiosity or friends' suggestion. They mostly tried ketamine or ecstasy with friends in parks/playgrounds or other people's homes. Most of them had drug-using friends/schoolmates. Some of them had drug-using partners, or drug-using family members including siblings and parents. Most of the subjects had been smoking cigarette when they started to use drugs.

Data analysis of the study was performed in two sections. In the first section, we examined drug use at each of the time-points. We first found the bivariate relationship of each of the socio-demographic variables and psycho-social variables with drug use. Those bivariate relationships that were significant at one time-point were examined to see whether they will also have effects on drug use in the next time-points. Such cross-time-point analysis would be performed in the second section

5. INDIVIDUAL TIME-POINTS

We first present bivariate relationships between socio-demographic variables and drug use. The questionnaire item on drug use asked subjects to indicate whether or not they had used illicit drugs in the last 30 days prior to the interview. The answer was “yes” or “no”. We prefer to use this dichotomy. Although frequency of drug use was also asked in the questionnaire, we did not, however, ask any question on quantity of drug. Because the unit of quantity varies with the type of drug, quantity is not informative enough if there is no information on the exact content of the drug being consumed. Also, it was not easy for drug users to remember the exact quantities used. Information on frequency of use was available, but this information was not enough to establish an accurate level of use. In view of this, and noting that any use is not desirable, the dichotomy of “yes” or “no” would serve the purpose of the present analysis.

Before we analyze the relationships between socio-demographic variables and drug use, a clarification of the subjects used in the analysis is in order. Our sample included subjects of out-reach agencies and residential T&R agencies. For subjects in a residential treatment programme, they would not be using drugs if they have entered the programme for more than 30 days. This would not reflect the true ability of the subjects to remain drug-free, as they were kept away from drugs in the residential programme. Thus, these subjects should *not* be included in the analysis. On the other hand, if a subject was in a residential programme during the interview but reported drug use in the last 30 days, then he/she might have entered the programme quite recently, and his/her drug use could have occurred before entering the programme. For these subjects, we included them in the analysis. In sum, those subjects that were selected for analysis were *those who were either not in a residential T&R programme, or were in a residential programme during interview but had reported drug use in the last 30 days.*

T1

Socio-demographic Variables and Drug Use

To examine the bivariate relationships between socio-demographic variables and drug use in last 30 days, we used χ^2 for significance tests. Table 5 gives the results.

Table 5: T1 Bivariate Relationships between Drug Use in Last 30 Days ("Yes" and "No") and Socio-demographic Variables

| Socio-demographic variables | Used drugs in last 30 days | | N |
|--|----------------------------|------|-----|
| | % | n | |
| Gender (n.s.) | | | 586 |
| M | 67.7 | 247 | 365 |
| F | 65.2 | 144 | 221 |
| Age (n.s.) | | | 586 |
| 12-16 | 63.3 | 150 | 237 |
| 17-20 | 69.6 | 183 | 263 |
| 21-30 | 68.0 | 51 | 75 |
| 31 or over | 63.6 | 7 | 11 |
| No. of siblings (n.s.) | | | 586 |
| 0 | 62.2 | 46 | 74 |
| 1-2 | 67.7 | 283 | 418 |
| 3 or more | 66.0 | 62 | 94 |
| Marital status (n.s.) | | | 584 |
| Never married | 66.8 | 369 | 552 |
| Married | 65.5 | 21 | 32 |
| Education (n.s.) | | | 585 |
| Primary | 40.0 | 60.0 | 10 |
| F1-F3 | 34.6 | 65.4 | 355 |
| F4-F5 | 29.6 | 70.4 | 199 |
| Beyond F5 | 38.1 | 61.9 | 21 |
| Whether still a student (p<.001) | | | 585 |
| Yes, always attending school | 48.2 | 81 | 168 |
| Yes, but not always attending | 76.5 | 39 | 51 |
| No | 74.0 | 271 | 366 |
| Employment (non-student & ≥16) (p<.05) | | | 319 |
| No | 78.8 | 130 | 165 |
| Yes | 68.2 | 105 | 154 |
| Religion (n.s.) | | | 584 |
| No | 68.4 | 296 | 433 |
| Yes | 62.9 | 95 | 151 |
| Housing type (n.s.) | | | 586 |
| Public (rental or self-owned) | 66.7 | 238 | 357 |
| Private (rental or self-owned) | 66.5 | 137 | 206 |
| Room, quarters, homeless, other | 69.6 | 16 | 23 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. "n.s." = not statistically significant.

In the sample, only two of the nine socio-demographic variables were significantly related to drug use in last 30 days. Gender, age, no. of siblings, marital status, education, religion and housing type did not have significant relationships with drug use. If the subject was a student actively attending school, then the subject was less likely to use drugs than students who always skipped school, or subjects who were no longer a student. For those who were not students, having an employment was negatively associated with drug use.

Psycho-social Variables and Drug Use

We next examined the relationship of each of the psycho-social variables with drug use (Table 6). The variable “number of years of drug use”, showing drug use history, was also added.

Table 6: T1 Bivariate Relationships between Drug Use in Last 30 Days (“Yes” and “No”) and Years of Drug Use and Psycho-social Variables

| No. of years of drug use & Psycho-social variables | Used drug in last 30 days | | N |
|--|---------------------------|-----|-----|
| | % | n | |
| No. of years of drug use (p<.001) | | | 582 |
| 0-2 | 59.3 | 166 | 280 |
| 3-5 | 71.8 | 145 | 202 |
| 6 yrs or more | 79.0 | 79 | 100 |
| Permissiveness to drug use (p<.001) | | | 581 |
| Low (4-8) | 50.5 | 97 | 192 |
| Medium (9-11) | 71.3 | 229 | 321 |
| High (12-16) | 89.7 | 61 | 68 |
| How disappointed if aspired education level not achieved (n.s.) | | | 541 |
| Doesn't matter | 72.4 | 131 | 181 |
| A little disappointed | 66.9 | 97 | 145 |
| Quite disappointed | 61.5 | 72 | 117 |
| Very disappointed | 61.2 | 60 | 98 |
| Ever been discriminated by other people (n.s.) | | | 586 |
| Never | 68.2 | 251 | 368 |
| Sometimes | 63.8 | 125 | 196 |
| A lot of times | 68.2 | 15 | 22 |
| Found goal in life (p<.05) | | | 586 |
| Strongly disagree | 80.6 | 25 | 31 |
| Disagree | 75.0 | 111 | 148 |
| No opinion | 64.7 | 130 | 201 |
| Agree | 62.9 | 100 | 159 |
| Strongly agree | 53.2 | 25 | 47 |
| Satisfied with life (p<.001) | | | 586 |
| Strongly disagree | 87.5 | 28 | 32 |
| Disagree | 75.6 | 146 | 193 |
| No opinion | 59.8 | 73 | 122 |
| Agree | 62.0 | 134 | 216 |
| Strongly agree | 43.5 | 10 | 23 |
| Sense of uncertainty about own future in fast changing society (n.s.) | | | 586 |
| Strongly disagree or disagree | 61.4 | 35 | 57 |
| No opinion | 62.9 | 56 | 89 |
| Agree | 68.6 | 234 | 341 |
| Strongly agree | 66.7 | 66 | 99 |
| Doing more extreme things like taking psychoactive drugs is a way to show the vitality of young people (p<.05) | | | 586 |
| Strongly disagree | 49.3 | 37 | 75 |
| Disagree | 67.1 | 157 | 234 |
| No opinion | 71.4 | 90 | 126 |
| Agree | 71.8 | 94 | 131 |
| Strongly agree | 65.0 | 13 | 20 |

| | | | |
|---|------|-----|-----|
| Wish to have my own family, decent job and normal life in future (n.s.) | | | 586 |
| Strongly disagree or disagree | 70.0 | 7 | 10 |
| No opinion | 75.6 | 31 | 41 |
| Agree | 69.3 | 167 | 241 |
| Strongly agree | 66.7 | 391 | 294 |
| My parents didn't know how to teach children (n.s.) | | | 586 |
| Strongly disagree | 64.6 | 42 | 65 |
| Disagree | 67.0 | 130 | 194 |
| No opinion | 70.0 | 112 | 160 |
| Agree | 67.5 | 77 | 114 |
| Strongly agree | 56.6 | 30 | 53 |
| My school didn't know how to teach students (n.s.) | | | 586 |
| Strongly disagree or disagree | 63.5 | 106 | 167 |
| No opinion | 68.4 | 119 | 174 |
| Agree | 65.2 | 88 | 135 |
| Strongly agree | 70.9 | 78 | 110 |
| Rosenberg Self-esteem Scale (p<.05) | | | 585 |
| Low (10-29) | 73.9 | 150 | 203 |
| Medium (30-34) | 66.3 | 126 | 190 |
| High (35-48) | 59.9 | 391 | 192 |
| Hopelessness (n.s.) | | | 586 |
| Low hopelessness (4-8) | 65.6 | 143 | 218 |
| Medium hopelessness (9-12) | 64.2 | 167 | 260 |
| High hopelessness (13-20) | 75.0 | 81 | 108 |
| Subjective maturity compared with peers in same age group (n.s.) | | | 586 |
| More mature (3-7) | 65.6 | 128 | 195 |
| Similarly mature (8-10) | 68.1 | 201 | 295 |
| Less mature (11-15) | 64.6 | 62 | 96 |
| Beck Depression Scale (simplified; 0-39) (n.s.) | | | 582 |
| Low severe (12-13) | 65.5 | 328 | 501 |
| High severe (14-27) | 74.1 | 60 | 81 |
| Stricken by serious events in last 6 months (n.s.) | | | 586 |
| No | 64.1 | 209 | 326 |
| Yes | 70.0 | 182 | 260 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. "n.s." = not statistically significant.

Number of years of drug use was positively associated with drug use. Subjects with longer drug use history were more likely to have used drugs at T1. Among psycho-social variables, those that had significant and positive relationships with drug use were: permissiveness to drug use, having found goal in life, satisfied with life, agreed that doing extreme things reflects vitality of young people, and self-esteem. On the other hand, disappointment with achievable education, experience of discrimination, sense of uncertainty about future, wishing to have normal life in future, negative evaluation of parents and school, hopelessness, subjective maturity, depression, and stricken by serious events were not significant psycho-social factors in drug use.

T2

Socio-demographic Variables and Drug Use

As at T1, socio-demographic variables and psycho-social variables (also including number of years of drug use) were cross-tabulated with drug use in last 30 days at T2. Table 7 gives the results pertaining to socio-demographic variables.

Table 7: T2 Bivariate Relationships between Drug Use in Last 30 Days ("Yes" and "No") and Socio-demographic Variables

| Socio-demographic variables | Used drugs in last 30 days | | N |
|--|----------------------------|-----|-----|
| | % | n | |
| Gender (p<.05) | | | 497 |
| M | 45.0 | 136 | 302 |
| F | 54.4 | 106 | 195 |
| Age (n.s.) | | | 494 |
| 13-16 | 51.5 | 84 | 163 |
| 17-20 | 46.8 | 117 | 250 |
| 21 or over | 50.6 | 41 | 81 |
| No. of siblings (p<.05) | | | 497 |
| 0 | 32.3 | 20 | 62 |
| 1-2 | 51.7 | 184 | 356 |
| 3 or more | 48.1 | 38 | 79 |
| Marital status (n.s.) | | | 497 |
| Never married | 49.4 | 234 | 474 |
| Married | 34.8 | 8 | 23 |
| Education (n.s.) | | | 496 |
| Primary/F1-F3 | 51.2 | 154 | 301 |
| F4-F5 | 44.6 | 78 | 175 |
| Beyond F5 | 45.0 | 9 | 20 |
| Whether still a student (p<.001) | | | 497 |
| Yes, always attending school | 36.4 | 47 | 129 |
| Yes, but not always attending | 73.7 | 28 | 38 |
| No | 50.6 | 167 | 330 |
| Employment (non-student & ≥16) (p<.01) | | | 305 |
| No | 60.1 | 92 | 153 |
| Yes | 42.8 | 65 | 152 |
| Religion (n.s.) | | | 495 |
| No | 47.2 | 175 | 371 |
| Yes | 53.2 | 66 | 124 |
| Housing type (n.s.) | | | 495 |
| Public (rental or self-owned) | 49.0 | 149 | 304 |
| Private (rental or self-owned) | 49.7 | 87 | 175 |
| Room, quarters, homeless, other | 37.5 | 6 | 16 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. "n.s." = not statistically significant.

At T2, gender, no. of siblings, whether a student actively attending school, and employment were significantly related to drug use. The other socio-demographic

variables were not. It is surprising that female subjects tended to be more likely than male to use drugs. Subjects with 1 to 2 siblings were most likely to be drug users. Subjects who were students actively attending schools were less likely to use drugs than those who were school-skipping students and non-students. Also, among non-students, those who had a job were less likely than those who did not have a job to be drug users.

Psycho-social Variables and Drug Use

The bivariate relationships between drug use and each of the psycho-social variables at T2 are presented in Table 8.

Table 8: T2 Bivariate Relationships between Drug Use in Last 30 Days (“Yes” and “No”) and Psycho-social Variables (including No. of Years of Drug Use)

| No. of years of drug use & Psycho-social variables | Used drug in last 30 days | | N |
|---|---------------------------|-----|-----|
| | % | n | |
| No. of years of drug use (n.s.) | | | |
| 0-2 | 44.9 | 79 | 176 |
| 3-5 | 50.0 | 110 | 220 |
| 6 yrs or more | 54.1 | 53 | 98 |
| Permissiveness to drug use (p<.001) | | | |
| Low (4-8) | 25.8 | 50 | 194 |
| Medium (9-11) | 63.8 | 164 | 257 |
| High (12-16) | 61.9 | 26 | 42 |
| How disappointed if aspired education level not achieved (n.s.) | | | |
| Doesn't matter | 49.6 | 67 | 135 |
| A little disappointed | 51.4 | 74 | 144 |
| Quite disappointed | 39.4 | 39 | 99 |
| Very disappointed | 47.1 | 32 | 68 |
| Ever been discriminated by other people (n.s.) | | | |
| Never | 49.7 | 180 | 362 |
| Sometimes/A lot of times | 45.9 | 62 | 135 |
| Found goal in life (p<.001) | | | |
| Strongly disagree | 58.3 | 14 | 24 |
| Disagree | 68.1 | 81 | 119 |
| No opinion | 49.7 | 87 | 175 |
| Agree | 34.3 | 47 | 137 |
| Strongly agree | 31.0 | 13 | 42 |
| Satisfied with life (p<.001) | | | |
| Strongly disagree | 65.4 | 17 | 26 |
| Disagree | 66.7 | 82 | 123 |
| No opinion | 53.7 | 58 | 108 |
| Agree | 38.1 | 82 | 215 |
| Strongly agree | 12.0 | 3 | 25 |
| Sense of uncertainty about own future in fast changing society (p<.05) | | | |
| Strongly disagree/disagree | 39.1 | 25 | 64 |
| No opinion | 41.0 | 41 | 100 |
| Agree | 50.2 | 134 | 267 |
| Strongly agree | 63.6 | 42 | 66 |
| Doing more extreme things like taking psychoactive drugs is a way to show the vitality of young people (n.s.) | | | |
| Strongly disagree | 36.6 | 30 | 82 |
| Disagree | 49.5 | 98 | 198 |
| No opinion | 50.0 | 66 | 132 |
| Agree/Strongly agree | 56.5 | 48 | 85 |

| | | | |
|---|------|-----|-----|
| Wish to have my own family, decent job and normal life in future (n.s.) | | | 497 |
| Strongly disagree/disagree | 44.4 | 4 | 9 |
| No opinion | 54.5 | 18 | 33 |
| Agree | 49.8 | 127 | 255 |
| Strongly agree | 46.5 | 93 | 200 |
| My parents didn't know how to teach children (n.s.) | | | 497 |
| Strongly disagree | 52.9 | 27 | 51 |
| Disagree | 53.3 | 88 | 185 |
| No opinion | 42.0 | 63 | 147 |
| Agree | 45.1 | 41 | 91 |
| Strongly agree | 53.5 | 23 | 43 |
| My school didn't know how to teach students (n.s.) | | | 497 |
| Strongly disagree | 55.0 | 11 | 20 |
| Disagree | 47.3 | 62 | 131 |
| No opinion | 46.5 | 74 | 159 |
| Agree | 52.0 | 53 | 102 |
| Strongly agree | 49.4 | 42 | 85 |
| Rosenberg Self-esteem Scale (p<.01) | | | 496 |
| Low (13-29) | 60.0 | 84 | 140 |
| Medium (30-34) | 46.5 | 72 | 155 |
| High (35-49) | 42.8 | 86 | 201 |
| Hopelessness (n.s.) | | | 497 |
| Low hopelessness (4-8) | 45.2 | 84 | 186 |
| Medium hopelessness (9-12) | 48.7 | 116 | 238 |
| High hopelessness (13-20) | 57.5 | 42 | 73 |
| Subjective maturity compared with peers in same age group (n.s.) | | | 495 |
| More mature (3-7) | 46.1 | 77 | 167 |
| Similarly mature (8-10) | 51.2 | 130 | 254 |
| Less mature (11-15) | 45.9 | 34 | 74 |
| Beck Depression Scale (simplified; 0-39) (n.s.) | | | 494 |
| Low severe (13) | 48.3 | 224 | 464 |
| High severe (14-27) | 53.3 | 16 | 30 |
| Stricken by serious events in last 6 months (n.s.) | | | 497 |
| No | 46.4 | 159 | 343 |
| Yes | 53.9 | 242 | 497 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. "n.s." = not statistically significant.

In T2, psycho-social variables that were significantly related to drug use in last 30 days are: permissiveness to drug use, found goal in life, satisfied with life, sense of uncertainty about future, and self-esteem. The more permissive to drug use, not having found goal in life, less satisfied with life, more uncertain about future, and low self-esteem were positively associated with drug use. Other variables, including drug use history, were not significantly related.

T3

Socio-demographic Variables and Drug Use

Table 9 shows the bivariate relationships between socio-demographic variables and drug use in last 30 days at T3.

Table 9: T3 Bivariate Relationships between Drug Use in Last 30 Days ("Yes" and "No") and Socio-demographic Variables

| Socio-demographic variables | Used drugs in last 30 days | | N |
|---------------------------------------|----------------------------|-----|-----|
| | % | n | |
| Gender (n.s.) | | | 377 |
| M | 38.6 | 88 | 228 |
| F | 40.3 | 60 | 149 |
| Age (n.s.) | | | 377 |
| 13-16 | 37.9 | 36 | 95 |
| 17-20 | 37.2 | 77 | 207 |
| 21 or over | 46.7 | 35 | 75 |
| No. of siblings (p<.05) | | | 377 |
| 0 | 28.6 | 14 | 49 |
| 1-2 | 43.5 | 117 | 269 |
| 3 or more | 28.8 | 17 | 59 |
| Marital status (n.s.) | | | 377 |
| Never married | 39.6 | 133 | 336 |
| Married | 36.6 | 15 | 41 |
| Education (n.s.) | | | 377 |
| Primary/F1-F3 | 39.8 | 82 | 206 |
| F4-F5/Higher | 38.6 | 66 | 171 |
| Whether still a student (p<.01) | | | 377 |
| Yes, always attending school | 24.2 | 22 | 91 |
| Yes, but not always attending | 47.4 | 18 | 38 |
| No | 43.5 | 108 | 248 |
| Employment (non-student & ≥16) (n.s.) | | | 234 |
| No | 48.9 | 45 | 92 |
| Yes | 39.4 | 56 | 142 |
| Religion (n.s.) | | | 377 |
| No | 40.0 | 116 | 290 |
| Yes | 36.8 | 32 | 87 |
| Housing type (n.s.) | | | 377 |
| Public (rental or self-owned) | 37.9 | 88 | 232 |
| Private (rental or self-owned) | 41.4 | 53 | 128 |
| Room, quarters, homeless, other | 41.2 | 7 | 17 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. "n.s." = not statistically significant.

Significant variables included no. of siblings and whether or not a student actively attending school. Those subjects having 1 to 2 siblings, and those who were not students actively attending school (students often skipping school and non-students) were more likely to have used drugs in the last 30 days. Other socio-demographic variables were not significantly related to drug use.

Psycho-social Variables and Drug Use

How psycho-social variables were related to drug use in last 30 days at T3 is reported in Table 10.

Table 10: T3 Bivariate Relationships between Drug Use in Last 30 Days ("Yes" and "No") and Psycho-social Variables

| No. of years of drug use & Psycho-social variables | Used drug in last 30 days | | N |
|--|---------------------------|-----|-----|
| | % | n | |
| No. of years of drug use (p<.01) | | | 374 |
| 0-2 | 25.8 | 25 | 97 |
| 3-5 | 46.2 | 84 | 182 |
| 6 yrs or more | 41.1 | 39 | 95 |
| Permissiveness to drug use (p<.001) | | | 376 |
| Low (4-8) | 16.9 | 28 | 166 |
| Medium (9-11) | 55.1 | 102 | 185 |
| High (12-16) | 72.0 | 18 | 25 |
| How disappointed if aspired education level not achieved (n.s.) | | | 345 |
| Doesn't matter | 34.7 | 42 | 121 |
| A little disappointed | 42.7 | 44 | 103 |
| Quite disappointed | 35.4 | 29 | 82 |
| Very disappointed | 46.2 | 18 | 39 |
| Ever been discriminated by other people (n.s.) | | | 372 |
| Never | 38.1 | 107 | 281 |
| Sometimes/A lot of times | 41.8 | 38 | 91 |
| Found goal in life (p<.001) | | | 377 |
| Strongly disagree/disagree | 54.2 | 52 | 96 |
| No opinion | 39.1 | 54 | 138 |
| Agree/strongly agree | 29.4 | 42 | 143 |
| Satisfied with life (p<.001) | | | 377 |
| Strongly disagree/disagree | 59.5 | 66 | 111 |
| No opinion | 38.5 | 30 | 78 |
| Agree/strongly agree | 27.7 | 52 | 188 |
| Sense of uncertainty about own future in fast changing society (n.s.) | | | 377 |
| Strongly disagree/disagree | 37.8 | 17 | 45 |
| No opinion | 29.5 | 23 | 78 |
| Agree/strongly agree | 42.5 | 108 | 254 |
| Doing more extreme things like taking psychoactive drugs is a way to show the vitality of young people (p<.01) | | | 377 |
| Strongly disagree/disagree | 33.0 | 77 | 233 |
| No opinion | 49.0 | 47 | 96 |
| Agree/strongly agree | 50.0 | 24 | 48 |
| Wish to have my own family, decent job and normal life in future (n.s.) | | | 376 |
| Strongly disagree/disagree/no opinion | 45.2 | 14 | 31 |
| Agree | 40.1 | 67 | 167 |
| Strongly agree | 37.1 | 66 | 178 |

| | | | |
|---|------|-----|-----|
| My parents didn't know how to teach children (p<.05) | | | 377 |
| Strongly disagree | 55.8 | 24 | 43 |
| Disagree | 43.8 | 53 | 121 |
| No opinion | 30.3 | 36 | 119 |
| Agree | 40.0 | 26 | 65 |
| Strongly agree | 31.0 | 9 | 29 |
| My school didn't know how to teach students (n.s.) | | | 376 |
| Strongly disagree | 44.0 | 11 | 25 |
| Disagree | 31.0 | 22 | 71 |
| No opinion | 41.5 | 59 | 142 |
| Agree | 38.6 | 27 | 70 |
| Strongly agree | 41.2 | 28 | 68 |
| Rosenberg Self-esteem Scale (p<.001) | | | 375 |
| Low (16-29) | 51.2 | 42 | 84 |
| Medium (30-34) | 44.9 | 57 | 127 |
| High (35-50) | 28.7 | 47 | 164 |
| Hopelessness (n.s.) | | | 376 |
| Low hopelessness (4-8) | 38.1 | 56 | 147 |
| Medium hopelessness (9-12) | 37.6 | 65 | 173 |
| High hopelessness (13-19) | 48.2 | 27 | 56 |
| Subjective maturity compared with peers in same age group (n.s.) | | | 377 |
| More mature (3-7) | 35.8 | 54 | 151 |
| Similarly mature (8-10) | 42.8 | 80 | 187 |
| Less mature (11-15) | 35.9 | 14 | 39 |
| Beck Depression Scale (simplified; 0-39) (n.s.) | | | 373 |
| Low severe (13) | 39.4 | 136 | 345 |
| High severe (14-17) | 32.1 | 9 | 28 |
| Stricken by serious events in last 6 months (p<.01) | | | 377 |
| No | 35.2 | 93 | 264 |
| Yes | 48.7 | 55 | 113 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. "n.s." = not statistically significant.

Drug use history was significantly related to drug use at T3. Subjects who had used drugs for 3 to 5 years were most likely to have used drugs in the last 30 days, followed by those who had 6 or more years of drug use and those who had used drugs for 2 years or less.

Other variables significantly related to drug use were: permissiveness to drug use, found goal in life, satisfied with life, agreed that doing extreme things reflects vitality of young people, thought their own parents didn't know who to teach children, self-esteem, and stricken by drastic events. Subjects were more likely to use drugs if they were permissive to drug use, had not found a goal in life, were not satisfied with life, agreed that doing extreme things shows the vitality of young people, charged that their parents did not know how to teach them, had low self-esteem, and had been struck by drastic events in last 6 months.

T4

Socio-demographic Variables and Drug Use

As can be seen from Table 11 below, socio-demographic variables that were significantly related to drug use at T4 were age and whether an actively attending school student.

Table 11: T4 Bivariate Relationships between Drug Use in Last 30 Days (“Yes” and “No”) and Socio-demographic Variables

| Socio-demographic variables | Used drugs in last 30 days | | N |
|---------------------------------------|----------------------------|-----|-----|
| | % | n | |
| Gender (n.s.) | | | 357 |
| M | 34.6 | 74 | 214 |
| F | 38.5 | 55 | 143 |
| Age (p<.05) | | | 356 |
| 14-16 | 41.7 | 25 | 60 |
| 17-20 | 30.8 | 64 | 208 |
| 21 or over | 44.3 | 39 | 88 |
| No. of siblings (n.s.) | | | 357 |
| 0 | 37.1 | 13 | 35 |
| 1-2 | 38.3 | 101 | 264 |
| 3 or more | 25.9 | 15 | 58 |
| Marital status (n.s.) | | | 357 |
| Never married | 36.8 | 111 | 302 |
| Married | 32.7 | 18 | 55 |
| Education (n.s.) | | | 357 |
| Primary/F1-F3 | 40.9 | 76 | 186 |
| F4-F5 | 31.1 | 47 | 151 |
| Beyond F5 | 30.0 | 6 | 20 |
| Whether still a student (p<.05) | | | 357 |
| Yes, always attending school | 23.4 | 15 | 64 |
| Yes, but not always attending | 47.1 | 8 | 17 |
| No | 38.4 | 106 | 276 |
| Employment (non-student & ≥16) (n.s.) | | | 267 |
| No | 42.6 | 40 | 94 |
| Yes | 35.3 | 61 | 173 |
| Religion (n.s.) | | | 357 |
| No | 36.1 | 99 | 274 |
| Yes | 36.1 | 30 | 83 |
| Housing type (n.s.) | | | 357 |
| Public (rental or self-owned) | 37.8 | 84 | 222 |
| Private (rental or self-owned) | 33.0 | 38 | 115 |
| Room, quarters, homeless, other | 35.0 | 7 | 20 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. “n.s.” = not statistically significant.

Psycho-social Variables and Drug Use

At T4, as shown in Table 12, psycho-social variables that were significantly related to drug use were: permissiveness to drug use, found goal in life, satisfied with life, sense of uncertainty about future, doing extremely things shows vitality of young people, self-esteem, depression, and having been stricken by drastic events. Subjects who were more likely to be drug users were those who held a permissive attitude towards drug use, have not found a goal in life, were not satisfied with life, were having a higher sense of uncertainty about future, agreed that doing extreme things shows vitality of young people, had low esteem, were depressed, and had been stricken by drastic events in the last 6 months.

Table 12: T4 Bivariate Relationships between Drug Use in Last 30 Days (“Yes” and “No”) and Psycho-social Variables and No. of Years of Drug Use

| No. of years of drug use & Psycho-social variables | Used drug in last 30 days | | N |
|---|---------------------------|-----|-----|
| | % | n | |
| No. of years of drug use (n.s.) | | | 356 |
| 0-2 | 31.7 | 19 | 60 |
| 3-5 | 34.9 | 66 | 189 |
| 6 yrs or more | 40.2 | 43 | 107 |
| Permissiveness to drug use (p<.001) | | | 356 |
| Low (4-8) | 24.1 | 46 | 191 |
| Medium/high (9-16) | 50.3 | 83 | 165 |
| How disappointed if aspired education level not achieved (n.s.) | | | 326 |
| Doesn't matter | 35.6 | 42 | 118 |
| A little disappointed | 31.7 | 32 | 101 |
| Quite disappointed | 41.7 | 25 | 60 |
| Very disappointed | 38.3 | 18 | 47 |
| Ever been discriminated by other people (n.s.) | | | 356 |
| Never | 34.4 | 93 | 270 |
| Sometimes/A lot of times | 40.7 | 35 | 86 |
| Found goal in life (p<.001) | | | 164 |
| Strongly disagree/disagree | 57.0 | 45 | 79 |
| No opinion | 42.1 | 48 | 114 |
| Agree/strongly agree | 22.0 | 36 | 164 |
| Satisfied with life (p<.001) | | | 357 |
| Strongly disagree/disagree | 61.8 | 63 | 102 |
| No opinion | 46.3 | 31 | 67 |
| Agree/strongly agree | 18.6 | 35 | 188 |
| Sense of uncertainty about own future in fast changing society (p<.001) | | | 357 |
| Strongly disagree/disagree | 21.8 | 12 | 55 |
| No opinion | 25.0 | 20 | 80 |
| Agree/strongly agree | 43.7 | 97 | 222 |
| Doing more extreme things like taking psychoactive drugs is a way to show the vitality of young people (p<.001) | | | 357 |
| Strongly disagree/disagree | 30.5 | 71 | 233 |
| No opinion | 36.8 | 25 | 68 |
| Agree/strongly agree | 58.9 | 33 | 56 |
| Wish to have my own family, decent job and normal life in future (n.s.) | | | 357 |
| Strongly disagree/disagree/no opinion | 24.0 | 6 | 25 |
| Agree/strongly agree | 37.0 | 123 | 322 |
| My parents didn't know how to teach children (n.s.) | | | 357 |
| Strongly disagree | 25.5 | 14 | 55 |
| Disagree | 34.2 | 39 | 114 |
| No opinion | 39.2 | 40 | 102 |
| Agree | 43.9 | 25 | 57 |
| Strongly agree | 37.9 | 11 | 29 |

| | | | |
|--|------|----|-----|
| My school didn't know how to teach students (n.s.) | | | 357 |
| Strongly disagree | 10.3 | 3 | 29 |
| Disagree | 35.4 | 29 | 82 |
| No opinion | 35.4 | 46 | 130 |
| Agree | 41.9 | 26 | 62 |
| Strongly agree | 46.3 | 25 | 54 |
| Rosenberg Self-esteem Scale (p<.001) | | | 356 |
| Low (16-29) | 62.4 | 53 | 85 |
| Medium (30-34) | 30.9 | 29 | 94 |
| High (35-50) | 26.0 | 46 | 177 |
| Hopelessness (n.s.) | | | 357 |
| Low hopelessness (4-8) | 33.1 | 52 | 157 |
| Medium hopelessness (9-12) | 35.6 | 53 | 149 |
| High hopelessness (13-19) | 47.1 | 24 | 51 |
| Subjective maturity compared with peers in same age group (n.s.) | | | 357 |
| More mature (3-7) | 37.2 | 54 | 145 |
| Similarly mature (8-10) | 35.2 | 63 | 179 |
| Less mature (11-15) | 36.4 | 12 | 33 |
| Beck Depression Scale (simplified; 0-39) (p<.001) | | | 351 |
| Low severe (13) | 48.6 | 86 | 177 |
| High severe (14-17) | 24.1 | 42 | 174 |
| Stricken by serious events in last 6 months (p<.001) | | | 356 |
| No | 31.6 | 85 | 269 |
| Yes | 50.6 | 44 | 87 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. "n.s." = not statistically significant.

T5

Socio-demographic Variables and Drug Use

Next, Table 13 shows that no socio-demographic variables were significantly related to drug use at T5.

Table 13: T5 Bivariate Relationships between Drug Use in Last 30 Days (“Yes” and “No”) and Socio-demographic Variables

| Socio-demographic variables | Used drugs in last 30 days | | N |
|---------------------------------------|----------------------------|----|-----|
| | % | n | |
| Gender (n.s.) | | | 327 |
| M | 26.9 | 53 | 197 |
| F | 30.8 | 40 | 130 |
| Age (n.s.) | | | 326 |
| 15-17 | 31.0 | 26 | 84 |
| 18-20 | 24.5 | 34 | 139 |
| 21 or over | 32.0 | 33 | 103 |
| No. of siblings (n.s.) | | | 325 |
| 0 | 22.6 | 7 | 31 |
| 1-2 | 30.5 | 73 | 239 |
| 3 or more | 23.6 | 13 | 55 |
| Marital status (n.s.) | | | 326 |
| Never married | 30.0 | 79 | 263 |
| Married | 22.2 | 14 | 63 |
| Education (n.s.) | | | 325 |
| Primary/F1-F3 | 31.9 | 52 | 163 |
| F4-F5/Beyond F5 | 25.3 | 41 | 162 |
| Whether still a student (n.s.) | | | 326 |
| Yes, always attending school | 22.0 | 11 | 50 |
| Yes, but not always attending | 29.4 | 5 | 17 |
| No | 29.7 | 77 | 259 |
| Employment (non-student & ≥16) (n.s.) | | | 254 |
| No | 36.4 | 28 | 77 |
| Yes | 27.1 | 48 | 177 |
| Religion (n.s.) | | | 326 |
| No | 30.6 | 76 | 248 |
| Yes | 21.8 | 17 | 78 |
| Housing type (n.s.) | | | 326 |
| Public (rental or self-owned) | 29.9 | 59 | 197 |
| Private (rental or self-owned) | 27.5 | 30 | 109 |
| Room, quarters, homeless, other | 20.0 | 4 | 20 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. “n.s.” = not statistically significant.

Psycho-social Variables and Drug Use

As to psycho-social variables and drug use history, quite a few of them were significantly related to drug use, as at previous time-points (Table 14).

Table 14: T5 Bivariate Relationships between Drug Use in Last 30 Days (“Yes” and “No”) and Psycho-social Variables and No. of Years of Drug Use

| No. of years of drug use & Psycho-social variables | Used drug in last 30 days | | N |
|---|---------------------------|----|-----|
| | % | n | |
| No. of years of drug use (n.s.) | | | 323 |
| 2-3 | 23.2 | 19 | 82 |
| 4-5 | 30.8 | 36 | 117 |
| 6 yrs or more | 30.6 | 38 | 124 |
| Permissiveness to drug use (p<.001) | | | 322 |
| Low (4-6) | 10.0 | 8 | 80 |
| Medium (7-9) | 26.8 | 37 | 138 |
| High (10 or over) | 45.2 | 47 | 104 |
| How disappointed if aspired education level not achieved (n.s.) | | | 285 |
| Doesn't matter | 28.6 | 28 | 98 |
| A little disappointed | 25.6 | 23 | 90 |
| Quite disappointed | 31.3 | 21 | 67 |
| Very disappointed | 26.7 | 8 | 30 |
| Ever been discriminated by other people (n.s.) | | | 326 |
| Never | 27.9 | 69 | 247 |
| Sometimes/A lot of times | 30.4 | 24 | 79 |
| Found goal in life (p<.001) | | | 327 |
| Strongly disagree/disagree | 52.8 | 38 | 72 |
| No opinion | 27.5 | 28 | 102 |
| Agree/strongly agree | 17.6 | 27 | 153 |
| Satisfied with life (p<.001) | | | 327 |
| Strongly disagree/disagree | 56.0 | 47 | 84 |
| No opinion | 27.3 | 15 | 55 |
| Agree/strongly agree | 16.5 | 31 | 188 |
| Sense of uncertainty about own future in fast changing society (p<.05) | | | 327 |
| Strongly disagree/disagree | 20.8 | 11 | 53 |
| No opinion | 21.2 | 18 | 85 |
| Agree/strongly agree | 33.9 | 64 | 189 |
| Doing more extreme things like taking psychoactive drugs is a way to show the vitality of young people (p<.001) | | | 327 |
| Strongly disagree/disagree | 21.3 | 46 | 216 |
| No opinion | 43.5 | 27 | 62 |
| Agree/strongly agree | 40.8 | 20 | 49 |
| Wish to have my own family, decent job and normal life in future (n.s.) | | | 327 |
| Strongly disagree/disagree/no opinion | 37.9 | 11 | 29 |
| Agree/strongly agree | 27.5 | 82 | 298 |

| | | | |
|--|------|----|-----|
| My parents didn't know how to teach children (n.s.) | | | 327 |
| Strongly disagree | 18.6 | 8 | 43 |
| Disagree | 24.8 | 28 | 113 |
| No opinion | 33.3 | 30 | 90 |
| Agree | 34.9 | 22 | 63 |
| Strongly agree | 27.8 | 5 | 18 |
| My school didn't know how to teach students (n.s.) | | | 327 |
| Strongly disagree/disagree | 22.1 | 23 | 104 |
| No opinion | 27.8 | 35 | 126 |
| Agree/strongly agree | 36.1 | 35 | 97 |
| Rosenberg Self-esteem Scale (p<.001) | | | 327 |
| Low (19-30) | 46.3 | 38 | 82 |
| Medium (31-36) | 26.7 | 36 | 135 |
| High (36-48) | 17.3 | 19 | 110 |
| Hopelessness (p<.01) | | | 327 |
| Low hopelessness (4-8) | 13.5 | 10 | 74 |
| Medium hopelessness (9-12) | 30.1 | 49 | 163 |
| High hopelessness (13-19) | 37.8 | 34 | 90 |
| Subjective maturity compared with peers in same age group (n.s.) | | | 327 |
| More mature (3-7) | 34.8 | 47 | 135 |
| Similarly mature (8-10) | 23.2 | 36 | 155 |
| Less mature (11-15) | 27.0 | 10 | 37 |
| Beck Depression Scale (simplified; 0-39) (n.s.) | | | 324 |
| Low severe (13) | 28.9 | 91 | 315 |
| High severe (14-18) | 22.2 | 2 | 9 |
| Stricken by serious events in last 6 months (p<.001) | | | 327 |
| No | 22.3 | 56 | 251 |
| Yes | 48.7 | 37 | 76 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. "n.s." = not statistically significant.

Psycho-social variables significantly related to drug use included: permissiveness to drug use, found goal in life, satisfied with life, sense of uncertainty about future, doing extremely things shows vitality of young people, self-esteem, hopelessness, and having been stricken by drastic events in last 6 months. Subjects who were permissive to drug use, had not found a goal in life, were not satisfied with life, had a higher sense of uncertainty about future, agreed that doing extreme things shows vitality of young people, had low self-esteem, had higher degree of hopelessness, and had been stricken by drastic events were more likely to have used drugs in the last 30 days.

T6

Finally, we examine the last time-point, T6.

Socio-demographic Variables and Drug Use

As can be seen from Table 15, none of the socio-demographic variables at T6 were significantly related to drug use in last 30 days.

Table 15: T6 Bivariate Relationships between Drug Use in Last 30 Days (“Yes” and “No”) and Socio-demographic Variables

| Socio-demographic variables | Used drugs in last 30 days | | N |
|---------------------------------------|----------------------------|----|-----|
| | % | n | |
| Gender (n.s.) | | | 277 |
| M | 25.9 | 41 | 158 |
| F | 27.7 | 33 | 119 |
| Age (p<.05) | | | 277 |
| 15-18 | 25.0 | 24 | 96 |
| 19-20 | 20.4 | 21 | 103 |
| 21 or over | 37.2 | 29 | 78 |
| No. of siblings (n.s.) | | | 275 |
| 0 | 21.2 | 7 | 33 |
| 1-2 | 28.9 | 57 | 197 |
| 3 or more | 22.2 | 10 | 45 |
| Marital status (n.s.) | | | 276 |
| Never married | 26.5 | 57 | 215 |
| Married | 27.9 | 17 | 61 |
| Education (n.s.) | | | 276 |
| Primary/F1-F3 | 23.1 | 30 | 130 |
| F4-F5 | 33.3 | 41 | 123 |
| Beyond F5 | 13.0 | 3 | 23 |
| Whether still a student (n.s.) | | | 276 |
| Yes, always attending school | 18.9 | 7 | 37 |
| Yes, but not always attending | 33.3 | 3 | 9 |
| No | 27.8 | 64 | 230 |
| Employment (non-student & ≥16) (n.s.) | | | 226 |
| No | 30.7 | 23 | 75 |
| Yes | 26.5 | 40 | 151 |
| Religion (n.s.) | | | 275 |
| No | 26.4 | 51 | 193 |
| Yes | 26.8 | 22 | 82 |
| Housing type (n.s.) | | | 277 |
| Public (rental or self-owned) | 25.5 | 41 | 161 |
| Private (rental or self-owned) | 28.3 | 28 | 99 |
| Room, quarters, homeless, other | 29.4 | 5 | 17 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. “n.s.” = not statistically significant.

Psycho-social Variables and Drug Use

Like at previous time-points, several of the psycho-social variables were significantly related to drug use (Table 16).

Table 16: T6 Bivariate Relationships between Drug Use in Last 30 Days (“Yes” and “No”) and Years of Drug Use and Psycho-social Variables

| No. of years of drug use & Psycho-social variables | Used drug in last 30 days | | N |
|---|---------------------------|----|-----|
| | % | n | |
| No. of years of drug use (n.s.) | | | 275 |
| 2-4 | 21.1 | 20 | 95 |
| 5-7 | 27.4 | 31 | 113 |
| 8 yrs or more | 34.3 | 23 | 67 |
| Permissiveness to drug use (p<.001) | | | 245 |
| Low (4-6) | 17.9 | 12 | 67 |
| Medium (7-9) | 18.6 | 18 | 97 |
| High (10 or over) | 45.7 | 37 | 81 |
| How disappointed if aspired education level not achieved (n.s.) | | | 253 |
| Doesn't matter | 27.1 | 26 | 96 |
| A little disappointed | 27.5 | 22 | 80 |
| Quite disappointed | 16.0 | 8 | 50 |
| Very disappointed | 40.7 | 11 | 27 |
| Ever been discriminated by other people (p<.05) | | | 276 |
| Never | 23.0 | 48 | 209 |
| Sometimes/A lot of times | 38.8 | 26 | 67 |
| Found goal in life (p<.01) | | | 277 |
| Strongly disagree/disagree | 47.1 | 24 | 51 |
| No opinion | 24.0 | 23 | 96 |
| Agree | 20.6 | 21 | 102 |
| Strongly agree | 21.4 | 6 | 28 |
| Satisfied with life (p<.001) | | | 277 |
| Strongly disagree/disagree | 49.2 | 29 | 59 |
| No opinion | 25.0 | 17 | 68 |
| Agree/strongly agree | 18.7 | 28 | 150 |
| Sense of uncertainty about own future in fast changing society (p<.01) | | | 277 |
| Strongly disagree/disagree | 15.6 | 7 | 45 |
| No opinion | 18.8 | 15 | 80 |
| Agree/strongly agree | 34.2 | 52 | 152 |
| Doing more extreme things like taking psychoactive drugs is a way to show the vitality of young people (n.s.) | | | 277 |
| Strongly disagree | 18.8 | 13 | 69 |
| Disagree | 25.7 | 28 | 109 |
| No opinion | 34.3 | 24 | 70 |
| Agree/strongly agree | 31.0 | 9 | 29 |
| Wish to have my own family, decent job and normal life in future (n.s.) | | | 277 |
| Strongly disagree/disagree/no opinion | 35.3 | 12 | 34 |
| Agree | 25.5 | 35 | 137 |
| Strongly agree | 25.5 | 27 | 106 |

| | | | |
|--|------|----|-----|
| My parents didn't know how to teach children (n.s.) | | | 277 |
| Strongly disagree/disagree | 25.6 | 32 | 125 |
| No opinion | 24.4 | 22 | 90 |
| Agree/strongly agree | 32.3 | 20 | 62 |
| My school didn't know how to teach students (n.s.) | | | 277 |
| Strongly disagree/disagree | 25.0 | 24 | 96 |
| No opinion | 27.1 | 26 | 96 |
| Agree/strongly agree | 28.2 | 24 | 85 |
| Rosenberg Self-esteem Scale (p<.001) | | | 277 |
| Low (19-30) | 44.0 | 37 | 84 |
| Medium (31-36) | 24.5 | 27 | 110 |
| High (36-48) | 12.0 | 10 | 83 |
| Hopelessness (p<.001) | | | 277 |
| Low hopelessness (4-8) | 23.0 | 31 | 135 |
| Medium hopelessness (9-12) | 22.0 | 24 | 109 |
| High hopelessness (13-19) | 57.6 | 19 | 33 |
| Subjective maturity compared with peers in same age group (n.s.) | | | 277 |
| More mature (3-7) | 27.8 | 30 | 108 |
| Similarly mature (8-10) | 28.9 | 37 | 128 |
| Less mature (11-15) | 17.1 | 7 | 41 |
| Beck Depression Scale (simplified; 0-39) (n.s.) | | | 275 |
| Low severe (13) | 26.2 | 70 | 267 |
| High severe (14-18) | 37.5 | 3 | 8 |
| Stricken by serious events in last 6 months (p<.01) | | | 277 |
| No | 23.3 | 53 | 227 |
| Yes | 42.0 | 21 | 50 |

Note: Subjects in residential treatment programmes at the time of interview who have not used drugs in the past 30 days are excluded from analysis.

Significance levels are based on χ^2 tests. "n.s." = not statistically significant.

At T6, drug use was significantly related to permissiveness to drug use, having been discriminated by other people, having found a goal in life, satisfied with life, sense of uncertainty about future, self-esteem, hopelessness, and stricken by drastic events. Subjects were more likely to have used drugs if they held a permissive attitude towards drug use, had experienced discrimination by other people, had not found a goal in life, were not satisfied with life, had a higher sense of uncertainty about future, had low self-esteem, had a higher degree of hopelessness, and had been stricken by drastic events in last 6 months.

Summary of Variables Significantly Related to Drug Use at Each of the Time-points

To recap the socio-demographic and psycho-social variables that were, in bivariate analysis, found to be significantly related to drug use pertaining to each time-point, we summarize them into the following table (Table 17).

Table 17: Significant Independent Variables and Drug Use at all Time-points

| | T1 | T2 | T3 | T4 | T5 | T6 |
|---|----|----|----|----|----|----|
| <i>Socio-demographic variables:</i> | | | | | | |
| Gender | | ✓ | | | | |
| Age | | | | ✓ | | |
| No. of siblings | | ✓ | ✓ | | | |
| Marital status | | | | | | |
| Education | | | | | | |
| Whether a student actively attending school | ✓ | ✓ | ✓ | ✓ | | |
| Whether employed if not a student | ✓ | ✓ | | | | |
| Religion | | | | | | |
| Housing type | | | | | | |
| <i>Psycho-social variables:</i> | | | | | | |
| No. of years of drug use | ✓ | | ✓ | | | |
| Permissiveness to drug use | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| How disappointed if aspired education level not achieved | | | | | | |
| Ever been discriminated by other people | | | | | | ✓ |
| Found goal in life | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Satisfied with life | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Sense of uncertainty about future | | ✓ | | ✓ | ✓ | ✓ |
| Thought doing extreme things shows vitality of young people | ✓ | | ✓ | ✓ | ✓ | |
| Wish to have own family, job & normal life In future | | | | | | |
| Thought parents didn't know how to teach children | | | ✓ | | | |
| Thought school didn't know how to teach students | | | | | | |
| Self-esteem | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Hopelessness | | | | | ✓ | ✓ |
| Subjective maturity compared with same age group | | | | | | |
| Depression | | | | ✓ | | |
| Stricken by drastic events in last 6 months | | | ✓ | ✓ | ✓ | ✓ |

It seems that socio-demographic variables were not very good predictors of drug use. The variable that gained significance for the largest number of time-points was “whether the subject is a student actively attending school”, statistically significant at T1, T2, T3 and T4. “No. of siblings” and “whether employed if not a student” were significant for two time-points (T2 & T3, and T1 and T2, respectively). Gender and age were each significant at one time-point only (T2 and T4, respectively).

The situation was very different for psycho-social variables. Four of the variables were significant at all six time-points. They included: “permissiveness to drug use”, “found goal in life”, “satisfied with life”, and “self-esteem”. Variables that were significant at four time-points are “sense of uncertainty about future” (T2, T4, T5 and T6), “thought doing extreme things shows vitality of young people” (T1, T3, T4 and T5), and having been stricken by drastic events in last 6 months (T3, T4, T5 and T6). Two variables were significant at two time-points, which are: “no. of years of drug use” (T1 and T3) and hopelessness (T5 and T6). “Thought own parents didn’t know how to teach” and “depression” were significant at one time-point (T3 and T4, respectively). “Whether disappointed if aspired education level not achieved”, “wish to have own family, job and normal life”, “thought own school didn’t know how to teach”, and “subjective maturity compared with same age group” were not significant at any of the time-points.

Bivariate relationships of independent variables and the dependent variable of drug use cannot be taken as the final picture. Some of these relationships might have been spurious. In order to test for the spuriousness of relationships, we perform logistic regression for each of the time-points, in order to ascertain the effects of independent variables on the dependent variable. Logistic regression was used instead of OLS regression because the dependent variable—drug use in last 30 days—was a dichotomy (“yes” and “no”).

Logistic Regressions of Drug Use on Previously Significant Independent Variables for Each Time-point

For each time-point, we performed logistic regression of drug use on all the socio-demographic and psycho-social variables that were found to be significantly related to drug use in the previous bivariate analysis.

T1

At T1, variables that were significantly related to drug use in last 30 days in the bivariate analysis included: whether was a student actively attending school, whether employed (if not student), no. of years of drug use, permissiveness to drug use, found goal in life, satisfied with life, thought doing extreme things shows vitality of young people, and self-esteem. These variables were used in the logistic regression, except whether employed. As the question on employment asked only non-students, students would not be included and hence there would be a large number of missing cases if this variables was included in the regression. Table 18 shows the result of the regression.

Table 18: Logistic Regressions of Drug Use in Last 30 Days (“yes” and “no”) on Independent Variables at all Time-points

| Predictors | T1 | T2 | T3 | T4 | T5 | T6 |
|---|------------|------------|------------|------------|------------|------------|
| | Odds Ratio |
| <i>Socio-demographic variables:</i> | | | | | | |
| Gender (1=F) | | 1.33 | | | | |
| Age | | | | 1.01 | | |
| No. of siblings | | 1.14 | 1.07 | | | |
| Marital status | | | | | | |
| Education | | | | | | |
| Student status (Ref. category: Student actively attending school) | | | | | | |
| Student not actively attending school | 2.26* | 2.83* | 2.60* | 1.90 | | |
| Non-student | 2.34*** | 1.38 | 1.47 | 1.93 | | |
| Religion | | | | | | |
| Housing type | | | | | | |
| <i>Psycho-social variables:</i> | | | | | | |
| No. of years of drug use | 1.09* | | 1.08 | | | |
| Permissiveness to drug use | 1.37*** | 1.37*** | 1.62*** | 1.25** | 1.28*** | 1.33*** |
| How disappointed if aspired education level not achieved | | | | | | |
| Ever been discriminated by other people | | | | | | 1.55 |
| Found goal in life | .89 | .85 | .80 | .89 | .85 | 1.23 |
| Satisfied with life | .74** | .65*** | .61*** | .61** | .55*** | .51** |
| Sense of uncertainty about future | | 1.05 | | 1.10 | .96 | 1.16 |
| Thought doing extreme things shows vitality of young people | 1.01 | | 1.05 | 1.31* | 1.39* | |
| Wished to have own family, job & normal life in future | | | | | | |
| Thought own parents didn't know how to teach children | | | .60*** | | | |
| Thought own school didn't know how to teach students | | | | | | |
| Self-esteem | .98 | 1.01 | .99 | .98 | .97 | 1.00 |
| Hopelessness | | | | | 1.06 | 1.04 |
| Subjective maturity compared with same age group | | | | | | |
| Depression | | | | .77* | | |
| Whether stricken by drastic events in last 6 months (1=yes) | | | 1.67 | 1.82* | 2.21* | 2.06 |
| Pseudo-R ² | .238 | .258 | .377 | .318 | .348 | .248 |
| Model Chi-square | 108.12*** | 105.21*** | 120.24*** | 91.75*** | 89.58*** | 46.02*** |

Note: * p<.05; ** p<.01; *** p<.001

After logistic regressions were performed, we were able to ascertain which independent variables were non-spuriously affecting drug use, when other independent variables were controlled for in the regressions. Let us examine which independent variables remained significant, and which ones did not, in the regressions for each of the time-points.

At T1, being a student actively attending school, no. of years of drug use, permissiveness to drug use, and satisfied with life remained significant in the regression, whereas found goal in life, thought doing extreme things shows vitality of young people, and self-esteem became non-significant.

At T2, only three of the eight independent variables remained significant after controlling for other variables in the regression. They were: being a student actively attending school, permissiveness to drug use, and satisfied with life.

At T3, out of the ten independent variables, four remained significant in the regression. They are: being a student actively attending school, permissiveness to drug use, satisfied with life, and thought own parents did not know how to teach children.

At T4, five of the ten independent variables remained significant after controlling for other variables, including permissiveness to drug use, satisfied with life, thought doing extreme things shows vitality of young people, depression, and whether stricken by drastic event in last 6 months.

As to T5, permissiveness to drug use, satisfied with life, thought doing extreme things shows vitality of young people, and whether stricken by drastic events remained significant in the regression.

Lastly, at T6, only permissiveness to drug use and satisfied with life remained significant.

If we compare socio-demographic variables with psycho-social variables over the six time-points, we can find that the latter group of variables had greater effects on drug use than the former. Gender, age, and no. of siblings, significant at only one or two time-points in the previous bivariate cross-tabulation analysis, became non-significant in the regressions. The most influential variable was student status, which remained significant in three of the four time-points. Being a student actively attending school was less likely to have used a drug than a subject who was a student but always skipped school, or a subject who was not a student.

In bivariate analysis of the relationships between psycho-social variables and drug use presented earlier, permissiveness to drug use, found goal in life, satisfied with life, and self-esteem were all significant. After logistic regressions were performed, some interesting findings were found. Found goal in life and self-esteem became non-significant at all time-points, indicating that their bivariate relationships with drug use were spurious. Other psycho-social variables that became non-significant at all or most of the time-points include drug use history, discriminated by other people, sense of uncertainty about future, thought doing extreme things shows vitality of young people, hopelessness, and whether stricken by drastic events.

Overall, we may conclude from the above analysis of individual time-points that the following were the major independent variables affecting having used a drug in the last 30 days, listed in order of importance:

- Permissiveness to drug use
- Satisfied with life
- Student status (actively attending school)
- Thought doing extreme things shows vitality of young people”, and
- Stricken by drastic events in last 6 months

We have now found out which of the socio-demographic variables and psycho-social variables were significant variables in drug use at each of the time-points. Next, we explored whether the influence of significant socio-demographic and psycho-social variables at one time-point would continue to affect drug use at the next time-point(s). In the next chapter, we performed “cross-time-point” analysis.

6. CROSS-TIME-POINT ANALYSIS

The adoption of a longitudinal design for the survey gives the benefit of ascertaining possible causal influence of independent variables on drug use. Here, we make use of the socio-demographic and psycho-social variable that remained significant in the logistic regressions at each of the time-points, and perform logistic regressions that include both types of variables at the time-point concerned and those significant at its previous time-point. For example, for the regression for T2, it included all significant independent variables at T2, and all significant independent variables at T1. Effects of T1 variables on drug use at T2, if any, would be causal. The influence of T2 variables on drug use at T2 was correlational in nature, and thus cannot be regarded as causal. Both T2 and T1 variables should be included in the regression model for assessing their relative importance in affecting drug use at T2.

It should be mentioned that drug use at one time-point may also affect drug use at the next time-point. Thus, in the above example of T1 and T2, drug use at T1 should be included in the regression model for drug use at T2.

To recap from the regression results reported earlier, significant independent variables for the time-points are as follows:

- T1: - Student status
 - No. of years of drug use
 - Permissiveness to drug use
 - Satisfied with life

- T2: - Student status
 - Permissiveness to drug use
 - Satisfied with life

- T3: - Student status
 - Permissiveness to drug use
 - Satisfied with life
 - Thought own parents didn't know how to teach children

- T4: - Permissiveness to drug use
 - Satisfied with life
 - Thought doing extreme things shows vitality of young people
 - Depression
 - Stricken by drastic events in last 6 months

- T5: - Permissiveness to drug use
 - Satisfied with life
 - Thought doing extreme things shows vitality of young people
 - Stricken by drastic events in last 6 months

- T6 - Permissiveness to drug use
- Satisfied with life

For T1 to T5, drug use were added as an independent variable in each of the cross-time-point regression.

Thus, the strategy of cross-time-point analysis adopted here was to include, in the regression model of a certain time-point, (i) independent variables found (by logistic regression; see Table 18) to be significantly related to drug use at that time-point, (ii) independent variables found to be significantly related to drug use at the previous time-point, and (iii) drug use at the previous time-point. More specifically, in the case of T2, for example, logistic regression for T2 included significant T2 independent variables, significant T1 independent variables, and T1 drug use. To give another example, logistic regression for T5 will include significant T5 independent variables, independent variables significant at T4, and any independent variables from T1 to T3 that remained significant in the T4 regression, drug use at T4, and any drug use from T1 to T3 that remained significant in the T4 regression.

Results of the cross-time-point regression are presented in Table 19. In Table 19, the second column from the left shows significant independent variables as well drug use for T1 to T6. The third column shows the odds ratios of T2 and T1 variables in the logistic regression for T2. The fourth column shows the odds ratios of T3 variables, and of T2 and T1 variables previously found to be significant in regression for T2, in the logistic regression for T3. The fifth column shows the odds ratios of T4 variables, and of T3, T2 and T1 variables previously found to be significant in regression for T3, in the logistic regression for T4. Likewise, the sixth column shows the odds ratios of T5 variables, and of T4 and T3 variables previously found to be significant in regression for T4, in the logistic regression for T5. Lastly, the seventh column shows the odds ratios of T6 variables, and of T5, T4 and T3 variables previously found to be significant in regression for T5, in the logistic regression for T6.

In the logistic regressions for the present cross-time-point analysis, a more relaxed significance level, $p < .10$, was also used, in addition to the conventional .05, .01, and .001 levels. There are two reasons. First, as the sample size has been substantially reduced at later time-points (T5 and T6), a less stringent significance level may help to offset the difficulty of reaching significance due to small sample size. Second, the auto-correlations of many independent variables at the various time-points may have increased the size of standard errors, thereby making it more difficult to reach conventional significance levels.

Table 19 shows the results of the cross-time-point regressions.

Table 19: Logistic Regressions of Drug use in Last 30 Days on Independent Variables on Same and Previous Time-point(s)

| | Predictors | T2 | T3 | T4 | T5 | T6 |
|-----------------------|---|------------|---------------------------|--------------|-------------------|------------|
| | | Odds Ratio | Odds Ratio | Odds Ratio | Odds Ratio | Odds Ratio |
| T1 | Student status (Ref. category: Student actively attending school) Student not actively attending school Non-student | n.s. | | | | |
| | No. of years of drug use | n.s. | | | | |
| | Permissiveness to drug use | n.s. | | | | |
| | Satisfied with life | n.s. | | | | |
| | Drug use in last 30 days (1=yes) | 3.10*** | 3.56*** | n.s. | | |
| T2 | Student status (Ref. category: Student actively attending school) Student not actively attending school Non-student | 3.13* | n.s. | | | |
| | Permissiveness to drug use | 1.32*** | n.s. | | | |
| | Satisfied with life | .61*** | n.s. | | | |
| | Drug use in last 30 days (1=yes) | -- | 5.15*** | n.s. | | |
| | Student status (Ref. category: Student actively attending school) Student not actively attending school Non-student | | 2.46 [^] n.s. | n.s. n.s. | | |
| T3 | Permissiveness to drug use | | 1.66*** | .80* | n.s. | |
| | Satisfied with life | | .51*** | n.s. | | |
| | Thought own parents didn't know how to teach children | | .69** | n.s. | | |
| | Drug use in last 30 days (1=yes) | | -- | 10.52*** | 2.44 [^] | 2.89* |
| T4 | Permissiveness to drug use | | | 1.30** | .76 [^] | n.s. |
| | Satisfied with life | | | .57*** | n.s. | |
| | Thought doing extreme things shows vitality of young people | | | 1.44* | n.s. | |
| | Depression | | | .68* | n.s. | |
| | Stricken by drastic events in last 6 months | | | n.s. | | |
| | Drug use in last 30 days (1=yes) | | | -- | 26.38*** | 3.72* |
| T5 | Permissiveness to drug use | | | | 1.50** | n.s. |
| | Satisfied with life | | | | .46*** | n.s. |
| | Thought doing extreme things shows vitality of young people | | | | n.s. | |
| | Stricken by drastic events in last 6 months | | | | n.s. | |
| | Drug use in last 30 days (1=yes) | | | | -- | n.s. |
| T6 | Permissiveness to drug use | | | | | n.s. |
| | Satisfied with life | | | | | .50** |
| N | | 484 | 360 | 310 | 261 | 212 |
| Pseudo-R ² | | .309 | .518 | .501 | .673 | .459 |
| Model Chi-square | | 127.71*** | 173.56*** | 141.90*** | 168.95*** | 81.92*** |

Note: [^]p < .01; *p < .05; **p < .01; ***p < .001; n.s.: not significant

To make it easier for the results given in Table 19 to be understood, we have drawn the following diagram (Figure 4).

Figure 4: Cross-time-point Analysis

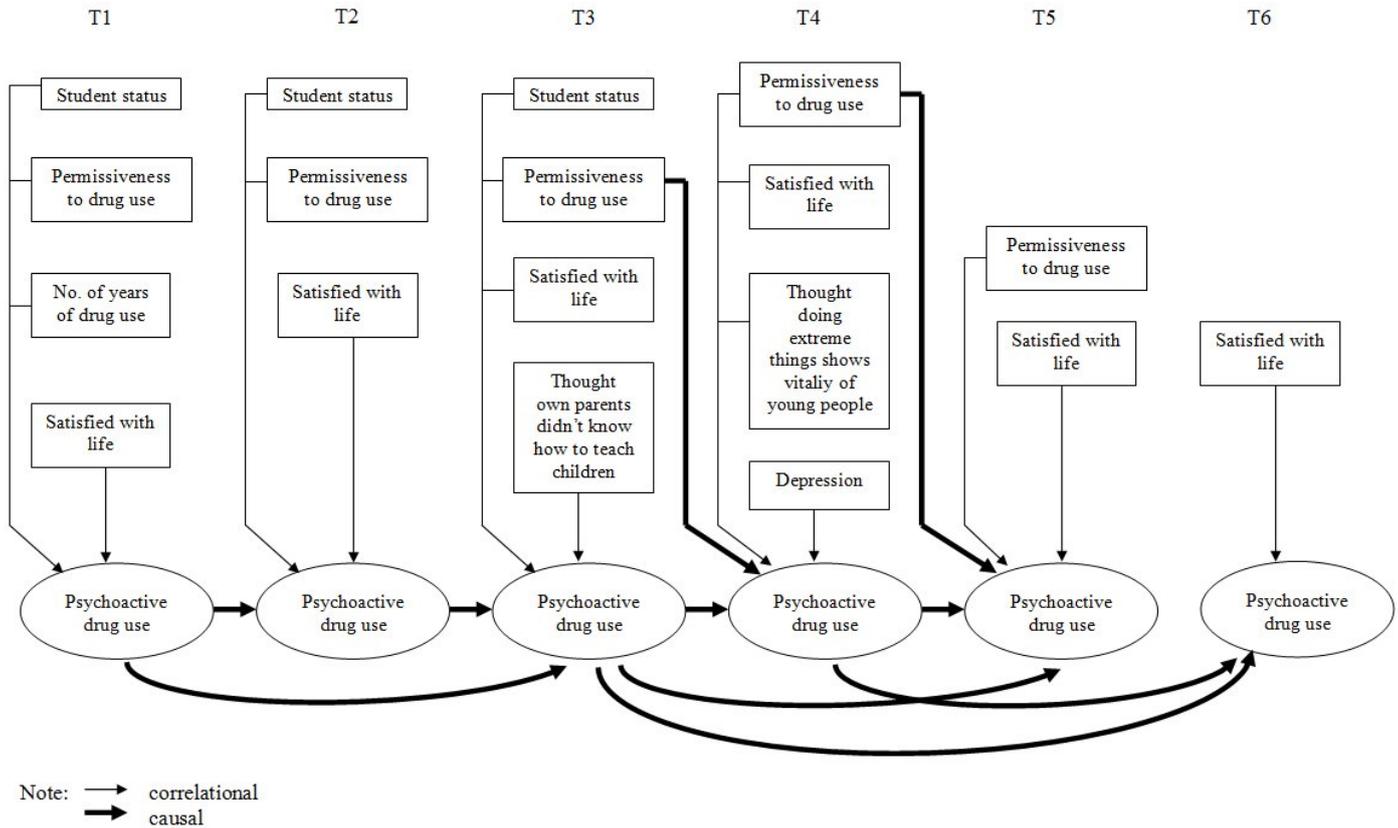


Figure 4 shows those independent variables that remained significant in the logistic regression of drug use on significant independent variables at a certain time-point and those at the previous time-point(s). An elaboration on the results is as follows:

T1: As there was no previous time-point, the independent variables affecting T1 drug use were those that remained significant after logistic regression for T1 (T1 student status--student actively attending school, T1 permissiveness to drug use, T1 no. of year of drug use, and T1 satisfied with life). Their relationships with T1 drug use were correlational rather than causal.

T2: Independent variables included in the logistic regression of T2 drug use were T2 student status, T2 permissiveness to drug use, T2 satisfied with life, T1 student status, T1 permissiveness to drug use, T1 no. of years of drug use, T1 satisfied with life, and T1 drug use. Regression result shows that T2 student status, T2 permissiveness to drug use, T2 satisfied with life, and T1 drug use remained significant in the regression. The influence of T1 drug use on T2 drug use was causal (thick arrow in

Figure 4).

- T3: Independent variables included in the logistic regression of T3 drug use were T3 student status, T3 permissiveness to drug use, satisfied with life, T3 thought own parents didn't know how to teach children, T2 drug use, and T1 drug use. Regression result shows that T3 student status, T3 permissiveness to drug use, T3 satisfied with life, T3 thought own parents didn't know how to teach children, T2 drug use, and T1 drug use remained significant in the regression. The influence of T2 drug use and T1 drug use was causal (thick arrows in Figure 4).
- T4: Independent variables included in the logistic regression of T4 drug use were T4 permissiveness to drug use, T4 satisfied with life, T4 thought doing extreme things shows vitality of young people, T4 depression, T4 stricken by drastic events, T3 student status, T3 permissiveness to drug use, T3 satisfied with life, T3 thought own parents didn't know how to teach children, T3 drug use, T2 drug use, and T1 drug use. Regression result shows that T4 permissiveness to drug use, T4 satisfied with life, T4 thought doing extreme things shows vitality of young people, T4 depression, T3 permissiveness to drug use, and T3 drug use remained significant in the regression. The influence of T3 permissiveness to drug use and T3 drug use was causal (thick arrows in Figure 4).
- T5: Independent variables included in the logistic regression of T5 drug use were T5 permissiveness to drug use, T5 satisfied with life, T5 though doing extreme things shows vitality of young people, T5 stricken by drastic events, T4 permissiveness to drug use, T4 satisfied with life, T4 thought doing extreme things shows vitality of young people, T4 depression, T4 drug use, and T3 permissiveness to drug use. Regression result shows that T5 permissiveness to drug use, T5 satisfied with life, T4 permissiveness to drug use, and T3 drug use remained significant in the regression. The influence of T4 permissiveness to drug use, T4 drug use and T3 drug use was causal (thick arrows in Figure 4).
- T6: Independent variables included in the logistic regression of T6 drug use were T6 permissiveness to drug use, T6 satisfied with life, T5 permissiveness to drug use, T5 satisfied with life, and T5 drug use. Regression result shows that T6 satisfied with life, T4 drug use, and T3 drug use remained significant in the regression. The influence of T4 drug use and T3 drug use was causal (thick arrows in Figure 4).

At least two major conclusions can be drawn from the above cross-time-point analysis. First, none of the socio-demographic and psycho-social variables, except permissiveness to drug use, causally affected drug use in the next time-point. T3 permissiveness to drug use affected T4 drug use, and T4 permissiveness to drug use affected T5 drug use. On the contrary, drug use at one time-point always affected drug use at the next time-point, and sometimes even further time-points. T1 drug use affected not only T2 drug use, but also T3 drug use. T3 drug use affected not only T4 drug use, but also T5 drug use and T6 drug use. T4 drug use affected not only T5 drug use, but also T6 drug use.

Although T3 permissiveness to drug use and T4 permissiveness to drug use were the only two psycho-social variables shown to have causal effects on drug use in subsequent

time-points, it does not mean that other socio-demographic and psycho-social variables at one time-point would not have any influence on drug use at other time-points. At each time-point, those socio-demographic and psycho-social variables that remained significant after logistic regression were independent variables that had effects on drug use at that time-point. Since drug use at one time-point would have effects on drug use at the next time-point(s), these independent variables would *indirectly* influence drug use at the next time-point(s). These were indirect effects, whereas those of T3 permissiveness to drug use and T4 permissiveness to drug use were direct effects.

In our analysis of individual time-points in the last Chapter, we have noticed that the independent variables that were found to be significantly related to drug use in all time-points are “permissiveness to drug use” and “satisfied with life”. These two were definitely the most important psycho-social variables affecting drug use. Independent variables that have been significant in two of the five time-points were “whether student is actively attending school”, “thought doing extremely things shows vitality of young people”, and “whether stricken by drastic events in last 6 months” (see Table 17). These variables should also be recognized as important clues to drug use at any time-point.

As the survey reached its last waves of interview, the number of subjects in the sample selected for analysis of their drug use had dropped from 310 in T3 to 261 in T4, and 212 in T6. The small sample size of these time-points suffered the draw-back of making it more difficult for relationships to become statistically significant. Also, the large number of drop-outs by T5 and T6 could have affected the results. The deterioration of the sample might explain why T6 drug use was not found to be significantly related to T6 permissiveness to drug use and T5 drug use.

Before we end this chapter, it is interesting to find out the “drug use paths” of the subjects—the pattern of their drug use from T1 to T6. There were those subjects who could maintain drug-free status in all the 6 time-points, from T1 to T6. There were those who were non-drug-free from T1 to T6. In between these two paths, there were a large number of combinations of drug-free/drug use status in the six time-points. As we could not possibly attend to each of these many paths, we examined two particular paths. One path eventually led to the drug-free status in T6, regardless of previous drug use/drug-free status from T1 to T5, and the other path eventually led to drug use status in T6, regardless of previous drug use/drug-free status from T1 to T5. In sum, the four paths are as follows:

Path 1: Drug-free from T1 to T6

Path 2: Eventually drug-free in T6

Path 3: Eventually non-drug-free in T6

Path 4: Non-drug-free from T1 to T6

What was the distribution of subjects in each of these four drug use paths? Besides reporting the paths from T1 to T6, we also reported the paths in a shorter period--T1 to T3 for a comparison (Table 20).

Table 20: Distribution of “T1 to T3 Drug Use Paths” and “T1 to T6 Drug Use Paths”

| Drug use paths | T1 – T3 (N=426) % | T1 – T6 (N=268) % |
|--|-------------------------|-------------------------|
| Path 1: Drug-free at all time-points | 29.6 | 21.3 |
| Path 2: Eventually drug-free | 36.2 | 53.7 |
| Path 3: Eventually non-drug-free | 12.4 | 15.7 |
| Path 4: Non-drug-free at all time-points | 21.8 | 9.3 |

Table 20 shows that for Path 1, a higher percentage of subjects (29.6%) were able to achieve drug-free status from T1 – T3 than from T1 – T6 (21.3%). This is understandable, as some of the Path 1 subjects in T1 – T3 might relapse and became non-drug-free in T4, T5 or T6. A longer period may allow more opportunities for subjects to eventually become drug-free at T6 (53.7% for T1 – T6, compared with 36.2% for T1 – T3). The same can be said, though, for Path 3, which has a higher percentage of subjects in T1 – T6 who had eventually become non-dug-free, than the percentage for T1 – T3 (12.4%). Lastly, for Path 4, there was a smaller percentage of subjects (9.3%) who had remained non-drug-free from T1 - T6 than the percentage for T1 – T3 (21.8%). Some of these subjects might have become drug-free at T6.

On the whole, both periods of T1 – T3 and T1 – T6 had a larger total percentage of drug-free subjects at the last time-point (65% for T1 – T3 and 75% for T1 – T6) than non-drug-free subjects (34.2% for T1 – T3 and 25% for T1 – T6). This may strike the positive note for young psychoactive drug users that the achievement and maintenance of drug-free status are not too lofty to aspire.

Next, we examined whether the drug use paths were affected by the socio-demographic and psycho-social factors. Here, we only use the longer period of T1 – T6 (Table 21).

Table 21: Bivariate Relationships between T1-T6 Drug Use Paths and Socio-demographic Variables

| Socio-demographic variables | Drug Use Paths | | | | N |
|-------------------------------|-------------------------|---------------------|-------------------------|----------------------|-----|
| | Drug-free from T1 to T6 | Eventually df at T6 | Eventually non-df at T6 | Non-df from T1 to T6 | |
| Gender (n.s.) | | | | | 258 |
| Age at T1 (p<.001) | | | | | 258 |
| 12-16 | 14.9 | 65.3 | 13.9 | 5.9 | 101 |
| 17-20 | 19.2 | 54.2 | 13.3 | 13.3 | 120 |
| 21 or over | 32.4 | 27.0 | 32.4 | 8.1 | 37 |
| No. of siblings at T1 (n.s.) | | | | | 258 |
| Marital status | | | | | |
| T1 (p<.05) | | | | | 258 |
| Never married | 17.8 | 56.6 | 15.7 | 9.9 | 242 |
| Married | 43.8 | 25.0 | 25.0 | 6.3 | 16 |
| T2 (p<.05) | | | | | 253 |
| Never married | 18.1 | 55.7 | 16.0 | 10.1 | 237 |
| Married | 43.8 | 25.0 | 25.0 | 6.3 | 16 |
| T3 (p<.001) | | | | | 236 |
| Never married | 16.0 | 56.3 | 17.0 | 10.7 | 206 |
| Married | 56.7 | 20.0 | 14.4 | 10.0 | 30 |
| T4 (n.s.) | | | | | 242 |
| T5 (n.s.) | | | | | 239 |
| T6 (n.s.) | | | | | 257 |
| Education at T1 (n.s.) | | | | | 258 |
| Whether still a student | | | | | |
| T1 (p<.01) | | | | | 258 |
| Yes, always attending school | 28.8 | 50.0 | 17.5 | 3.8 | 80 |
| Yes, but not always attending | 0.0 | 62.5 | 12.5 | 25.0 | 24 |
| No | 17.5 | 55.8 | 16.2 | 10.4 | 154 |
| T2 (p<.01) | | | | | 253 |
| Yes, always attending school | 29.0 | 47.8 | 21.7 | 1.4 | 69 |
| Yes, but not always attending | 11.5 | 57.7 | 7.7 | 23.1 | 26 |
| No | 17.1 | 55.7 | 15.8 | 11.4 | 158 |
| T3 (n.s.) | | | | | 236 |
| T4 (n.s.) | | | | | 242 |
| T5 (n.s.) | | | | | 239 |
| T6 (n.s.) | | | | | 257 |
| Religion | | | | | |
| T1 (n.s.) | | | | | 257 |
| T2 (n.s.) | | | | | 251 |
| T3 (n.s.) | | | | | 236 |
| T4 (n.s.) | | | | | 242 |
| T5 (n.s.) | | | | | 239 |
| T6 (n.s.) | | | | | 256 |
| Housing type at T1 (n.s.) | | | | | 257 |

All numbers in cells are row percentages except those in the N column.

Significance levels are based on χ^2 tests.

"n.s." = not statistically significant.

In some of the socio-demographic variables (gender, age, no. of siblings, education and housing type), only their information at T1 was sufficient. For others (marital status, whether still a student, and religion), information for all 6 time-points were reported. Table 21 shows that only age, marital status and whether still a student were significantly associated with the paths. For age, the younger the subject, the more likely he/she was able to achieve drug-free status from T1 to T6, or to eventually become drug-free at T6. Marital status might affect drug use paths, but only marital status at T1, T2 and T3. Married subjects were more likely to remain drug-free all the way from T1 to T6 than never-married subjects. As to student status, students attending school were more likely than students not regularly attending school and non-students to be able to remain drug-free from T1 – T6. However, only the student status at T1 and T2 matters. Student status from T3 to T6 was not significantly related to the paths.

Table 22 reports the relationship between drug use paths and psycho-social variables. Instead of using all the psycho-social variables, we selected those that were significantly related to drug use for at least three of the six individual time-points (see Table 17).

Table 22: Bivariate Relationships between T1-T6 Drug Use Paths and Selected Psycho-social Variables

| Psycho-social variables | Drug Use Paths | | | | N |
|-----------------------------------|-------------------------|---------------------|-------------------------|----------------------|-----|
| | Drug-free from T1 to T6 | Eventually df at T6 | Eventually non-df at T6 | Non-df from T1 to T6 | |
| Permissiveness to drug use | | | | | |
| T1 (p<.001) | | | | | |
| Low | 32.5 | 48.2 | 16.9 | 2.4 | 83 |
| Medium | 14.8 | 54.2 | 16.2 | 14.8 | 142 |
| High | 3.4 | 72.4 | 17.2 | 6.9 | 29 |
| T2 (p<.001) | | | | | 252 |
| Low | 38.3 | 42.6 | 18.1 | 1.1 | 94 |
| Medium | 8.3 | 62.4 | 15.0 | 14.3 | 133 |
| High | 8.0 | 52.0 | 20.0 | 20.0 | 25 |
| T3 (p<.001) | | | | | 235 |
| Low | 32.1 | 50.9 | 16.0 | 0.9 | 106 |
| Medium | 12.6 | 51.4 | 18.9 | 17.1 | 111 |
| High | 11.1 | 55.6 | 5.6 | 27.8 | 18 |
| T4 (p<.001) | | | | | 241 |
| Low | 26.4 | 57.4 | 14.7 | 1.6 | 129 |
| Medium | 13.4 | 46.4 | 19.6 | 20.5 | 112 |
| High | 20.3 | 52.3 | 17.0 | 10.4 | 241 |
| T5 (p<.001) | | | | | 236 |
| Low | 31.7 | 50.8 | 17.5 | 0.0 | 63 |
| Medium | 22.8 | 59.8 | 9.8 | 7.6 | 92 |
| High | 9.9 | 44.4 | 23.5 | 22.2 | 81 |
| T6 (p<.001) | | | | | 235 |
| Low | 35.4 | 47.7 | 16.9 | 0.0 | 65 |
| Medium | 19.6 | 60.9 | 12.0 | 7.6 | 92 |
| High | 9.0 | 46.2 | 21.8 | 23.1 | 78 |
| Found goal in life | | | | | |
| T1 (p<.001) | | | | | |
| Disagree/strongly disagree | 2.9 | 64.3 | 21.4 | 11.4 | 70 |
| No opinion | 18.1 | 56.1 | 16.0 | 9.6 | 94 |
| Agree/strongly agree | 33.0 | 45.7 | 12.8 | 8.5 | 94 |
| T2 (p<.001) | | | | | 253 |
| Disagree/strongly disagree | 3.0 | 59.1 | 18.2 | 19.7 | 66 |
| No opinion | 19.6 | 56.7 | 13.4 | 10.3 | 97 |
| Agree/strongly agree | 32.2 | 46.7 | 18.9 | 2.2 | 90 |
| T3 (p<.01) | | | | | 236 |
| Disagree/strongly disagree | 9.4 | 58.5 | 11.3 | 20.8 | 53 |
| No opinion | 18.2 | 53.4 | 18.2 | 10.2 | 88 |
| Agree/strongly agree | 30.5 | 46.3 | 17.9 | 5.3 | 95 |
| T4 (p<.001) | | | | | 242 |
| Disagree/strongly disagree | 8.5 | 44.7 | 21.3 | 25.5 | 47 |
| No opinion | 21.2 | 58.8 | 10.6 | 9.4 | 85 |
| Agree/strongly agree | 25.5 | 50.0 | 20.0 | 4.5 | 110 |

| | | | | | |
|--|------|------|------|------|-----|
| T5 (p<.001) | | | | | 240 |
| Disagree/strongly disagree | 8.9 | 42.2 | 22.2 | 26.7 | 45 |
| No opinion | 17.3 | 56.8 | 17.3 | 8.6 | 81 |
| Agree/strongly agree | 28.1 | 51.8 | 14.9 | 5.3 | 114 |
| T6 (n.s.) | | | | | |
| <hr/> | | | | | |
| Satisfied with life | | | | | |
| T1 (p<.001) | | | | | 258 |
| Disagree/strongly disagree | 9.7 | 55.9 | 19.4 | 15.1 | 93 |
| No opinion | 14.8 | 72.2 | 7.4 | 5.6 | 54 |
| Agree/strongly agree | 29.7 | 45.0 | 18.0 | 7.2 | 111 |
| T2 (p<.001) | | | | | 253 |
| Disagree/strongly disagree | 9.9 | 56.8 | 14.8 | 18.5 | 81 |
| No opinion | 13.2 | 60.4 | 17.0 | 9.4 | 53 |
| Agree/strongly agree | 29.4 | 48.7 | 17.6 | 4.2 | 119 |
| T3 (p<.001) | | | | | 236 |
| Disagree/strongly disagree | 12.7 | 47.9 | 16.9 | 22.5 | 71 |
| No opinion | 14.9 | 55.3 | 19.1 | 10.6 | 47 |
| Agree/strongly agree | 28.8 | 52.5 | 15.3 | 3.4 | 118 |
| T4 (p<.001) | | | | | 242 |
| Disagree/strongly disagree | 11.8 | 41.2 | 20.6 | 26.5 | 68 |
| No opinion | 8.5 | 59.6 | 25.5 | 6.4 | 47 |
| Agree/strongly agree | 29.9 | 55.1 | 11.8 | 3.1 | 127 |
| T5 (p<.001) | | | | | 240 |
| Disagree/strongly disagree | 6.8 | 47.5 | 18.6 | 27.1 | 59 |
| No opinion | 25.0 | 52.5 | 20.0 | 2.5 | 40 |
| Agree/strongly agree | 25.5 | 53.2 | 15.6 | 5.7 | 141 |
| T6 (p<.01) | | | | | 258 |
| Disagree/strongly disagree | 18.9 | 34.0 | 32.1 | 15.1 | 53 |
| No opinion | 14.1 | 60.9 | 12.5 | 12.5 | 64 |
| Agree/strongly agree | 22.0 | 59.6 | 12.1 | 6.4 | 141 |
| <hr/> | | | | | |
| Sense of uncertainty about own future in fast changing society | | | | | |
| T1 (n.s.) | | | | | |
| T2 (n.s.) | | | | | |
| T3 (n.s.) | | | | | |
| T4 (p<.05) | | | | | 242 |
| Disagree/strongly disagree | 21.6 | 56.8 | 18.9 | 2.7 | 37 |
| No opinion | 21.8 | 63.6 | 12.7 | 1.8 | 55 |
| Agree/strongly agree | 20.0 | 46.7 | 18.0 | 15.3 | 150 |
| T5 (n.s.) | | | | | |
| T6 (p<.01) | | | | | 258 |
| Disagree/strongly disagree | 23.3 | 62.8 | 14.0 | 0.0 | 43 |
| No opinion | 14.3 | 68.6 | 5.7 | 11.4 | 70 |
| Agree/strongly agree | 20.7 | 45.5 | 22.1 | 11.7 | 145 |
| <hr/> | | | | | |
| Doing more extreme things like taking psychoactive drugs is a way to show vitality of young people | | | | | |
| T1 (n.s.) | | | | | |
| T2 (n.s.) | | | | | |

| | | | | | |
|---|------|------|------|------|-----|
| T3 (p<.05) | | | | | 236 |
| Disagree/strongly disagree | 22.9 | 55.0 | 17.1 | 5.0 | 140 |
| No opinion | 18.0 | 44.3 | 14.8 | 23.0 | 61 |
| Agree/strongly agree | 20.0 | 51.4 | 17.1 | 11.4 | 35 |
| T4 (p<.05) | | | | | 242 |
| Disagree/strongly disagree | 23.4 | 53.9 | 16.2 | 6.6 | 167 |
| No opinion | 21.1 | 52.6 | 13.2 | 13.2 | 38 |
| Agree/strongly agree | 8.1 | 43.2 | 24.3 | 24.3 | 37 |
| T5 (n.s.) | | | | | |
| T6 (n.s.) | | | | | |
| <hr/> | | | | | |
| Self-esteem | | | | | |
| T1 (p<.05) | | | | | 258 |
| Low | 11.5 | 50.0 | 25.6 | 12.8 | 78 |
| Medium | 21.1 | 55.8 | 11.6 | 11.6 | 95 |
| High | 24.7 | 57.6 | 12.9 | 4.7 | 85 |
| T2 (p<.05) | | | | | 253 |
| Low | 9.6 | 49.3 | 24.7 | 16.4 | 73 |
| Medium | 19.2 | 57.7 | 15.4 | 7.7 | 78 |
| High | 27.5 | 53.9 | 11.8 | 6.9 | 102 |
| T3 (p<.01) | | | | | 234 |
| Low | 7.3 | 52.7 | 21.8 | 18.2 | 55 |
| Medium | 17.1 | 58.6 | 12.9 | 11.4 | 70 |
| High | 31.2 | 47.7 | 14.7 | 6.4 | 109 |
| T4 (p<.01) | | | | | 242 |
| Low | 11.3 | 41.5 | 30.2 | 17.0 | 53 |
| Medium | 21.1 | 63.2 | 7.0 | 8.8 | 57 |
| High | 24.2 | 51.5 | 15.9 | 8.3 | 132 |
| T5 (n.s.) | | | | | |
| T6 (p<.001) | | | | | 258 |
| Low | 10.3 | 47.4 | 25.6 | 16.7 | 78 |
| Medium | 20.4 | 55.1 | 13.3 | 11.2 | 98 |
| High | 26.8 | 61.0 | 11.0 | 1.2 | 82 |
| <hr/> | | | | | |
| Stricken by drastic events in last 6 months | | | | | |
| T1 (n.s.) | | | | | |
| T2 (n.s.) | | | | | |
| T3 (n.s.) | | | | | |
| T4 (n.s.) | | | | | |
| T5 (p<.05) | | | | | 240 |
| No | 24.0 | 53.0 | 15.3 | 7.7 | 183 |
| Yes | 10.5 | 47.4 | 22.8 | 19.3 | 57 |
| T6 (n.s.) | | | | | |
| <hr/> | | | | | |

All numbers in cells are row percentages except those in the N column.

Significance levels are based on χ^2 tests.

"n.s." = not statistically significant.

From Table 22, it can be seen that most of the selected psycho-social variables, at all time-points, were significantly related to drug use paths. Subjects less permissive to drug use, having found a goal in life, more satisfied with life, and having higher self-esteem were more likely to be able to remain drug-free all the way from T1 to T6, or eventually

become drug-free at T6. This is consistent with the findings that these psycho-social variables were each significantly related to drug use at all the individual time-points (see Table 17).

Sense of uncertainty about future, thinking that doing more extreme things such as taking drugs was a way to show the vitality of young people, and having been stricken by drastic events in last six months were significantly related to the paths only at some of the time-points.

In sum, the way the drug use paths were affected by socio-demographic variables and psycho-social variables was quite similar to how drug use was affected by these variables in each of the time-points. The influence of socio-demographic variables was smaller than that of psycho-social variables. Permissiveness to drug use, having found a goal in life and satisfaction with life were the psycho-social variables that affected drug use paths most. If these psycho-social conditions were met at various time-points, it was likely that Path 1 (drug-free from T1 to T6) could be achieved.

7. EFFECTS OF PSYCHOACTIVE DRUG ABUSE ON HEALTH

We next examined the health consequences of psychoactive drug use. In this analysis, only subjects who had used drugs in the last 30 days prior to the interview would be selected, as we were interested in knowing the occurrence of physical conditions due to drug use in the last 30 days. We first take a look at the subjects' self-reported health condition in the last 30 days for each time-point (Table 23).

Table 23: Self-reported Health Condition in Last 30 Days (among Drug Users)

| Health condition | T1 (N=391) % | T2 (N=242) % | T3 (N=148) % | T4 (N=129) % | T5 (N=92) % | T6 (N=74) % |
|------------------|--------------------|--------------------|--------------------|--------------------|-------------------|-------------------|
| Very poor | 7.4 | 3.3 | 4.1 | 5.4 | 5.4 | 5.4 |
| Quite poor | 21.2 | 21.1 | 21.6 | 28.7 | 25.0 | 23.0 |
| Average | 45.0 | 43.4 | 51.4 | 45.0 | 45.7 | 44.6 |
| Quite good | 22.5 | 26.4 | 20.9 | 19.4 | 20.7 | 20.3 |
| Very good | 3.9 | 5.8 | 2.0 | 1.5 | 3.2 | 6.7 |

How well did the drug-using subjects perceive their health conditions? On the whole, about half of the subjects perceived that their health condition was average. It is surprising that almost three-tenths of the subjects perceived that their health was either quite poor or very poor, given that this is a sample of mainly young people. Another quarter thought that their health was quite good. Only 3.9% perceived their health to be very good.

There did not appear to be any significant differences in the self-reported health condition across different time-points.

While on the whole the subjects did not have a very negative perception of their health condition, there were definitely health concerns among many of them due to their drug use. In another question that asked them whether or not some physical conditions had occurred due to the influence of the drugs they took, they admitted that drug use had given them quite a lot of health problems (Table 24).

Table 24: Occurrence of Physical Conditions Due to Influence of Drug(s)
in Last 30 Days (among Drug Users)

| Conditions | T1 | T2 | T3 | T4 | T5 | T6 |
|---|---------|---------|---------|---------|--------|--------|
| | (N=391) | (N=242) | (N=148) | (N=129) | (N=93) | (N=74) |
| | % | % | % | % | % | % |
| Low-spirited | 60.6 | 54.6 | 56.8 | 59.7 | 64.5 | 59.5 |
| Insomnia/Not sleeping well | 49.9 | 47.1 | 48.6 | 55.8 | 51.6 | 50.0 |
| Stomachache | 36.7 | 35.8 | 30.4 | 31.8 | 32.3 | 36.5 |
| Hallucination/auditory hallucination | 41.7 | 34.0 | 25.7 | 25.6 | 22.6 | 25.7 |
| Suspicious, always thought someone would do something bad to me | 30.4 | 29.0 | 31.1 | 29.5 | 24.7 | 25.7 |
| Urethritis | 26.1 | 22.0 | 25.7 | 27.9 | 21.5 | 21.6 |
| Fought/had argument with others | 27.6 | 10.4 | 14.2 | 11.6 | 14.0 | 12.2 |
| Physical injury | 18.9 | 12.4 | 10.8 | 17.8 | 10.8 | 16.2 |
| Intended to commit suicide | 13.8 | 9.1 | 7.4 | 10.9 | 8.6 | 12.2 |
| Felt high even without using drug | 8.2 | 7.1 | 6.8 | 9.3 | 3.2 | 5.4 |
| Gone into a coma | 6.6 | 2.9 | 4.1 | 4.7 | 5.4 | 4.1 |
| Things got stolen/robbed | 5.9 | 2.9 | 4.1 | 1.6 | 3.2 | 4.1 |
| Engaged in illegal activities | 5.6 | 3.3 | 2.7 | 2.3 | 4.3 | 0.0 |
| Had sex with people casually | 5.1 | 1.7 | 4.7 | 1.6 | 1.1 | 2.7 |
| Indecent assault by others | 0.3 | 0.4 | 0.0 | 0.0 | 0.0 | 2.7 |

While the majority of subjects viewed themselves as generally healthy, many of them also admitted that their drug use had brought about a variety of undesirable physical conditions. Table 24 shows that, all of the six time-points taken together, over half of the subjects were low-spirited and were not able to sleep well. About one-third had stomach problem, experienced hallucination, and became more suspicious. About one-quarter of the subjects had developed urethritis, and about one-fifth got into arguments or even fought with others, got themselves physical injuries, and even thought of committing suicide. Other physical conditions that occurred less often included going into a coma, things got stolen or robbed, engagement in illegal activities, had sex with people casually, and indecent assault by others.

The questionnaire also asked drug-using subjects to compare their current health condition with that before they started taking drugs (Table 25).

Table 25: Present Health Condition Compared with Health Condition Before Starting to Use Drugs (among Drug Users)

| | T1 (N=391) % | T2 (N=242) % | T3 (N=147) % | T4 (N=129) % | T5 (N=93) % | T6 (N=74) % |
|----------------|--------------------|--------------------|--------------------|--------------------|-------------------|-------------------|
| A lot better | 1.0 | 3.7 | 2.7 | 3.9 | 2.2 | 5.4 |
| A bit better | 2.6 | 2.5 | 2.1 | 2.3 | 3.2 | 8.1 |
| About the same | 18.1 | 21.9 | 23.6 | 20.9 | 22.6 | 23.0 |
| A bit worse | 43.5 | 44.2 | 43.5 | 40.3 | 39.8 | 44.6 |
| A lot worse | 34.8 | 27.7 | 27.9 | 32.6 | 32.3 | 18.9 |

All time-points taken together, about one-quarter of the subjects reported that their health was about the same as that before they started to take drugs, and very few had their health improved since taking drugs. Almost three-quarters of the subjects had experienced a deterioration of health, either getting a bit worse or a lot worse than before.

What were the aspects of health that the above-mentioned subjects had gotten worse in? Table 26 reveals the common health problems.

Table 26: Aspects of Health That Had Gotten Worse among Drug Users Whose Health was a Bit, or a Lot, Worse than before Starting Drug Use

| | T1 (N=306) % | T2 (N=174) % | T3 (N=106) % | T4 (N=94) % | T5 (N=67) % | T6 (N=47) % |
|--------------------------------------|--------------------|--------------------|--------------------|-------------------|-------------------|-------------------|
| Poorer memory | 86.6 | 86.2 | 87.7 | 87.2 | 80.6 | 91.5 |
| Poorer skin condition | 72.1 | 71.1 | 67.0 | 66.0 | 67.2 | 61.7 |
| Slower reaction | 68.4 | 74.1 | 67.9 | 69.1 | 67.2 | 74.5 |
| Lack of concentration | 61.4 | 63.6 | 62.3 | 61.7 | 52.2 | 70.2 |
| Hands shaking | 60.8 | 59.2 | 63.2 | 57.4 | 59.7 | 55.3 |
| Stomach problems | 58.8 | 57.8 | 62.3 | 53.2 | 62.7 | 66.0 |
| Insomnia/not sleeping well | 57.8 | 60.3 | 56.6 | 73.4 | 56.7 | 66.0 |
| Frequent urination | 50.7 | 54.0 | 59.4 | 53.2 | 37.3 | 57.4 |
| Losing control of emotions | 44.4 | 34.7 | 42.5 | 36.2 | 41.8 | 51.1 |
| Suspicious | 43.0 | 41.4 | 46.2 | 48.9 | 41.8 | 59.6 |
| Stuttering | 41.8 | 42.5 | 41.5 | 46.8 | 38.8 | 40.4 |
| Hallucination/auditory hallucination | 38.2 | 37.4 | 29.2 | 33.0 | 23.9 | 36.2 |
| Heart problem | 35.0 | 33.3 | 36.8 | 34.0 | 28.4 | 27.7 |
| Mental problem (fear, anxiety, etc.) | 13.8 | 8.1 | 12.3 | 13.8 | 10.4 | 12.8 |

This is quite a long list of physical problems. Almost nine-tenth of these subjects had poorer memory, over two-thirds had poorer skin condition and had become slower in reaction. Half to two-thirds of subjects lacked concentration in doing things, found that their hands were always shaking, had stomach problems, were not sleeping well, and suffered frequent urination. One-third to half of these subjects were not able to control their emotions, became more suspicious of other people, found themselves stuttering, and had hallucination and heart problem. About one-tenth even began to develop mental disorders such as fear and anxiety.

In sum, subjects who were drug users generally perceived their health to be average, but many of them admitted that their drug use had brought about many undesirable physical conditions. Almost three-quarters of drug using subjects reported that their health has become worse since they started using drugs, developing a large number of undesirable physical and psychological problems.

8. SOCIAL COST OF PSYCHOACTIVE DRUG ABUSE: T&R, PREVENTION AND RESEARCH CONSIDERATIONS

The study of social costs of drug and alcohol abuse has become popular in Western countries since the 1990s. A variety of conceptual frameworks have been developed and modified for cost estimation (Collins and Lapsley, 1991, 1996, 2002; Single, Collins et al., 1995; Single, Robson et al., 1997; Markandya and Pearce, 1989; French et al., 1991; Cook and Knox, 2001). In Hong Kong, the first large-scale social costs of drug abuse study had been conducted by me and two other colleagues of mine back in the late 1990s (Cheung et al., 2000), adopting an international guidelines for cost estimation developed by Single et al. (1995) and modified for the Hong Kong context.

Based on the “cost-of-illness” approach, which assesses the amount of resources that a society uses for the treatment and rehabilitation of drug abuse as an illness that could have been deployed in some other way if the illness were not to exist, the Guidelines (Single et al., 1995) identified several social domains where costs can be identified (Cheung et al., 2000:9). They include “cost of drugs”, “consequences to health and welfare system” as direct costs, “consequences to the workplace” as indirect costs, “crime and criminal justice” as direct costs, and “property destruction” as indirect costs. All these domains are “tangible costs” (pertaining to resources available to community if costs are reduced”, as opposed to “intangible” type of costs (such as pain, suffering and quality of life, which are not material resources). In addition, with the exception of “cost of drugs”, which is a private cost--cost to the drug users, all of the domains involve both private cost and social costs--costs to other individuals, groups, government, or community (Table 27).

Table 27: Framework for Estimation of Costs of Drug Abuse for Hong Kong, 1998
(Cheung, Ch'ien and Lee, 2000:9)

| COSTS | | PRIVATE COSTS (Costs to users) | SOCIAL COSTS (Costs to other individuals, groups or government) |
|-----------------------------|---|---|--|
| <i>(A) Tangible Costs</i> | | | |
| 1. | Cost of Drugs | User paid | |
| 2. | Consequences to Health and Welfare System (<i>Direct Costs</i>): | User paid where applicable | Costs to government or charities |
| | <ul style="list-style-type: none"> • <i>Treatment and rehabilitation for drug abuse</i> <ul style="list-style-type: none"> - Compulsory treatment and aftercare by CSD - Methadone clinics of DH - SARDA - Substance abuse clinics of HA - Religious rehabilitation programmes - Self-help associations (PHSHA, Caritas Lok Heep, Kelly Support Group) | | |
| | <ul style="list-style-type: none"> • <i>Treatment of comorbidities, trauma, & drug-related accidents</i> <ul style="list-style-type: none"> - Public and private hospitals & clinics | | |
| | <ul style="list-style-type: none"> • <i>Welfare services</i> <ul style="list-style-type: none"> - SWD - SRO - Referral of other government departments & NGOs | | |
| | <ul style="list-style-type: none"> • <i>Prevention, education and research</i> <ul style="list-style-type: none"> - Government preventive education & publicity work (ND, DH, SWD, ED) - NGOs' preventive education programmes (LEAP, Drug Wise Training, CDAC, HKCSS, etc.) - Research & surveillance (CRDA, research grants, BDF) - Administration of ACAN & government departments concerned | | |
| 3. | Consequences to the Workplace (<i>Indirect Costs</i>): | Foregone income | Loss of GDP; Foregone taxes; Loss of income to family |
| | <ul style="list-style-type: none"> • <i>Loss of income, employment or productivity</i> <ul style="list-style-type: none"> - Illness-caused lost days of work - Long-term or short-term disabilities | | |
| 4. | Crime and Criminal Justice: | Penalties (fines or sentence) | Costs to government & charities Costs to victims |
| | <ul style="list-style-type: none"> • <i>Criminal justice expenditures (Direct costs)</i> <ul style="list-style-type: none"> - Law enforcement agencies - Courts & lawyer services - Correctional institutions | | |
| | <ul style="list-style-type: none"> • <i>Cost of property crimes (Indirect costs)</i> | | |
| 5. | Property Destruction (<i>Indirect Costs</i>): | Un-reimbursed Property damage | Fire losses |
| | <ul style="list-style-type: none"> • <i>Fire, accident, property damage</i> | | |
| <i>(B) Intangible Costs</i> | | Pain & suffering; Lowering of Quality of life | Pain & suffering to family, relatives & friends |

The above framework requires methods of estimating costs which vary in the degree of complexity, and the cooperation of a large number of government departments and NGOs in providing detailed financial information relating to the drug abuse components of their work. This would involve not only the departments/organizations pulling out existing financial documents to show the expenditures, but also the research team working closely with each of them to see how existing figures could be calculated to arrive at relative accurate estimates. In addition, a survey of a sample of drug users would need to be conducted, in order to capture a wide range of individual information pertaining to private and social costs, such as drug use pattern, costs of drugs abused, harmful effects of drugs causing medical problems and injuries that require medication and hospitalization, treatment for co-morbidities of drug abuse, longer-term health problems, employment, loss of job, income and productivity, encountering with law enforcement agencies, experience in the criminal justice system, etc. And then the intangible costs accorded to the drug abuser and his/her family members/friends/groups such as pain, suffering, and lowering of quality of life also need to be estimated.

Any serious attempts in cost estimation must be conducted in the form of a full-scale study. Because of the complexity of the research design and the enormous amount of time and efforts involved in the various components of the present longitudinal survey, a full-fledged cost study was not a feasible option in the context of the present survey. For one thing, the questionnaire of the survey was designed to be short enough for the interviewee's concentration to be secured, and for the social worker interviewer not to be burdened with a long questionnaire. There was no room for the long list of questions pertinent to cost estimation of private and social costs to be included in the questionnaire. Furthermore, interviewing and working with the large number of government departments and NGOs whose work has bearings on psychoactive drug abuse would require the availability of very large amounts of manpower, financial resources and time, which were not available to the present survey.

Given the above-mentioned limitations of the present survey with respect to a full-fledged cost estimation, our strategy to address the issue of economic impact of psychoactive drug abuse on society is to focus on the social costs pertaining to T&R/counseling, prevention, and research work for drug abuse.

Social Costs Pertaining to T&R, Counselling, Prevention, and Research for the Year 2010

In order to assess the social costs of the work pertaining to T&R, counselling, preventive education, and research with respect to psychoactive drug abuse, we designed a one-page form for government departments and agencies to fill out (Appendix Four). The year chosen for cost estimation is 2010. The template asked for information on (i) the areas of work relating to psychoactive drug abuse (T&R, prevention & education, research, law enforcement, social work), (ii) estimate of total expenditure related to psychoactive drug abuse, and, if the organization is an NGO, what proportion of the expenditure was subsidized by government, and (iii) percentage breakdown of the total expenditure in areas of drug abuse work.

We have received completed expenditure forms from seven government departments and fourteen NGOs. Some of the government departments offered subventions to a variety of NGOs engaged in drug work. Some NGOs have, in addition to government subvention, also received grants to implement T&R, counseling, prevention and related drug work through the Beat Drugs Fund, which is also government money. Thus, caution is made not to double count the amount of government subsidy for NGOs. Also, it is common for organizations to have financial years from April 1 to the next March 31, and some of them, understandably, did not take the trouble to adjust for the calendar year expenditure. We just have to make the assumption that the calendar year expenditure would not deviate substantially from the financial year information.

We first estimated for the expenditure of NGOs. While we wished that we had more replies from NGOs, we somehow had to do the cost estimation on the basis of what we have received. Fortunately, the fourteen NGOs that provided 2010 expenditure information included all forms of psychoactive drug-related services. Eight were T&R residential programmes, four were counselling centres or outreach teams, and two were purely preventive education agencies. Also, some were large organizations, others were relatively small ones. Thus, we had a heterogeneous group of agencies, which was good for cost estimation.

We first found the total expenditure of the four counselling/outreach (C/OR) agencies. Total C/OR expenditure = \$11,494,312. Thus, average C/OR = $\$11,494,312 \div 4 = \$2,873,578$.

Next, we calculated the total expenditure of the two preventive education (PE) agencies. Total PE expenditure = \$4,949,345. Thus, average PE = $\$4,949,345 \div 2 = \$2,474,672$.

We then calculated the total expenditure of the eight T&R residential (TRr) agencies. Total TRr = \$60,215,163. Thus, average TRr = $\$60,215,163 \div 8 = \$7,526,770$.

Since the average C/OR and average PE were quite similar, and since both types of agencies were non-residential, we grouped them into one big category of "Non-residential" agencies, as opposed to the TRr agencies which were "Residential" programmes. We added total C/OR and PE expenditures together (i.e., $\$11,491,312 + \$4,949,345 = \$16,440,657$), and then divided the amount by 6. Thus, average Non-residential = $\$16,440,657 \div 6 = \$2,740,109$.

Next, in order to estimate for the total expenditure of NGOs in Hong Kong, we needed to find as many as possible NGOs whose work was related to psychoactive drug abuse. Some of them were agencies that have been collaborating with us in the longitudinal survey, but somehow they did not provide us with their expenditure information. Another source of agencies was the list of NGOs found in the website of the Narcotics Division. We found that there were 24 more Non-residential agencies and 8 more Residential agencies to add to the group of 6 Non-residential agencies and 8 Residential agencies that gave us their expenditure information. Therefore, altogether,

- The total of no. of Non-residential agencies = $24 + 6 = 30$, and
- The total no. of Residential agencies = $8 + 8 = 16$

Using the average expenditures of Non-residential and Residential agencies calculated above, we estimated that,

The total expenditure of Non-residential agencies = $\$2,740,109 \times 30 = \$82,203,270$

The total expenditure of Residential agencies = $\$7,526,770 \times 16 = \$120,428,320$

Hence, the total expenditure of NGOs = $\$82,203,270 + \$120,428,320 = \mathbf{\$202,631,590}$

A very high proportion of the budgets of NGOs were government subvention and/or government subsidies in other forms (such as bidding from BDF grants). An estimate was not attempted here, for two reasons. First, we did not have enough cases of NGOs to report the proportion of government subvention/subsidy. Second, whether the money came from the government or from the agencies' respective charities, the expenditure belongs to direct, tangible social costs.

As the NGOs' expenditure on residential T&R was larger than non-residential counseling, outreach and preventive education, we could conclude that the social costs of residential T&R programmes were larger than non-residential services.

Next, we calculated government expenditure on drug-related work. Government departments that have provided us with their expenditure information included the Correctional Services Department, Department of Health, Hospital Authority, Education Bureau, Government Laboratory, Narcotics Division (including the administration of Beat Drugs Fund), and Social Welfare Department. As mentioned above, expenditures of government departments in the form of government subvention to agencies, or grants for T&R, preventive education, and research through BDF, would not be double counted. Department of Health's expenditure on the Methadone Treatment Programme was not included in the present cost estimation, as MTP caters to heroin addiction rather than psychoactive drug abuse. Also, the Government Laboratory has kindly completed the expenditure template, but since their work fell within the area of law enforcement, the cost of which was not estimated in this exercise, we did not include their expenditure in our calculation here.

Taken together, and excluding government subvention/subsidy to NGOs to avoid double counting, the total expenditure of the above-mentioned government departments on drug-related treatment/rehabilitation, counselling, preventive education, and research in 2010, was **\$98,799,600**.

If we sum up the expenditures of both government departments and non-government organizations,

| | |
|---|-------------------------|
| The total cost of treatment/rehabilitation, counselling, preventive education, and research in 2010 was $\\$(202.63 + 98.79)$ million = | \$301.42 million |
|---|-------------------------|

We can express the above cost in terms of cost per capita. The year-end population of Hong Kong in 2010 was 7.097 million (Census and Statistics Department, 2012). Thus, the cost per capita was $\$301.42\text{m} \div 7.052\text{m} = \42.70 .

As mentioned earlier, this was not a full-fledged exercise of social cost estimation. Social costs pertaining to health care, social welfare, law enforcement and criminal justice, workplace, and property destruction have not been estimated. The private cost of drugs has also not been included. The Social Cost of Drug Abuse in Hong Kong Study conducted in 1998-99 (Cheung et al., 2000) showed that expenditure in T&R, preventive education and research for the year 1998 was \$626.76m, which was about 14.8% of the total social and private costs (\$4,225.96m). That means the costs of drug abuse in health care, welfare, criminal justice, property destruction, etc. could be almost 6 times larger than the expenditure in various areas of drug work. Although findings of this previous social cost study cannot reflect the current situation of cost of drug abuse, it can be certain that investment in drug work can save multi-folds of social and private costs incurred in psychoactive drug abuse in society.

9. SUMMARY AND DISCUSSIONS

The Study

This is a longitudinal survey of psychoactive drug abusers in Hong Kong over a period of three years, from 2009 to 2011. It is part of the larger “Socioeconomic and Health Impacts of Substance Abuse in Hong Kong -- A Longitudinal Study” funded by the Beat Drugs Fund, and conducted with the following objectives:

1. To find the socio-demographic and psycho-social factors that may be conducive to psychoactive drug abuse;
2. To study the harmful effects of abusing psychotropic substances in a group of identified drug abusers; and
3. To assess the economic impact of psychoactive drug abuse on the society

The survey recruited a sample of psychoactive drug abusers from agencies and followed up on them for a total of six interviews, spaced out at six-month intervals. In order to keep track of this sample of subjects for the entire study period, we appealed to a large number of youth outreach, counseling, and T&R agencies for their collaboration in the survey. A total of thirty-six agencies participated in the survey, providing clients to be subjects, assigning social work staff to conduct the interviews, keeping track of the subjects and their interview records, and arranging for the various waves of interviews. A few agencies were not able to provide their staff to serve as interviewers. Subjects of these agencies were interviewed by trained interviewers of a research organization.

An Advisory Committee comprising representatives of participating agencies was formed to monitor and give advice to the data collection of the survey. The AC met about two months before each new wave of interviews was conducted.

The selection criterion used to recruit subjects was “having ever used a psychoactive drug”. The definition of “psychoactive drug” followed the broad definition of psychotropic drugs used by the Narcotics Division. The final sample size was 754 at T1, 600 at T2, 434 at T3, 376 at T4, 347 at T5, and 288 at T6. With reference to T1, the retention rates of T2 to T6 were 79.6%, 57.6%, 49.9%, 46.0%, and 38.2%, respectively. The drop-out rate understandably increased since T3, as some subjects began to leave their agencies either on completion of programmes or quit prematurely.

The analytical framework of the study involved the testing of a host of socio-demographic variables and psycho-social variables to see if they were conducive to the use of psychoactive drugs in the 30 days prior to the interview. The model was examined for every time-point for comparison. Independent variables (socio-demographic and psycho-social) found to be significantly related to drug use in logistic regression at a time-point were also tested in the regression of the next time-point(s), in order to ascertain the presence of causal effects on drug use at subsequent time-points. The health consequences of drug use were also be examined for each time-point and compared across time-points.

Socio-demographic and Psycho-social Variables Affecting Drug Use

We first examined the bivariate relationship between each of the socio-demographic variables and drug use in the last 30 days, testing its significance with chi-square. We found that socio-demographic variables were not very good predictors of drug use. The variable that had gained significance for the largest number of time-points is “whether the subject is a student actively attending school”, followed by “no. of siblings” and “whether employed if not a student”. Gender and age were each significant at one time-point only.

Psycho-social variables yielded more significant variables with respect to drug use in the last 30 days. “Permissiveness to drug use”, “found goal in life”, “satisfied with life”, and “self-esteem” were significant at all time-points. Variables that were significant at four time-points included “sense of uncertainty about future”, “thought doing extreme things shows the vitality of young people”, “having been stricken by drastic event in last 6 months”. “No. of years of drug use” and “hopelessness” were significant at two time-points.

Bivariate analysis does not truly reflect the relationships between independent variables and drug use, as the relationships could be spurious. In order to test for spuriousness by controlling for other variables, we performed logistic regressions for independent variables found to be significant in bivariate analysis on drug use for each time-point. Variables that remained significant in the regressions at all individual time-points were “**permissiveness to drug use**” and “**life satisfaction**”. Other variables that remained significant at two or more time-points included “**student status—whether actively attending school**”, “**thought doing extreme things shows vitality of young people**”, and “**whether stricken by drastic events in last 6 months**”.

We further explored whether significant independent variable at one time-point would also influence drug use at the next time-points. We did this by adding significant variables at one time-point to the regression of significant variables at the next time-point. Here, drug use in the last 30 days was also treated as an independent variable to be included in the regression for the next time-point. Results of the regressions show that “**permissiveness to drug use**” and “**drug use in the last 30 days**” were the only two variables that had exerted causal effects on drug use in subsequent time-points. Other independent variables that remained significant in regressions of individual time-points (such as “satisfied with life”, “student status” and “whether stricken by drastic events in last 6 months”) did not exert causal effects on drug use at the next time-point; however, they nevertheless might have *indirect* effects on drug use at the next time-point.

We also examined the “drug use paths” for the whole period of T1 to T6. Four paths were identified: Drug-free from T1 to T6; Eventually drug-free at T6; Eventually non-drug-free at T6; and Non-drug-free from T1 to T6. The way these drug use paths were affected by socio-demographic variables and psycho-social variables was quite similar to how drug use was affected by these variables in each of the time-points. The influence of socio-demographic variables was smaller than psycho-social variables. Permissiveness to drug use, having found a goal in life, and satisfaction with life were the psycho-social variables that affected drug use paths most.

Health Consequences of Drug Use

Concerning the adverse effects of psychoactive drug abuse on health, the perception of health of our subjects was not as positive as young people should be, although on the whole a majority of them did not think their health condition was poor. In the 30 days prior to the interview, many of them had been bothered by a variety of physical and psychological problems, among which, being low-spirited, not sleeping well, stomach-ache, hallucination, getting more suspicious, and urethritis were the most common.

Moreover, about three-quarters of the subjects acknowledged that their health conditions were worse than before they started using drugs. These subjects reported a long list of conditions that had gone worse, including poorer memory, poorer skin condition, slower reaction, lack of concentration, hands shaking, stomach problems, insomnia, frequent urination, losing control of emotions, getting suspicious, and stuttering.

Social Costs of Psychoactive Drug Use

A comprehensive cost estimation exercise requires a large amount of resources, time, and manpower that can only be available in a full-fledged cost study. Within the resource and manpower constraints of this survey, our strategy here was to focus on the social costs incurred in the work carried out by relevant government departments and NGOs in the aspects of treatment/rehabilitation, counseling, preventive education, and research in the year 2010. Based on expenditure information supplied by government departments and NGOs, the total cost was estimated to be HK\$301.42m for 2010. The cost per capita was \$42.7.

Interpretation of Findings

The longitudinal survey has yielded a large pool of findings that deserve attention. We discussed the major findings in the following section, focusing on those independent variables that had remained significant in the regressions for two or more time-points. We also made use of the information obtained from the five focus group sessions to help to interpret the meanings of some of the findings.

Permissiveness to Drug Use

The independent variable that was found to be the most significant in affecting drug use was “permissiveness to drug use”. In five of the six time-points, permissiveness to drug use remained significant in the logistic regressions. In two of the time-points, this variable had also exerted causal influence on drug use at the next time-point.

The relationship between this attitude and drug use behaviour was no surprise. Many studies have ascertained the influence of pro-drug attitude on drug-using behaviour.

For example, in a study that compared the permissiveness of drug use of a group of 504 marginal youth (80% of them had ever used a drug) with a group of 503 regular secondary students in 2002-04, the level of permissiveness of the former group was six times higher than that of the latter group (Cheung and Cheung, 2006:1977). In the 2008/09 student survey commissioned by the Narcotics Division, it was found that 97.4% of non-drug-taking secondary school students disapproved of people taking drugs, whereas only 76.1% of drug-taking secondary school students disapproved of drug taking (Narcotics Division, 2010b:103). In the sample of drug users in this survey, as many as 79.5% of the subjects disagreed that drug use was an inappropriate behaviour, and 71.1% said that using drugs on recreational occasions was acceptable (T1 measurement as an example).

Why did psychoactive drug users hold a rather high permissive attitude towards drug use? Why did they consider drug use quite an acceptable behaviour? The major reason, I think, is that they have developed psychoactive drug use as a *habit*. The first drug use never occurs in a vacuum. It happens on a social occasion where friends are using the drug and the individual is welcomed to join in and try. Under such circumstances, in addition to having the need for peer acceptance, curiosity also sets in. To be sure, the experience of the first use of a drug is seldom a pleasant one, whether the drug is ketamine, ice, marijuana, or other psychoactive drugs. Physical rejections of all sorts (vomiting, nausea, etc.) could happen. However, the fun of doing drugs is very much a socially learned experience (Becker, 1963). Once this “rite of passage” is fulfilled, drug use becomes a routine activity in gatherings with friends. As a Form 3 male student remarked in a focus group session,

There is no fix time in a day for snorting K (索 K) . Whenever some friends gather, we'll do it together... It is part of our daily activities. Whenever we are bored, we'll do drugs.

For drug-using youngsters, they come across lots of frustrations and unpleasant experiences everyday. Friends' support becomes an extremely important basis for them to stick together. Psychoactive drug use very often serves as a source of peer support. As a young female described,

Try the drug (ketamine) if you're feeling sad. You'll be okay after taking it. Aren't we friends?

Adolescence is a stage of life at which peers' influence is a lot greater than that of the family and school. This is especially true for the involvement in deviant behaviour (Johnson, 1979; Cheung, 1997; Thio, 2010). Drug-using adolescents naturally flock together and rely heavily on each other for warm feelings and sense of security, as a coping mechanism in the harsh reality they live in. The dependence on friends quickly leads to the dependence on drugs. The use of drugs is part of daily social life. It has become a habit. It has become something you always do, just like, as a focus group participant described, “eating snacks—chips, candies, etc.” Another participant remarked that he was so used to taking ketamine that the first thing he did when he woke up everyday was not to brush his teeth or wash his face, but to snort K. A female focus group participant said that she would use it even when she was taking a shower.

According to most participants of our focus group sessions, the dependence is more

psychological than physical. They maintained that psychoactive drug use would not result in the kind of addiction problems that accompany heroin use. Heroin abuse would necessarily entail the craving for heroin everyday. To young drug users, heroin was a real “drug”, so terrifying that they would not try. A female focus group member described heroin use as a “road of no return”. The Form 3 student user in another focus group firmly claimed that it is okay to play with different psychoactive drugs, but heroin is a definite “no”, because the scenario of the drug and its injection is too frightening.

However, the awareness of the serious consequences of heroin addiction is, unfortunately, a double-edged sword. The positive side of it is that there seems to be a common understanding and practice among young drug users that heroin should not be touched. The negative side is that it lowers their awareness of the danger of psychoactive drugs. Many of them think that psychoactive drugs are not addictive, so that they can enter and exit drug use as they wish. Thus, they think that as long as they do not do heroin, they are safe. Indeed, many of our focus group participants have pointed out that they have not suffered many withdrawal symptoms from stopping ketamine use. At most, minor discomforts such as a runny nose may occur, but they are a lot milder than the craving for heroin. It is easier to discontinue psychoactive drug use than to stop heroin use. This, true as it may be, is, however, a trap. Addiction is not only a matter of physical dependence. Psychological dependence is as difficult to overcome as physical dependence. As youngsters develop the habit of psychoactive drug use, psychological dependence quickly accumulates, making drug use more and more ingrained into their daily lives. Interestingly, ketamine users in the focus groups introduced me to a term they use to describe their psychological dependence on the drug---“nostril dependence” (鼻癮). That is a very vivid description! One of them said that if on a certain day she couldn’t satisfy the desire of her nose to snort ketamine, she would become very uptight and impatient the whole day.

The “habit” of psychoactive drug use, a consequence of psychological dependence, is facilitated by the easy availability of the drug and the convenience in its consumption. As a 24-years old male focus group participant described,

You call him (supplier), and he will drive to deliver whatever quantity you want. Very easy.

Snorting ketamine is also a very convenient mode of administration of the drug. As a participant of a female focus group session remarked,

It was easy to snort K inside the classroom by laying your head on the desk. You can also do it inside the school toilet. You just wash your nose with water afterwards”.

Another participant said,

If you are skillful, you can snort K while walking on the street, or at the toilet of your workplace”.

An analysis of the in-depth interviews of 100 young persons in Hong Kong has suggested that the easy availability and the relatively cheap cost of ketamine have facilitated the drug to be adapted to the desire of working class youths in Hong Kong for a

new liberating experience beyond that of ecstasy use in dance parties (Joe-Laider and Hunt, 2008).

The misconception that psychoactive drugs are much less addictive than heroin, and thus much less dangerous, provides the justification for young drug users not to be alerted to the acquiring of the habit of psychoactive drug use. To be sure, many of them admit that taking ketamine or other psychoactive drugs is a *bad habit*. However, bad habits are very common, especially among energetic and reckless adolescents. Many young people have lots of bad habits, such as excessively playing computer games, gambling, drinking, smoking, gang fighting, absence from school, speaking foul languages, pre-marital sex, theft, vandalism, etc. Snorting ketamine is no more than one of the common bad habits. This reduction of drug abuse to bad habit, or what I call “*bad-habitization*” (壞習慣化) (Cheung, 2011), will result in a low degree of awareness of the danger of psychoactive drug abuse, a stubbornly high level of permissiveness to drug use, and the denial of having a “drug problem”, not to mention the lack of motivation to seek treatment.

One may ask: The government has produced and broadcast in TV many APIs for preventive education and publicity. How useful are these anti-drug APIs and other media materials in reducing young people’s permissive attitudes towards drug use? In the annual opinion surveys on anti-drug publicity measures conducted by the Narcotics Division, there are evidences that the anti-drug messages of the APIs have been well received by many youngsters (Narcotics Division, 2012a). However, to our sample of young psychoactive drug users, the effect of the APIs was minimal. As a 23 years old male focus group participant commented,

I think the publicity advertisements have gone too far. They easily showed a festered nose, or a collapsed addict... But if you have friends who take drugs, and their conditions haven’t become that bad, then they would say many drug users are not like that, meaning that even if I take the drug, I wouldn’t become that bad...well then, why don’t I also try it?

Another focus group participant bluntly said that,

Actually those advertisements were of no use... no use to drug abusers. Using kids to act in the videos makes the advertisements even more useless.

It seems that APIs and other publicity materials could be an effective means of primary prevention (for non-drug-using youth) and even secondary prevention (those who have tried but not determined to be a user yet) . However, for young people who are already quite involved in drugs (tertiary prevention), these materials may not be useful.

Life Satisfaction

The second most significant independent variable affecting psychoactive drug use was satisfaction with life. In all six time-points, life satisfaction remained significant in affecting drug use in the logistic regressions. Subjects who were more satisfied with their lives were less likely to have used psychoactive drugs in the last 30 days. Previous studies have found a negative relationship between life satisfaction and high risk

behaviour among adolescents (e.g., Valois et al., 2004; Thatcher et al., 2002). Incidentally, in the longitudinal study of chronic drug abusers in Hong Kong conducted in 2000-02, life satisfaction was found to exert significant direct and indirect effects on drug use (Cheung, 2009). The level of life satisfaction in the sample of chronic drug abusers was low, but an increase of life satisfaction could bring about some protective effect on drug use.

The sample of young psychoactive drug abusers in the present survey also did not exhibit a high level of life satisfaction. The mean life satisfaction score ranged from 3.01 to 3.40 (1=lowest; 5=highest) at the six time-points, indicating only a medium level of life satisfaction. Again, as in the case of chronic drug abusers, life satisfaction was negatively related to psychoactive drug use.

Unlike chronic heroin drug abusers, whose low life satisfaction was due to their having wasted a good chunk of their lives on drug addiction, missing opportunities to build a successful career and raise a normal family, young psychoactive drug abusers have more simple reasons for their lack of satisfaction with life. Many of them are still in their adolescence, and thus setting up one's own family and career are still too far-fledged to worry. They are more concerned about their immediate lives. Most of the students in our focus group sessions expressed that schooling was very boring. There was a serious lack of motivation to study hard. Very soon they became low achievers in school, gradually developing a deviant subculture in school that de-emphasizes mainstream school values and promotes the involvement in risk behaviours. In a way, they had a strong sense of a bleak future because of their poor academic performance. Without a long view of future, they wanted to enjoy the present. As a Form 2 student remarked at a focus group meeting,

Whatever higher aspirations I've tried to set for myself, such as entering university in future, it wouldn't be likely for me to get it. So, why fancy about it?

How can the life satisfaction of these psychoactive drug users be raised? What could school and social workers do to make them happier? I asked this question during the focus group session comprising of Form 1 – Form 3 male students. Several of them suggested that social workers could organize activities that girls also participate. They liked to meet with girls from other schools rather than those they always saw in their schools or neighbourhoods. Such request is understandable, given that these are adolescents in their puberty.

Subjects who were not students but did not have an employment tended to be more likely to use drugs than those who had a job. Thus, for non-students, employment may be one of the keys to higher satisfaction with life.

Student Status

Student status of the subject was also quite an important independent variable affecting drug use, as it remained significant in the regressions at three of the six time-points. Although subjects of this survey had used drugs before, whether or not they were students who still actively attended school made a difference in their tendency to use

drugs. Those who were still students but who always skipped school, and those who were not students anymore, were more likely to have used drugs.

This finding suggests that somehow the school still has some protective effect against drug use for drug-using students. No matter how much drug-using students might dislike school, as long as they are in school, at least they have less free time to engage themselves in drug use. Also, the Trial Scheme on School Drug Testing in Tai Po District in 2009 to 2011 has also created an anti-drug atmosphere in not only schools in Tai Po, but all over Hong Kong. Of course, it is also possible that these students might be only experimental or occasional users, and thus could still cling to their normal activities such as going to school. When their drug abuse further eroded their school lives, they would likely turn to truancy and became non-active students, or left school after finishing the last compulsory year of education in Form 3.

Drug Use as an Independent Variable

In our cross-time-point analysis (Figure 4), drug use at a time-point also became an independent variable directly influencing drug use at the next time-point(s). Except for drug use at T5, drug use at T1 to T4 all influenced drug use at its next time-points. Drug use at three of the time-points even directly affected drug use at time-points farther than the immediate next ones.

The finding of the powerful influence of drug use at one time-point on drug use at the next time-point was only to be expected. The use of drugs at one time-point indicates the strong presence of physical and psychological dependence at that time-point, and so, unless such the dependence is effectively removed (either internally by own will, or by external means such as being in a treatment programme) at the next time-point, drug use would continue. This finding was not limited to psychoactive drug use in young people. In the longitudinal study of chronic drug abusers conducted about ten years ago, drug use in one 12-month interval also directly affected drug use in the next 12-month interval (Cheung, 2009).

Lack of Significance of Socio-demographic Variables

One of the surprising findings in this survey is the lack of significance of socio-demographic variables in accounting for psychoactive drug use. Gender, age, education and other socio-demographic variables have frequently been found to affect drug use. The present sample of subjects were drug users, but some of them did not use drug at some time-points. Thus, we should expect that socio-demographic variables would play a role in affecting drug use. However, as summarized by Table 16, which shows the results of bi-variate analysis of relationships between individual socio-demographic variables and drug use, it was found that (i) gender and age were significant at only one time-point; (ii) number of siblings and employment (if subject is not a student any more) at two time-points; (iii) education, marital status, having a religion or not, and housing type were not significant at any time-point. Only being a student actively attending school was significant at four time-points.

The decreasing influence of socio-demographic variables in affecting psychoactive

drug use can be understood with respect to the current perspective of “**normalization of recreational drug use**”, proposed by Howard Parker and his colleagues more than a decade ago (Parker et al., 1998). The upsurge of popularity of party drugs among young people was interpreted as a reaction to the strong competition and sense of uncertainty in the risk society that they are living in. The faster the social change, and the greater the competition in society, the more difficult it is for young people to predict their future. Unlike people in the older generation, youths today find that following conventional rules, such as being a good kid, a good student, and studying hard, could not guarantee success in future. Against this background, young people’s being attracted to taking drugs in rave parties and discos is, to a certain degree, a response mechanism to the tough reality they face in society. In the disco setting, heavy music and drug use with friends offer a “runaway world”, where they can temporarily escape from harsh reality (Giddens, 2000), experience a span of stability, and re-construct their youth identity.

An important implication of Parker’s normalization thesis is that recreational drug use will cut across different socio-demographic groups rather than concentrate in certain subgroups such as male and lower class youths as in the past. Nowadays, youths of different age groups, education levels, occupations, and socioeconomic conditions are as likely to develop a permissive attitude towards psychoactive drugs and to use them.

Signs of this normalization phenomenon have popped up in Hong Kong since the early 2000s. In their assessment of the phenomenon in the early 2000s, Cheung and Cheung (2006) compared the normalization phenomenon in Hong Kong with that in the U.K., and concluded that normalization had indeed occurred in Hong Kong, but the scope was less than that in the West. However, since the mid-2000s, the overall prevalence of psychoactive drug use in young people has further increased, notably involving more and more females and secondary school students.

In a way, since our sample did not have people who have never used drugs as a control group, we cannot directly test the normalization thesis. However, our finding of the lack of socio-demographic differences in drug users can have an indirect implication for the thesis. It has been common knowledge that, even among drug users, there are significant differences in drug use across gender, education, marital status and other socio-demographic subgroups. Our finding of lack of significance of socio-demographic variables may indicate the convergence of drug use patterns of drug users in different socio-demographic backgrounds. This convergence may be conceived as an extension of the normalization thesis to explain drug use patterns of young people already involved in psychoactive drugs.

One of the interesting findings from our focus group sessions pertained to the normalization thesis, which is worth reporting here. When I asked the group of Form 1 to Form 3 male students whether girls in school also snorted ketamine, one of them immediately replied that,

Lots of girls played with ketamine nowadays! May be even more so than boys.
The world has changed.

In another group, a participant said that,

Band 1 schools also have students snorting K. They don’t necessarily do it

inside their schools.

An equally disturbing piece of information mentioned by a focus group of working youths at the age of 25 to 30 is that ketamine use is used by people in a wide spectrum of occupations. These include taxi drivers, truck drivers (including cross-boundary trucks), garage workers, moving service workers, construction site workers, restaurant kitchen workers, salespersons, and even real estate agents. The major reason for snorting K is to boost up their energy levels before starting to work. This requires the use of an accurate dosage that is enough to “wake them up” but would not get them “exploded” (becoming difficult to control themselves due to over-use).

Short-term Effects of Independent Variables

Through our longitudinal survey data, we have observed that all the socio-demographic and psycho-social variables did not exert any direct effects on drug use at the next time-point, with the exception of permissiveness to drug use at T3 and T4 (Figure 4). In other words, the influence of the independent variables was mostly short-term, on drug use within the same time-point. It very seldom was able to affect drug use at other time-points. We think this finding has implications for intervention and secondary/tertiary prevention work.

The short-term effect of independent variables on drug use has both an advantage and a disadvantage. The advantage is that the adverse influence of unfavourable independent variables (e.g., high level of permissiveness to drug use, lack of life satisfaction) on drug use would not spill over to the next time-point. Thus, at the next time-point, there is room for intervention or secondary/tertiary prevention work to improve the relevant independent variables in order to reduce the likelihood of drug use. In other words, there is always hope for reducing the tendency to use drugs at the next time-point.

The other side of the same coin is the disadvantage that even if the tendency to use drugs is reduced at one time-point through improving independent variables, the good result would not automatically carry over to the next time-point. Every time-point is a new battlefield. Good intervention work must be kept up in order that positive results can sustain.

Adverse Health Effects of Psychoactive Drug use

We have found that, at all time-points, many subjects reported the occurrence of negative health conditions due to the influence of psychoactive drug use, of which low-spiritedness, insomnia, stomach-ache, hallucination, suspicion, and urethritis were the most common. About two-third of drug-using subjects admitted that health has become worse since starting to use drugs, facing a long list of negative conditions including poorer memory, poorer skin condition, slower reaction, lack of concentration, shaking hands, stomach problems, not sleeping well, and frequent urination.

The health problems facing psychoactive drug abusers, especially ketamine abusers, mentioned above did not come as a surprise today. However, when ketamine first landed on the territory and quickly became the most popular drugs among young drug users in the

late 1990s, not much was known about its harmful effects on health. One of the earliest local studies of the harmful effects of ketamine abuse was a BDF-funded project on the cognitive impairment of ketamine abusers, identifying the dependence potential of ketamine, and neurocognitive impairment and psychiatric morbidity caused by ketamine abuse (Chen et al., 2005). Since the mid-2000s, more and more local and overseas clinical research attention has been drawn to the urological problems of ketamine abuse (e.g., Chu et al, 2011; Lin et al., 2011). By now, it is clinically ascertained that one of the most serious consequences of ketamine abuse is urinary tract dysfunctions, and this defect is irreversible.

Adult ketamine abusers know this tragic health consequence all too well. One of the participants of a focus group comprising adult ketamine abusers, aged 28, enthusiastically joined the discussion. He had to get up and go to the toilet once every fifteen minutes. He was very regretful, but in his first several years of abuse, he had no idea that his bladder would be damaged to that extent. He kept up a good mood when sharing his drug abuse experience during the session, and made fun with the fact that he could not even take a bus and travel from Tuen Mun to Kowloon. When I asked why he would not stop abusing ketamine before it was too late, he replied that,

I really didn't know that it would turn out that serious. A few years back, I was spending most of the time at home, hiding myself. At that time, I needed to go to the toilet once every 15 minutes already.

Now that the scary consequence of the bladder problem is widely known, will that have a strong deterrent effect on ketamine use? The answer is ambiguous. One of the focus group participants said that stomach-ache would not make him stop taking ketamine, but urethritis would. Knowing that "if urethritis occurs, one'd better stop" means that one would not need to stop until notable signs of urinary problems have occurred. But the irony is that when urinary problems become apparent, the addiction must have become too serious to stop! The fear of the bladder problems becomes a justification for overlooking stomach problems, which occur at the earlier stage of abuse.

Social Costs of T&R, Counselling, Preventive Education, and Research

As the estimation of social costs of psychoactive drug abuse did not include other aspects of social costs such as criminal justice system, health care, and workplace, the final estimated cost of HK\$301.42m was a gross under-estimation. We can expect that if the other aspects of social costs could be estimated, then the total cost would be much greater. If the previous cost study of drug abuse for the year 1998 (Cheung et al, 2000) is of any reference today, the total cost might be at least six or seven times greater than the cost of T&R/counseling, prevention, and research. Thus, investment in the various areas of drug work has cost saving implications.

10. RECOMMENDATIONS

Based on the quantitative findings of this longitudinal survey, supplemented by qualitative data obtained from focus group sessions, we made the following recommendations for possible improvements of existing programmes and services regarding T&R, counseling, preventive education, and research for young psychoactive drug users.

Recommendation One: Reduce the Level of Permissiveness to Drug use in Young Drug Users

Permissiveness to drug use was the strongest predictor of psychoactive drug use among the sample of drug-using subjects in this survey. Sociologists have suggested that even among normal, conforming youths, more and more of them have come to approve behaviours that were defined as deviant or delinquent in the past. This process of “normalization of deviance” includes, of course, recreational use of psychoactive drugs. If normal youths tend to have a more permissive attitude towards recreational drug use nowadays, how to change the pro-drug attitude of young people who have already started using drugs is a task much more difficult than before.

We have found some clues as to why drug-using youths maintain a high level of permissiveness to drug use. Drug use has become a “habit”, part of their way of life. The habit was acquired by using with friends as an act of friendship and care. The perception of psychoactive drugs as much less dangerous than heroin has provided a justification for continuous use of the former. Furthermore, the reduction of the seriousness of psychoactive drug use to a “bad habit” has likely compromised drug-using youths’ awareness of the seriousness of the problem and their sensitivity to seek counseling or treatment. Preventive publicity announcements and materials do not seem to be effective in tertiary prevention among young people already involved in psychoactive drugs.

Against the above-mentioned obstacles, efforts must be made to overcome these hurdles. Counsellors, social workers, T&R service providers, teachers, educators, parents, medical personnel and other professionals must all work together to find an innovative strategy to change the attitude of drug-using youths. An insight that has been gained from focus group sessions of this study is that adult drug abusers who are suffering serious health problems due to psychoactive drug abuse could be mobilized to engage in sharing sessions with adolescents who are just starting their psychoactive drug abuse “career”. When new comers see an actual case of ruined bladder, the impact could have a great deterrent effect. The focus group participant who needed to go to the toilet once every fifteen minutes expressed that he would accept invitations to talk with students and share his awful experience. He pointed out that drug-using kids generally wouldn’t listen to teachers, parents or social workers, but he was confident that they would listen to him.

Recommendation Two: Raise the Life Satisfaction of Young Drug Users

Drug-using adolescents who were less satisfied with life would be more likely to have used psychoactive drugs. We have found that our drug-using subjects exhibited a rather low level of satisfaction with life. A lot of them who were still students found school boring, and so were not attached to school life or teachers, but congregated among themselves for pleasure and excitement instead. Focus group participants who were in Form 1 to Form 3 expressed that they hoped more activities that they liked could be organized by school or social workers.

The lack of interest in school has been a perennial issue in secondary schooling. Within the constraints of the present school system, would it be possible to invent new activities that cater to the needs of low achievers and semi-school dropouts? Could such activities, necessarily innovative and atypical, be jointly organized by schools, government departments, and NGOs? The input of these students would be necessary in the design of such activities.

For drug-using youths who were no longer students, the provision of assistance for them to find jobs should be an effective strategy to raise their level of life satisfaction.

Recommendation Three: Keep Students in School

Students in our drug-using adolescent sample who still attended school tended to be less likely to have used drugs in the last 30 days than those who always played truancy. Even though these students were low achievers and quite detached from school, the fact that they were physically attending school was generally a protective factor against drug abuse. Inside school, at least they were engaged in school work and activities, leaving them less free time to be involved in various kinds of risk behaviour outside the school premises. They are also exposed to the strong anti-drug culture, now firmly established in schools, in case some of the anti-drug messages could find their way to these high-risk students' mind. An implication of this finding is that efforts should be made to pay attention to students who were frequently absent from school, and to encourage them to come back to school rather than disappear from it.

Recommendation Four: Monitor, and Be Prepared to Tackle, the Spread of Psychoactive Drug Abuse across Various Socio-demographic Subgroups of Young People

One of the consequences of the normalization of recreational drug use is the spreading of psychoactive drug use across gender, age, education, marital status, occupation, and other socio-demographic lines. Psychoactive drug use, at least recreational use, is likely to also occur in girls, high banding schools, young people with higher education levels, married persons, a wide range of occupations and at various occupational ranks, different workplace settings, etc. At the moment, the main sources of information about psychoactive drug use are CRDA and student surveys. It is now necessary to conduct data collection to proactively monitor the drug use situation with working youths in a wide spectrum of occupations.

Recommendation Five: Take Advantage of the Short-term Effects of Socio-demographic and Psycho-social Variables on Drug Use

Except permissiveness to drug use, none of the socio-demographic and psycho-social variables exerted direct influence on drug use at the next time-point. The practical implication of this finding is that there is always room for change of the drug use status of young psychoactive drug abusers. Even if a person has used a drug at the last time-point, whether or not he/she would still use the drug at this time-point depends on how favourable the significant independent variables (permissiveness to drug use, life satisfaction, being a student attending school) have become at this time-point. There is always hope in intervention.

A related finding is that drug use at one time-point would affect drug use at the next time-point. Thus, if significant independent variables are favourable and able to reduce the tendency to use drugs, then this would contribute to a lower tendency to use drug in the next time-point.

Recommendation Six: Identify Early Adverse Health Symptoms Caused by Psychoactive Drug Abuse

The physical harm caused by ketamine abuse usually starts with the stomach, followed by kidney and bladder. If stomach-ache episodes occur frequently, abusers may stop for a while, but stomach problems are seldom strong enough to motivate them to really quit. As time drags on, abusers are at definite risks of kidney and bladder failures, as well as a host of neurocognitive impairment and psychiatric morbidity. Therefore, it seems that frequent stomach problems can serve as an important early mark of identification of ketamine abusers. As serious stomach-aches can seldom be hidden, parents, teachers, youth workers, doctors and other medical personnel should be sensitive to the frequency and seriousness of secondary school students' stomach problems. Such problems, together with cognitive impairment, may be symptoms of ketamine abuse. Paying special attention to the students' stomach problems could be integrated to existing health promotion programmes in schools.

Recommendation Seven: Commission a Full-fledged Study of the Social Costs of Psychoactive Drug Abuse in Hong Kong

Due to the constraints of the present survey, the costs estimated only cover the social costs pertaining to the T&R, counselling, preventive education, and research. The final amount is not anywhere near the actual costs in these areas of drug work. And then there are other social and private costs in the criminal justice system, medical care, workplace, etc. that have not yet been dealt with. Therefore, it is hereby recommended that a full-fledged social costs study be commissioned.

11. LIMITATIONS OF THE STUDY

In this chapter, the major limitations of the study are noted.

1. The first limitation is the high drop-out rate, especially at T3, which was twelve months after the first wave of interviews had been conducted. The high drop-out rates were quite expected, as there was bound to be lots of departures from the agencies, maturely or prematurely, after one year. The numbers of subjects retained in the samples at T5 and T6 were not too satisfactory for statistical analysis. Moreover, for the examination of the influence of socio-demographic and psycho-active variables on drug use at each of the time-points, subjects who were in a residential agency at the time of interview were not included in the analysis. This further reduced the number of subjects for the analysis of each time-point.
2. The target population of this survey consisted of people who have ever abused any psychoactive drugs, without differentiating various kinds of psychoactive drugs, history of psychoactive drug use, or other criteria for selection. Members of this broad category of population could be new users, occasional users, regular users, or heavy and problematic users. They could be students or working youths, or could have become marginal youths or have entered treatment programmes. Since this population was very diverse and heterogenous, there was no way to determine the size of this population, not to mention obtaining a sampling frame for drawing a random sample of subjects. Faced with the limitation of getting only a non-probability sample, we have tried to improve the representativeness of the sample by firstly, recruiting the subjects from as many agencies as possible, and secondly, recruiting as many subjects as possible for the baseline T1 sample.
3. While the Research Team had always been in touch with participating agencies to check their data collection and to provide professional support, arranging for and conducting six waves of interviews must have been too heavy a commitment for all the agencies. It was only natural to expect that when an agency was in difficult times, such as facing very heavy case loads or a high turnover of staff, data collection might not be as smooth and efficient as they wished.
4. As explained in Chapter 3, there were pros and cons in using agency social worker staff as interviewers. It is difficult to estimate how much bias might have occurred due to social desirability effect, the tendency for subjects to under-report their drug use and harmful consequences in front of their social workers.
5. For the small number of agencies that could not spare staff manpower to be interviewers, interviews were arranged for staff of a research organization to conduct the interviews. While these were well-trained interviewers, they were not social workers, and the interviewees were not their clients. How the effects of their interviews might have been different from those conducted by social worker interviewers was difficult to assess.
6. Because there was a practical reason for the questionnaire not to be long—for easier

administration of the interviews and to suit the short concentration span of the subjects, more details about the drug use pattern (e.g., quantity of use, multiple drug use, withdrawal symptoms), and some useful independent variables (e.g., self-efficacy, self-control, youth subculture) have not been included in the questionnaire.

7. Only part of the social costs—those pertaining to T&R, counseling, prevention, and research—has been estimated in this study.

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APPENDIX ONE:
THE QUESTIONNAIRE

Questionnaire for T1 Interviews

(In questionnaires for T2 – T6 interviews, the Second Part on
“First Drug Use” was omitted)

機構編號：

被訪者個案號：

訪問員簽署：

精神藥物濫用縱貫性研究

第一次訪問 (T1)

2008 年 10 月

引言

多謝你接受我的訪問。

這是香港政府禁毒基金委託香港中文大學教授負責進行的一個關於精神藥物濫用的研究。本研究獲很多服務機構支持和參與，研究結果將有助政府部門及服務機構為濫藥人士提供更有效的服務。

除今次之外，本研究需要每六個月再同你做一次訪問，連今次在內總共六次。

這份問卷分為三個部分，包括「個人現況」、「首次濫藥情況」及「過往三十日濫藥情況」。我會讀出每一條問題，請你仔細諗一諗，然後回答。

請放心，訪問所得的資料是絕對保密，只作研究用途。你所提供的任何資料，絕對不會個別公開。

7. 你有無同下列嘅人一齊住？（可選多於一項）

【如現正接受住院治療或輔導，請改問：喺入院前，你同邊啲人居住？】

| | 無 有 | | 你同佢/佢哋嘅關係係點呢？ | | | | |
|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | 1 | 2 | 非常差 | 幾差 | 普通 | 幾好 | 非常好 |
| 1 父親（生父） | <input type="checkbox"/> |
| 2 母親（生母） | <input type="checkbox"/> |
| 3 繼父/母親同居男朋友 | <input type="checkbox"/> |
| 4 繼母/父親同居女朋友 | <input type="checkbox"/> |
| 5 兄弟姊妹 | <input type="checkbox"/> |
| 6 親戚 | <input type="checkbox"/> |
| 7 配偶/同居伴侶/男/女朋友 | <input type="checkbox"/> |
| 8 朋友 | <input type="checkbox"/> |
| 9 其他(請註明：_____) | <input type="checkbox"/> |

8. 你而家 婚姻狀況係點呢？

- | | |
|--|--|
| 1 <input type="checkbox"/> 未婚 | 5 <input type="checkbox"/> 喪偶 |
| 2 <input type="checkbox"/> 已結婚，並與配偶同住 | 6 <input type="checkbox"/> 同居 |
| 3 <input type="checkbox"/> 已結婚，但不與配偶同住 | 7 <input type="checkbox"/> 其他(請註明：_____) |
| 4 <input type="checkbox"/> 分居/離婚 | |

9. 你而家有無宗教信仰呢？

- | | |
|--------------------------------|--|
| 1 <input type="checkbox"/> 無 | 5 <input type="checkbox"/> 天主教 |
| 2 <input type="checkbox"/> 佛教 | 6 <input type="checkbox"/> 回教 |
| 3 <input type="checkbox"/> 道教 | 7 <input type="checkbox"/> 其他(請註明：_____) |
| 4 <input type="checkbox"/> 基督教 | |

10. 你 教育程度去到邊度？

- | | |
|-------------------------------|---|
| 1 <input type="checkbox"/> 小學 | 6 <input type="checkbox"/> 中五 |
| 2 <input type="checkbox"/> 中一 | 7 <input type="checkbox"/> 預科/職業訓練 |
| 3 <input type="checkbox"/> 中二 | 8 <input type="checkbox"/> 專上及副學士 |
| 4 <input type="checkbox"/> 中三 | 9 <input type="checkbox"/> 大學 |
| 5 <input type="checkbox"/> 中四 | 10 <input type="checkbox"/> 其他(請註明：_____) |

11. 你而家係唔係學生？

- 1 係，而且經常返學
 2 係，但唔係經常返學

- 3 唔係 → 有無做嘢？【如現正接受住院治療或輔導，請改問：喺入院前，你有無做嘢？】
- 1 無
- 2 有 → 做乜嘢工呢？ _____
- 做得開唔開心呢？ 開心 普通 唔開心

12. 喺童年嘅日子， a. 你有無遇過一啲對你打擊好大嘅事件呢？【出示提示咭一】
- 1 無
- 2 有 → 係那些事呢？ _____
- b. 你有無被專業人員（例如：精神科醫生、臨床心理學家）診斷為患有精神失調？ 1 無 2 有

第二部份：第一次濫藥情況

濫藥係指在沒有依照醫務人員 指導或處方而服用違禁或危險藥物。此等藥物包括：‘Fing’頭丸/E仔、K仔/茄、冰、安菲他命、可卡因、G水/迷姦水、忽得、大麻、黑芝麻、海洛英/白粉、藍精靈、十字架、五仔、咳藥水、天拿水等。 本訪問中，香煙及酒精不算在內。

13. 你第一次濫藥 時候， a. 係幾多歲呢？ _____歲
- b. 濫用邊種藥物呢？（可填超過一種） _____
- c. 同乜嘢人一齊濫藥呢？ _____
- d. 喺乜嘢場所（例如：disco、公園）濫藥呢？ _____

14. 請講出三個你第一次濫藥 主要原因（按重要性順序排列1、2、3）
【出示提示咭二】

- | | |
|-------------------|------------------------|
| 1 ____ 滿足好奇心 | 8 ____ 朋友/同學提議我食 |
| 2 ____ 減輕壓力/緊張 | 9 ____ 跟從家人濫藥 |
| 3 ____ 減輕低落情緒 | 10 ____ 向別人炫耀勇氣/成熟感 |
| 4 ____ 減少苦悶 | 11 ____ 提高性能力 |
| 5 ____ 減輕身體不適或失眠 | 12 ____ 唔知道係濫藥 |
| 6 ____ 逃避不愉快 現實 | 13 ____ 其他(請註明: _____) |
| 7 ____ 尋求樂趣/快感/刺激 | |

15. 你第一次濫藥時，下列嘅人有無曾經濫過藥呢？

- | | 1 有 | 2 無 | 3 不適用 |
|--------------|--------------------------|--------------------------|--------------------------|
| 1 父親（生父） | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 母親（生母） | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 繼父/母親同居男朋友 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 繼母/父親同居女朋友 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

- 5 兄弟姊妹
- 6 堂/表兄弟姊妹
- 7 配偶/同居伴侶/男/女朋友
- 8 朋友/同學/同事

16. 接受而家嘅機構服務之前，你有無參加過有關濫藥嘅治療或輔導服務？

- 1 無
- 2 有 → 喺邊度呢？ _____
 總共幾多次呢？ _____

17. 你第一次濫藥之前，你有無食煙或飲酒 習慣呢？

- a. 食煙習慣： 1 完全 2 很少食 3 間中食 4 經常食
 無
- b. 飲酒習慣： 1 完全 2 很少飲 3 間中飲 4 經常飲
 無

第三部份：過去三十日濫藥情況

18. 過去三十日 (提示日期)，你有無濫用藥物？【出示日期咭】

- 1 無 → 以下邊個係令你能夠成功停藥嘅主要原因呢？ (最多只可選兩項)
 【出示提示咭三】

- | | |
|--|---|
| 1 <input type="checkbox"/> 個人意志堅強 | 4 <input type="checkbox"/> 朋友/同學/同輩鼓勵 |
| 2 <input type="checkbox"/> 父母或兄弟姊妹鼓勵 | 5 <input type="checkbox"/> 社工/戒毒機構協助 |
| 3 <input type="checkbox"/> 配偶/同居伴侶/男/女朋友鼓勵 | 6 <input type="checkbox"/> 其他 (請註明：_____) |

- 2 有 → 主要濫用乜嘢藥物呢？ (可填超過一種)： _____

→ 濫藥 次數有幾頻密呢？

- | | |
|------------------------------------|------------------------------------|
| 1 <input type="checkbox"/> 少於每個月一次 | 5 <input type="checkbox"/> 每星期多於一次 |
| 2 <input type="checkbox"/> 每個月一次 | 6 <input type="checkbox"/> 每日一次 |
| 3 <input type="checkbox"/> 每個月二至三次 | 7 <input type="checkbox"/> 每日多於一次 |
| 4 <input type="checkbox"/> 每星期一次 | |

→ 主要在哪些場所 (例如： disco、公園) 濫藥呢？ _____

→ 主要同哪些人一齊濫藥呢？ _____

【如被訪者過去三十日並無濫藥，跳問第 29 題】

19a. 過去三十日，你濫用 藥物總值幾多錢 \$ _____ 唔清楚
 呢？

b. 這些藥物當中，你自己出咗幾多錢買呢？

\$ _____ → 呢啲錢主要來自邊度？(最多只可選兩項)

【出示提示咭四】

- 1 父母或兄弟姊妹
- 2 配偶/同居伴侶/男/女朋友
- 3 朋友/同學/同輩
- 4 非法途徑搵錢 (例如：賣翻版光碟、偷竊、搶劫、販毒、賣淫)
- 5 自己工作收入
- 6 賭錢
- 7 其他(請註明：_____)

c. 係唔係有部份藥物係唔使俾錢買呢？

1 係 → 點解呢？

2 唔係

20. 請講出三個你 過去三十日濫藥 主要原因 (按重要性順序排列 1、2、3) 【出示提示咭五】【如被訪者過去三十日只濫用過一次藥物，而該次是第一次濫藥，跳問第 21 題】

- 1 _____ 滿足好奇心
- 2 _____ 減輕壓力/緊張
- 3 _____ 減輕低落情緒
- 4 _____ 減少苦悶
- 5 _____ 減輕身體不適或失眠
- 6 _____ 逃避不愉快 現實
- 7 _____ 尋求樂趣/快感/刺激
- 8 _____ 朋友/同學提議我食
- 9 _____ 跟從家人濫藥
- 10 _____ 向別人炫耀勇氣/成熟感
- 11 _____ 提高性能力
- 12 _____ 其他(請註明：_____)

21. 過去三十日，你有幾多個朋友/同學/同輩係有濫藥 習慣呢？

1 完全無

2 好少 → 大約幾多人？_____ 人

3 有些 → 當中有幾多個係你 死黨呢？_____ 人

4 好多

22. 喺過去三十日，a. 你有無參與毒品販賣或販運？

1 無

2 有 → 有無因而被警察拘捕過？ 1 無 2 有

b. 你有無因要搵錢濫藥而做出搶劫等違法行為？

1 無

2 有 → 有無因而被警察拘捕過？ 1 無 2 有

23. 喺過去三十日，你有無因為受到藥物嘅影響而出現以下嘅情況？

- | | 有 | 無 |
|-----------|----------------------------|----------------------------|
| 1 失眠/睡眠不好 | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> |

- | | | | |
|----|--------------------|--------------------------|--------------------------|
| 2 | 唔夠精神/無心機做事 | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | 昏迷 | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | 胃痛 | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | 尿道炎 | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | 導致身體意外受傷(例如:跌倒) | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | 俾人偷嘢/搶嘢 | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | 俾人非禮/強姦 | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | 隨便同人發生性行為 | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | 同人打架/爭執 | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | 想自殺 | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | 疑心大, 常常覺得有人對自己不利 | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | 幻聽/幻覺 | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | 無濫藥都覺得 high | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | 做出違法行為(請註明: _____) | <input type="checkbox"/> | <input type="checkbox"/> |
| 16 | 其他(請註明: _____) | <input type="checkbox"/> | <input type="checkbox"/> |
24. 過去三十日, 你有無去大陸濫用藥物?
- 1 無
- 2 有 → 大約幾多次呢? _____次
- 主要在哪些場所(例如: disco、公園)濫藥呢? _____
- 主要濫用乜嘢藥物呢?(可超過一種): _____
- 主要同哪些人一齊濫藥呢? _____

25. 以下問題係關於你 呢排 (約最近三十日) 藥物使用情況, 請為每一個問題選擇最合適 答案。

【注意: 讀出下列問題時, 用受訪者目前主要濫用 藥物名稱(如 K 仔等)代替“藥物”】

- | | 從不/
幾乎從不 | 有時 | 經常 | 總是/
幾乎總是 |
|-----------------------|--------------------------------|---------------------------------|--------------------------------|--------------------------------|
| | 0 | 1 | 2 | 3 |
| a. 你是否不能控制自己用(藥物)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. 中斷一次劑量會使你感到焦慮或擔憂嗎? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. 你為自己使用(藥物)感到擔憂嗎? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. 你希望自己停止用藥嗎? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e. 你認為自己停止用藥有多困難? | 1 <input type="checkbox"/> 不困難 | 2 <input type="checkbox"/> 有點困難 | 3 <input type="checkbox"/> 很困難 | 4 <input type="checkbox"/> 不可能 |

26. 你呢排(約最近三十日)有無停藥/戒藥 打算?

- 1 有 → 以下係唔係令你打算停藥/戒藥嘅原因呢?

| | |
|---|----|
| 係 | 唔係 |
| 1 | 2 |

- | | | | |
|----|--------------------------|--------------------------|--------------------------|
| 1 | 怕影響健康 | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | 男/女朋友嘅反對 | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | 怕影響工作/學業 | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | 玩厭咗 | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | 親人嘅反對 | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | 怕影響同朋友嘅關係 | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | 有其他嘢玩 | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | 驚俾警察拉 | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | 感化官要求 | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | 經濟原因 (例如: 唔夠錢, 唔想 負債) | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | 其他 (請註明: _____) | <input type="checkbox"/> | <input type="checkbox"/> |

2 無 → 以下係唔係令你無打算停藥/戒藥嘅原因呢?

- | | 係 | 唔係 |
|----|--------------------------|--------------------------|
| | 1 | 2 |
| 1 | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 | <input type="checkbox"/> | <input type="checkbox"/> |

27. 你覺得呢排 (過去三十日) 健康狀況點樣呢?

- | | |
|--------------------------------|--------------------------------|
| 1 <input type="checkbox"/> 非常差 | 4 <input type="checkbox"/> 幾好 |
| 2 <input type="checkbox"/> 幾差 | 5 <input type="checkbox"/> 非常好 |
| 3 <input type="checkbox"/> 普通 | |

28. 同未濫藥前相比，你而家嘅健康狀況係點呢？

- 1 比當時好好多
 2 比當時好一啲
 3 同當時差唔多
 4 比當時差一啲
 5 比當時差好多

➡ 係下列邊方面差咗呢？

| | 係 | 唔係 |
|--------------------|--------------------------|--------------------------|
| | 1 | 2 |
| 1 記憶力衰退 | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 手震 | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 口吃 | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 疑心大 | <input type="checkbox"/> | <input type="checkbox"/> |
| 5 幻聽/幻覺 | <input type="checkbox"/> | <input type="checkbox"/> |
| 6 反應慢 | <input type="checkbox"/> | <input type="checkbox"/> |
| 7 心臟有問題 (心跳/心痛等) | <input type="checkbox"/> | <input type="checkbox"/> |
| 8 尿頻 | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 失眠/睡眠不好 | <input type="checkbox"/> | <input type="checkbox"/> |
| 10 專注力差/ 不能集中 | <input type="checkbox"/> | <input type="checkbox"/> |
| 11 皮膚差 | <input type="checkbox"/> | <input type="checkbox"/> |
| 12 腸胃差 | <input type="checkbox"/> | <input type="checkbox"/> |
| 13 情緒失控 | <input type="checkbox"/> | <input type="checkbox"/> |
| 14 精神病(例如：驚恐症/焦慮症) | <input type="checkbox"/> | <input type="checkbox"/> |
| 15 其他 (請註明：_____) | <input type="checkbox"/> | <input type="checkbox"/> |

29. 你嘅父母 (或繼父母) 知唔知道你濫藥？

- 1 佢哋唔知道 ➡ 你驚唔驚俾佢哋知道你濫藥？ 1 驚 2 唔驚
 2 佢哋知道
 3 我唔知佢哋知唔知道
 4 不適用 (請註明：_____)

30. 過去三十日，你有無飲酒？

- 1 完全無
 2 很少飲
 3 間中飲
 4 經常飲

31. 過去三十日，你有無食煙？

- 1 完全無
 2 很少食
 3 間中食
 4 經常食

32. 請問你同唔同意以下 講法呢？

| | 非常 不同意 | 不同意 | 同意 | 非常 同意 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| | 1 | 2 | 3 | 4 |
| a. 濫用藥物係唔正當 行為。 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. 只係間中濫用藥物係可以接受 。 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. 經常濫用藥物亦係可以接受 。 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. 同朋友去消遣娛樂而濫用藥物 (例如 的士高/ 狂野派對濫用藥物)係OK ，我覺得無乜問題。 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

33. 你希望自己能夠讀到幾高嘅教育程度？

【出示提示咭六】

- | | |
|------------------------------------|--|
| 1 <input type="checkbox"/> 中三 | 5 <input type="checkbox"/> 大學 |
| 2 <input type="checkbox"/> 中五 | 6 <input type="checkbox"/> 大學以上 (例如：碩士、博士) |
| 3 <input type="checkbox"/> 預科/職業訓練 | 7 <input type="checkbox"/> 不適用 |
| 4 <input type="checkbox"/> 專上及副學士 | |

34. 你估自己實際會讀到邊一個教育程度？

【出示提示咭六】

- | | |
|------------------------------------|--|
| 1 <input type="checkbox"/> 中三 | 4 <input type="checkbox"/> 專上及副學士 |
| 2 <input type="checkbox"/> 中五 | 5 <input type="checkbox"/> 大學 |
| 3 <input type="checkbox"/> 預科/職業訓練 | 6 <input type="checkbox"/> 大學以上 (例如：碩士、博士) |

35. 如果你估計將來達唔到你期望嘅教育程度，你會有幾失望呢？

- | | |
|---------------------------------|--|
| 1 <input type="checkbox"/> 無所謂 | 4 <input type="checkbox"/> 非常失望 |
| 2 <input type="checkbox"/> 少少失望 | 5 <input type="checkbox"/> 不適用，因沒有期望達到某種教育程度 |
| 3 <input type="checkbox"/> 幾失望 | 6 <input type="checkbox"/> 不適用，因已達到所期望的教育程度 |

36. 你有無受過其他人嘅歧視呢？

- 1 完全無
- 2 有些
- 3 很多
- 最令你難受的是甚麼歧視呢？

_____ → 這種歧視主要係嚟自邊啲人？

(可選多於一個)

- | | |
|----------------------------|----|
| 1 <input type="checkbox"/> | 家人 |
| 2 <input type="checkbox"/> | 鄰居 |
| 3 <input type="checkbox"/> | 親戚 |
| 4 <input type="checkbox"/> | 朋友 |
| 5 <input type="checkbox"/> | 老師 |
| 6 <input type="checkbox"/> | 同學 |
| 7 <input type="checkbox"/> | 僱主 |

8 工作上嘅同事
 9 其他 (請註明：
 _____)

37. 請問你同唔同意以下 論法呢？

| | 非常 不同意 1 | 不同意 2 | 無意見 3 | 同意 4 | 非常 同意 5 |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. 我已經搵到好明確 生命 目標同意義。 | <input type="checkbox"/> |
| b. 我對生活感到滿意。 | <input type="checkbox"/> |
| c. 生活喺呢個轉變急速嘅社會中，我對自己的前途有時會感到迷惘。 | <input type="checkbox"/> |
| d. 整體來說，我滿意自己。 | <input type="checkbox"/> |
| e. 有時我會覺得自己一啲用處都無。 | <input type="checkbox"/> |
| f. 我覺得自己有唔少優點。 | <input type="checkbox"/> |
| g. 我能夠做到與大部份人嘅表現一樣好。 | <input type="checkbox"/> |
| h. 我認為自己無乜可以值得自豪。 | <input type="checkbox"/> |
| i. 有時我十分覺得自己毫無用處。 | <input type="checkbox"/> |
| j. 我覺得自己係個有價值嘅人，最低限度我同其他人有一樣嘅價值。 | <input type="checkbox"/> |
| k. 我希望我能夠多啲尊重自己。 | <input type="checkbox"/> |
| l. 從各方面嚟睇，我係較傾向覺得自己係一個失敗者。 | <input type="checkbox"/> |
| m. 我覺得自己幾 ok。 | <input type="checkbox"/> |
| n. 我唔期望能夠得到我想要的東西。 | <input type="checkbox"/> |
| o. 我可以看見我的未來全是不愉快的。 | <input type="checkbox"/> |
| p. 我覺得自己在將來是沒可能得到任何真正的滿足感。 | <input type="checkbox"/> |
| q. 嘗試爭取一些我想得到的東西是沒有用的，因為我極有可能得唔到。 | <input type="checkbox"/> |
| r. 年青人喜歡追尋刺激，拍下丸或做些其他“激”啲嘅行為才能顯示年青人嘅活力。 | <input type="checkbox"/> |
| s. 我都想將來有自己家庭、有正當職業，過正常生活。 | <input type="checkbox"/> |
| t. 我的父母不懂得如何教導子女。 | <input type="checkbox"/> |
| u. 我的學校不懂得如何培育學生。 | <input type="checkbox"/> |

38. 過去六個月有無發生過一些對你打擊好大嘅事件呢？

1 無

2 有 ➡ 係哪些事情呢？_____

39. 請在下列各方面，把你自己跟同齡的人比較：

- a. 做人處世方面
- | | |
|--------------------------------------|-------------------------------------|
| 1 <input type="checkbox"/> 遠較他們成熟 | 4 <input type="checkbox"/> 稍為不及他們成熟 |
| 2 <input type="checkbox"/> 稍為較他們成熟一些 | 5 <input type="checkbox"/> 遠不及他們成熟 |
| 3 <input type="checkbox"/> 差不多 | |
- b. 有幾早便負起大人嘅責任（例如：幫補家計、照顧家人）
- | | |
|-------------------------------------|------------------------------------|
| 1 <input type="checkbox"/> 早過他們好多 | 4 <input type="checkbox"/> 稍為不及他們早 |
| 2 <input type="checkbox"/> 稍為較他們早一些 | 5 <input type="checkbox"/> 他們早我好多 |
| 3 <input type="checkbox"/> 差不多 | |
- c. 心態上是否覺得比他們老
- | | |
|-------------------------------------|--------------------------------------|
| 1 <input type="checkbox"/> 好似老過他們好多 | 4 <input type="checkbox"/> 好似他們稍為老過我 |
| 2 <input type="checkbox"/> 好似稍為老過他們 | 5 <input type="checkbox"/> 好似他們老過我好多 |
| 3 <input type="checkbox"/> 差不多 | |

40. 請細讀以下以四句為一組 述，然後喺每組 述選出一句最能形容你 感受。如果喺一組 述中有超過一句適合你 述，你亦都可以選擇埋佢哋。【出
示提示咭七】

- a. 0 - 我唔感到悲哀
- 1 - 我感到悲哀
- 2 - 我成日好悲哀，而我又唔能夠好快改變悲哀嘅心情
- 3 - 我嘅悲哀同不快樂實在難以忍受
- b. 0 - 我對將來並無特別感到沮喪
- 1 - 我對將來感到沮喪
- 2 - 我感到我無乜嘢可以期待嘅
- 3 - 我感到將來係無希望嘅，而且情形都唔會好轉
- c. 0 - 我唔感到我係失敗者
- 1 - 我感到我比一般人更失敗
- 2 - 當我回顧一生，我可見嘅係好多嘅失敗
- 3 - 我感到我係一個完全失敗嘅人
- d. 0 - 我同以往一樣從各方面得到滿足
- 1 - 我唔似以往一樣能有享受事物嘅樂趣
- 2 - 我再唔能夠從任何事物得到真正嘅滿足
- 3 - 所有事情都使我感到厭煩同不滿
- e. 0 - 我唔特別感到內疚
- 1 - 有時我感到內疚
- 2 - 大部份時間我感到內疚

- 3 - 任何時間我都感到內疚
- f. 0 - 我對自己唔感到失望
- 1 - 我對自己失望
- 2 - 我討厭自己
- 3 - 我憎恨自己
- g. 0 - 我無自殺嘅想法
- 1 - 我有自殺嘅想法，不過我唔會實行
- 2 - 我想自殺
- 3 - 如果有機會，我會自殺
- h. 0 - 對其他人，我無失去興趣
- 1 - 對其他人，我比以前已較少興趣
- 2 - 對其他人，我已失去大部份興趣
- 3 - 對其他人，我已失去全部興趣
- i. 0 - 我同以前一樣能作出決定
- 1 - 我比以前較多延遲作決定
- 2 - 我比以前有更大困難去下決定
- 3 - 我再不能作出任何決定
- j. 0 - 我唔感到我嘅外表比以前差
- 1 - 我擔心我睇起嚟係老咗、或者已經無吸引力喇
- 2 - 我感到我嘅外貌有長久嘅改變，令我睇嚟無吸引力
- 3 - 我相信我睇嚟醜陋
- k. 0 - 我能如以往一樣做嘢
- 1 - 我需要更費力才能開始做一啲嘢
- 2 - 我需要強烈驅策自己先能夠做任何嘢
- 3 - 我唔能做任何嘢
- l. 0 - 我唔比以往易感到疲倦
- 1 - 我比以往容易感到疲倦
- 2 - 幾做乎任何嘢都可使我感到疲倦
- 3 - 我太疲倦，唔能夠做任何嘢
- m. 0 - 我食慾唔比以往差
- 1 - 我食慾唔似以前咁好
- 2 - 而家我食慾比較差
- 3 - 我唔再有任何食慾喇

【訪問完畢】

有關訪問資料

1. 被訪者來自那個機構： _____
2. 被訪者個案編號： _____
3. 被訪者受訪時是否受到藥物影響？ 1 是 2 否 3 不清楚
4. 訪問員姓名： _____
5. 訪問員機構： _____
6. 訪問 (a) 日期： ____ 年 ____ 月 ____ 日
 (b) 時間： _____ 至 _____
 (c) 地點： _____
 (d) 場地性質： _____
7. 整個訪問能否順利進行：
 1 順利
 2 不順利 ➡ 原因： _____

【問卷完】

APPENDIX TWO:

A CLOSER LOOK AT THE SAMPLE

In Table 1, we have reported the size of the baseline sample at T1 and its changes from T2 to T6. Here, we take a look at the drop-out situation from T2 to T6, and discuss how it might have contributed to the biases of the sample. A “drop-out case” is broadly defined as a subject who was in the sample of a time-point but was not in the sample at the next time-point. The major reason for a subject to become a drop-out case in a time-point is his/her departure from the agency (outreach/counseling or residential T&R) where he/she was a client at the previous time-point. The subject might have left the agency prematurely, unwilling to finish the service period although still not drug-free; or he/she might have left maturely, becoming drug-free at the completion of the service period.

Before we examine the drop-out situation at various time-points, it must be pointed out that measures had been taken by all participating agencies to minimize the number of drop-out cases. Firstly, an effective system of managing interview matters for the longitudinal survey was designed and implemented by participating agencies, so as to gauge the maximum participation of subjects in each round of the interviews. Secondly, the adoption of the “suitable interview period” (“three-week before” and “three-week after” the designated interview date) also gave flexibility for interviews to be conducted in favour of the subjects’ availability. Thirdly, the agency staff would try to maintain contact with subjects who had left the agency. They always had their ways of tracking down prematurely and maturely departed cases, and motivating them to continue to participate in subsequent interviews. Fourthly, for those who had entered a CSD facility, efforts were made to interview them in the facility. Fifthly, at the end of the T3 interview, each subject was given a ball pen as a small gift, and a card reminding them the dates of the last three interviews. Lastly, the agencies agreed to recruit as many clients as possible for the baseline T1 sample, in order that, despite attrition, the sample size at the last time-point would be big enough for statistical analysis. Without the help and efforts of the agencies, the attrition rates at the time-points would have been much higher.

Next, we compare the subjects in the sample (retained subjects) and drop-out cases for each of the time-points from T2 to T6.

Drop-out Group at T2

For T2, we compare the socio-demographic characteristics and psycho-social conditions (only those most significantly related to drug use) at T1 of the retained subjects

group (T2 sample) and the drop-outs group. Results are reported in Table 28.

Table 28: Comparison of Retained Subjects and Drop-outs at T2

| Socio-demographic and selected psycho-social variables at T1 | T2 | | N |
|--|---------------------------------|----------------------|-----|
| | Retained subjects (n=600) | Drop-outs (n=154) | |
| Gender (p<.05) | | | 754 |
| M | 63.8 | 73.4 | 496 |
| F | 36.2 | 26.6 | 258 |
| Age (p<.001) | | | 754 |
| 12-16 | 35.8 | 18.2 | 243 |
| 17-20 | 41.7 | 35.7 | 305 |
| 21 or over | 22.5 | 46.1 | 206 |
| No. of siblings (n.s.) | | | 754 |
| Marital status (p<.001) | | | 752 |
| Never married | 91.5 | 78.4 | 668 |
| Married | 8.5 | 21.6 | 84 |
| Education (n.s.) | | | 753 |
| Whether still a student (p<.001) | | | 753 |
| Yes, always attending school | 25.5 | 13.6 | 174 |
| Yes, but not always attending | 8.0 | 3.2 | 53 |
| No | 66.4 | 83.1 | 526 |
| Religion (n.s.) | | | 752 |
| Type of agency (p<.001) | | | 754 |
| Outreach/no agency | 83.3 | 44.8 | 569 |
| Residential | 16.7 | 55.2 | 185 |
| Drug use (p<.001) | | | 753 |
| No | 44.2 | 63.0 | 362 |
| Yes | 55.8 | 37.0 | 391 |
| No. of years of drug abuse (p<.001) | | | 750 |
| 0-2 | 44.1 | 23.4 | 299 |
| 3-5 | 32.7 | 26.6 | 236 |
| 6 or more | 23.2 | 50.0 | 215 |
| Permissiveness to drug use (p<.001) | | | 749 |
| Low | 37.0 | 55.2 | 305 |
| Medium | 52.3 | 41.6 | 375 |
| High | 10.8 | 3.2 | 69 |
| Found goal in life (p<.001) | | | 754 |
| Disagree/strongly disagree | 29.0 | 14.9 | 197 |
| No opinion | 30.7 | 25.3 | 223 |
| Agree/strongly agree | 40.3 | 59.7 | 334 |
| Satisfaction with life (n.s.) | | | 754 |
| Self-esteem (n.s.) | | | 753 |

Significance levels are based on χ^2 tests.
 "n.s." = not statistically significant.

At T2, the number of retained subjects was 600, and the number of drop-outs was 154. The percentage of retention was $600/(600+154) = 79.6\%$, and the percentage of attrition was $154/754 = 20.4\%$.

The two groups were significantly different in several of the characteristics compared. In the drop-outs group, there were higher percentages of male, subjects aged 21 or older, married subjects, and non-students than in the retained subjects group. Interestingly, the drop-out group had a much higher percentage (55.2%) of being in residential agencies at T1, compared with 16.7% in the retained subjects group. Moreover, a much higher percentage (63%) of drop-outs did not use drugs at T1, whereas only 44.2% of retained subjects were drug-free at T1.

The above findings suggest that many of the drop-outs were likely to be clients of residential T&R agencies who were able to become drug-free at T1 and had left these programmes by T2. Two of the psycho-social conditions of the drop-outs group further supported this view. Higher percentages of low permissiveness to drug use and having found a goal in life were found in the drop-outs group than the retained subjects group at T1. Both of these psycho-social conditions were strong predictors of drug-free status. Just as older age was associated with dropping out, number of years of drug abuse was also significantly related to being in the drop-out group.

Drop-out Group at T3

We next compare the retained subjects group and the drop-outs group at T3, with respect to socio-demographic and psycho-social characteristics at T2 (Table 29).

Table 29: Comparison of Retained Subjects and Drop-outs at T3

| Socio-demographic and selected psycho-social variables <u>at T2</u> | T3 | | N |
|---|---------------------------|-------------------|------|
| | Retained subjects (n=434) | Drop-outs (n=181) | |
| Gender (n.s.) | | | 615 |
| Age (p<.05) | | | 581 |
| 12-16 | 31.3 | 25.6 | 172 |
| 17-20 | 48.4 | 43.6 | 273 |
| 21 or over | 20.3 | 30.8 | 136 |
| No. of siblings (n.s.) | | | 600 |
| Marital status (n.s.) | | | 600 |
| Education (p<.05) | | | 598 |
| Primary – F3 | 59.0 | 68.0 | 369 |
| F4 – F5 | 36.2 | 30.9 | 207 |
| Beyond F5 | 4.8 | 1.1 | 22 |
| Whether still a student (n.s.) | | | 600 |
| Religion (n.s.) | | | 598 |
| Type of agency (p<.001) | | | 600 |
| Outreach/no agency | 85.4 | 74.0 | 492 |
| Residential | 14.6 | 26.0 | 108 |
| Drug use (n.s.) | | | 599 |
| No. of years of drug abuse (p<.05) | | | 595 |
| 0-2 | 33.3 | 27.2 | 187 |
| 3-5 | 41.7 | 36.7 | 40.2 |
| 6 or more | 25.1 | 36.1 | 169 |
| Permissiveness to drug use (n.s.) | | | 596 |
| Found goal in life (n.s.) | | | 600 |
| Satisfaction with life (n.s.) | | | 600 |
| Self-esteem (n.s.) | | | 599 |

Significance levels are based on χ^2 tests.
 “n.s.” = not statistically significant.

At T3, the number of retained subjects was 434, and the number of drop-outs was 181. The percentage of retention was $434/(434+181) = 70.6\%$, and the percentage of drop-outs was $181/615 = 29.4\%$.

The two groups varied significantly in a number of socio-demographic and drug use characteristics. There were higher percentages of subjects aged 21 or older, with longer history of drug use, and with lower education in the drop-outs group than in the retained subjects group. As to type of agency and drug use, the drop-outs group had a higher percentage of residential programme clients at T2 than the retained subjects group.

Drop-out Group at T4

Table 30 compares the socio-demographic and psycho-social characteristics of the two groups

Table 30: Comparison of Retained Subjects and Drop-outs at T4

| Socio-demographic and selected psycho-social variables <u>at T3</u> | T4 | | N |
|---|---------------------------|------------------|-----|
| | Retained subjects (n=376) | Drop-outs (n=95) | |
| Gender (p<.001) | | | 471 |
| M | 60.1 | 78.9 | 301 |
| F | 39.9 | 21.1 | 170 |
| Age (p<.001) | | | 434 |
| 12-16 | 25.4 | 14.7 | 100 |
| 17-20 | 53.1 | 42.1 | 220 |
| 21 or over | 21.5 | 43.2 | 114 |
| No. of siblings (p<.01) | | | 471 |
| 0 | 9.8 | 22.1 | 58 |
| 1-2 | 72.3 | 57.9 | 327 |
| 3 or more | 17.8 | 20.0 | 86 |
| Marital status (n.s.) | | | 434 |
| Education (n.s.) | | | 434 |
| Whether still a student (n.s.) | | | 434 |
| Religion (p<.001) | | | 434 |
| No | 74.6 | 53.7 | 304 |
| Yes | 25.4 | 46.3 | 130 |
| Type of agency (p<.001) | | | 434 |
| Outreach/no agency | 92.6 | 66.3 | 377 |
| Residential | 7.4 | 33.7 | 57 |
| Drug use (n.s.) | | | 434 |
| No. of years of drug abuse (p<.01) | | | 418 |
| 0-2 | 26.1 | 17.6 | 102 |
| 3-5 | 48.0 | 40.0 | 194 |
| 6 or more | 25.8 | 42.4 | 122 |
| Permissiveness to drug use (p<.05) | | | 433 |
| Low | 46.4 | 60.0 | 214 |
| Medium | 46.4 | 37.9 | 193 |
| High | 7.1 | 2.1 | 26 |
| Found goal in life (n.s.) | | | 434 |
| Satisfaction with life (n.s.) | | | 434 |
| Self-esteem (n.s.) | | | 431 |

Significance levels are based on χ^2 tests.
 "n.s." = not statistically significant.

At T4, the number of retained subjects was 376, and the number of drop-outs was 95. The percentage of retention was $376/(376+95) = 79.8\%$, and the drop-out rate was $95/471 = 20.2\%$.

In terms of socio-demographic characteristics, the drop-outs group at T4 differed from the drop-outs groups at T2 and T3 in a few ways. Compared with the retained subjects group, it had a higher percentage of male, a smaller percentage of subjects having

1 or 2 siblings, and a higher percentage of subjects having a religion. As at T2 and T3, the drop-outs group at T4 also had a higher percentage of subjects aged 21 or older. It also had a higher percentage of subjects with a longer history of drug abuse. There is reason to believe that some of the dropped out subjects at T4 had left because they had finished residential programmes, as one-third of them were in residential T&R agencies at T3, and they had a higher percentage of subjects with a low level of permissiveness to drug use.

Drop-out Group at T5

The drop-out group and retained subjects group at T5 are compared in Table 31.

Table 31: Comparison of Retained Subjects and Drop-outs at T5

| Socio-demographic and selected psycho-social variables at T4 | T5 | | N |
|--|---------------------------------|---------------------|-----|
| | Retained subjects (n=345) | Drop-outs (n=67) | |
| Gender (n.s.) | | | 412 |
| Age (n.s.) | | | 373 |
| No. of siblings (n.s.) | | | 412 |
| Marital status (n.s.) | | | 376 |
| Education (n.s.) | | | 376 |
| Whether still a student (n.s.) | | | 376 |
| Religion (n.s.) | | | 376 |
| Type of agency (n.s.) | | | 376 |
| Drug use (n.s.) | | | 376 |
| No. of years of drug abuse (p<.01) | | | 375 |
| 0-2 | 18.2 | 7.5 | 61 |
| 3-5 | 52.9 | 46.3 | 194 |
| 6 or more | 28.9 | 46.3 | 375 |
| Permissiveness to drug use (n.s.) | | | 375 |
| Found goal in life (n.s.) | | | 376 |
| Satisfaction with life (n.s.) | | | 376 |
| Self-esteem (p<.05) | | | 375 |
| Low | 23.0 | 22.7 | 86 |
| Medium | 23.6 | 39.4 | 99 |
| High | 53.4 | 37.9 | 190 |

Significance levels are based on χ^2 tests.
 "n.s." = not statistically significant.

At T5, the number of retained subjects was 345, and the number of drop-outs was 67. The percentage of retention was $345/(345+67) = 83.7\%$, and the drop-out rate was $67/412 = 16.3\%$.

The two groups were significantly different in only two of the characteristics. Like at all previous time-points, the drop-outs group at T5 had subjects with the longest history of drug abuse than the retained subjects group. Drop-outs were also more likely to have a lower level of self-esteem than retained subjects at T5.

Drop-out Group at T6

Lastly, we examine the two groups at T6 (Table 32).

Table 32: Comparison of Retained Subjects and Drop-outs at T6

| Socio-demographic and selected psycho-social variables at T5 | T6 | | N |
|---|---------------------------|------------------|-----|
| | Retained subjects (n=286) | Drop-outs (n=87) | |
| Gender (p<.05) | | | 373 |
| M | 58.0 | 72.4 | 229 |
| F | 42.0 | 27.6 | 144 |
| Age (n.s.) | | | 341 |
| No. of siblings (n.s.) | | | 373 |
| Marital status (n.s.) | | | 344 |
| Education (n.s.) | | | 343 |
| Whether still a student (n.s.) | | | 344 |
| Religion (n.s.) | | | 344 |
| Type of agency (n.s.) | | | 345 |
| Drug use (n.s.) | | | 345 |
| No. of years of drug abuse (n.s.) | | | 343 |
| Permissiveness to drug use (n.s.) | | | 340 |
| Found goal in life (p<.05) | | | 345 |
| Disagree/strongly disagree | 18.2 | 28.7 | 72 |
| No opinion | 33.7 | 20.7 | 105 |
| Agree/strongly agree | 48.1 | 50.6 | 168 |
| Satisfaction with life (n.s.) | | | 345 |
| Self-esteem (n.s.) | | | 345 |

Significance levels are based on χ^2 tests.

“n.s.” = not statistically significant.

At T6, the number of retained subjects was 286, and the number of drop-outs was 87. The percentage of retention was $286/(286+87) = 76.6\%$, and the drop-out percentage was $87/286 = 30.4\%$.

At T6, the drop-outs group had a higher percentage of male, and a smaller percentage of subjects not having found a goal in life than the retained subjects group. The two groups did not differ significantly in other socio-demographic and psycho-social characteristics.

Biases Due to Drop-outs

Having compared the characteristics of the retained subjects and dropped out subjects at T2 to T6, what can we say about the biases that might have been caused by sample attrition?

We found that at the earlier time-points (T2, T3 and T4), drop-outs groups tended to have higher percentages of subjects who were male, older, non-student, having a longer history of drug abuse, and in residential agencies at their respective previous time-points. There were several possible scenarios that residential subjects at a time-point became excluded from the sample at the next time-point. First, these subjects might have finished their residential programmes and left before the next interview. Before they left, if they were not invited by agency staff to continue their interviews in subsequent time-points, or if they did not agree to continue their participation, then these cases would be lost. Second, as explained at the beginning of Chapter 5, in the analysis of data pertaining to drug use and its socio-demographic and psycho-social correlates, subjects in residential programmes were excluded, for the reason that the drug-free status in the treatment setting was artificially achieved. Thus, if a residential subject at a time-point continued to be in the programme at the next time-point(s), he/she would continue to be counted as a drop-out and be left out in the data analysis.

What is important about these residential cases is that, after their departure from residential T&R programmes, whether or not they could remain drug-free, and the factors that affected their drug use/drug-free status, were valuable information for comparing with non-residential subjects. Missing such data was where the major bias of the sample lied.

Fortunately, this bias diminished in the course of time, as more and more residential subjects had dropped out. As can be seen from Table 1, the number of subjects in residential agencies was 185 at T1, but decreased to 108 at T2, and further decreased sharply to 57 at T3, 21 at T4, 20 at T5, and 12 at T6. Thus, the negative effect of this bias was neither serious nor long lasting.

Another indicator of possible bias in the sample was how much the retained subjects and dropped out subjects differed in drug use in previous time-points. If the two groups were significantly different in drug use, then a high drop-out rate would lead to serious bias. Fortunately, except at T2, where drop-outs were more likely than retained subjects to be drug-free at T1, the two groups did not differ significantly in drug use at all subsequent time-points (see Tables 29 to 32).

No longitudinal studies can be immunized from biases caused by sample attrition. Our analysis of the drop-outs groups of the sample at various time-points has shown that the attrition of residential cases from the survey was perhaps the major source of bias.

But fortunately, our analysis also shows that the bias was not serious, and was quite limited to the sample at T2.

Lastly, a remark should be made on the selection of cases for the analysis of the influence of socio-demographic and psycho-social variables in drug use at each time-point. As subjects in residential programmes were excluded, the number of “retained subjects” in each sample would be smaller than the number of retained subjects indicated in Tables 28 to 32. Strickly speaking, these were not drop-out cases. They were just cases that were not selected because they did not meet the selection criteria required for a certain analysis. In the analysis of health consequences of psychoactive drug use, which did not set any selection criteria against residential subjects, these cases were included in their respective samples.

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| <p>APPENDIX THREE:</p> <p>FOCUS GROUP SESSIONS</p> |
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Altogether five focus group sessions had been organized for the purpose of collecting indepth information pertaining to the participants' initiation and continued use of psychoactive drugs, health and other consequences of drug abuse, and their attitudes towards drug abuse. Participants of the focus groups sessions, all psychoactive drug users, were recruited from T&R and outreach agencies. They were not participants of the longitudinal survey.

The consent of the participants was obtained before the sessions started. Their permission to record the discussion was also sought. The recording was for easier transcription of the information collected. No names or any identities of the participants would be revealed in the transcribed contents. All sessions were conducted in the respective agencies of the participants. An emuneratoin of \$100 (or a shopping coupon of the same value) was given to each focus group participant.

The five focus groups and their sessions were as follows:

| Group | No. of participants | Type of participants | Type of agency recruited from | Date |
|-------|---------------------|---|---|-------------------|
| 1 | 7 | Male Age range: 13 – 17 5 attending school 2 left school | A youth outreach centre in North District | June 3, 2011 |
| 2 | 15 | Male Age range: 25- 30 | A male residential treatment centre in N.T. West | June 9, 2011 |
| 3 | 8 | Female Age range: 18 - 30 | A female residential treatment centre on Hong Kong Island | June 24, 2011 |
| 4 | 8 | Male Age range: 18 - 25 | A male residential treatment centre in Kowloon East | July 13, 2011 |
| 5 | 5 | Female Age range: 20 - 29 | A female residential treatment centre in Kowloon East | September 6, 2011 |

(Transcripts of the focus group sessions are available upon request.)

APPENDIX FOUR:
TEMPLATE FOR RECORDS OF EXPENDITURE
OF ORGANIZATIONS

Expenditure on Work Related to Psychoactive Drug Abuse For the Year 2010

(1) Name of organization:

(English): _____

(中文): _____

(Tel.): _____ (Contact Person): _____

(2) Nature of work involving psychoactive drug abuse: (Please where appropriate)

- Drug Treatment & Rehabilitation _____
- Drug Prevention & Education _____
- Drug-related Research _____
- Drug-related Law enforcement _____
- Drug-related Social Work _____
- Other _____ (Please describe: _____)

(3) Estimate of total expenditure* on work related to psychoactive drug abuse# for the year 2010 (Jan. – Dec.):

HK\$ _____ (If your agency receives government subsidy, please indicate the percentage of expenditure covered by government grants _____%)

Notes:

- * Includes all expenses, ranging from products of programmes and services, to staff cost and rental/utilities/capital expenses, etc.
- # Psychoactive drugs include hallucinogens, depressants, stimulants, tranquillizers, cough medicine and organic solvents. The most popular psychoactive drugs are ketamine, ecstasy, ice, and cannabis. If your organization also deals with abuse of heroin and other narcotics, please decide the percentage of work/resources related to psychoactive drugs among the total amount of work/resources related to all drugs.

(4) Percentage breakdown of the above total amount, if applicable:

- Drug Treatment & Rehabilitation _____ %
- Drug Prevention & Education _____ %
- Drug-related Research _____ %
- Drug-related Law enforcement _____ %
- Drug-related Social Work _____ %
- Other (same as “other” in Q.2) _____ %

Please use the enclosed stamped envelope to send the completed form to:

“Social and Economic Costs of Psychoactive Drug Abuse Study”

c/o Mr Michael Wong, Department of Sociology, Sino Building, 4/F, The Chinese University of Hong Kong, Shatin, N.T.

Enquiries: 26096616 (Prof. Y.W. Cheung); 26096198 (Mr. Michael Wong)