A Longitudinal Evaluation Study of a

Pioneering Drug Prevention Program

(Project Astro MIND)

in Hong Kong

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August 2003

Foreword

With the growing problem of substance abuse among young people in a global context, many people, including scientists, helping professionals and policy-makers have asked a common question: how can we prevent substance abuse in young people? In response to this question, scientists and practitioners have developed structured drug prevention programs focusing on the weakening of risk factors and strengthening of protective factors in substance abuse in young people. Unfortunately, while many structured drug prevention programs targeting adolescents have been developed in the West, not many programs have been vigorously tested. There are even fewer validated drug prevention programs in different Chinese contexts.

Against this background, I am pleased to note that the Beat Drugs Fund (major sponsor) and the Hong Kong Youth Institute have financially supported the development of a pioneering drug prevention program for adolescents in Hong Kong – the Astro Program. In terms of evaluation design, the researchers have utilized four approaches of evaluation (objective outcome evaluation, subjective outcome evaluation, qualitative evaluation and evaluation based on the repertory grid method) that permit triangulation of evaluation findings based on different methods. In terms of the effectiveness of the program, the evaluation findings are positive and encouraging. I am glad to learn that there were positive changes in the program participants after joining the program.

This research report makes an important contribution to the field of drug abuse prevention in Hong Kong. Academically speaking, this is a groundbreaking attempt not just in Hong Kong, but also in different Chinese communities. Obviously, it is a valuable piece of work that cannot be ignored by anyone working in the field of substance abuse prevention in Chinese adolescents. Practically speaking, this report provides the backbone for the development of evidence-based practice in drug prevention in Hong Kong. It was a pleasure for me to read this report, and I am confident that many others, particularly prevention scientists and human service practitioners, would have the same feeling. I commend this report to those who are committed to the task of preventing drug abuse in Chinese adolescents.

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Foreword

Substance abuse – Where do we begin ?

Within the context of prevention, it is always a strenuous task to show that prevention programs of substance abuse really work. To demonstrate that a substance abuse prevention program really works, we need to demonstrate that the participants have changed after joining the program and that the changes are not due to other extraneous variables, but only the treatment effect. This requirement implies that experimental design with random assignment of participants or quasi-experimental design with statistical adjustment of the pre-treatment differences between the experimental and control groups must be used. In addition, we need to assess the effects of the program over time, which means longitudinal data must be collected and analysed with the right instruments and caution. Finally, as the concept of triangulation becomes more popular, there is also a quest to evaluate substance abuse prevention program from different perspectives.

Against the above background, I am pleased to note the following features of the evaluation study of the Astro program: the adoption of a non-equivalent group design in conjunction with the use of analyses of covariance to adjust pretest differences between the experimental group and control group; collection of longitudinal data; the use of evaluation data based on different approaches, including objective outcome evaluation, subjective outcome evaluation, qualitative evaluation and evaluation based on the repertory grid method. The evaluation study has been competently executed and the findings are positive and encouraging. Because there is no published evaluation study of drug prevention programs in the Chinese contexts, this evaluation study is a truly pioneering and groundbreaking piece of work.

Obviously, any scientists who are interested in drug prevention in Chinese adolescents cannot ignore this project and the related evaluation study. I commend and recommend this research study to prevention scientists and helping professionals in the substance abuse prevention field.

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Jerusalem, Israel: July 10, 2003

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ACKNOWLEDGEMENTS

Social Welfare Agencies:

- Chak Yan Centre of Society of Boys' Centres
- Cheung Hong Hostel of Society of Boys' Centres
- Fu Shin Lutheran Integrated Service Centre of Hong Kong Lutheran Social Service, LC-HKS
- Home Care for Girls
- Hong Kong Young Women's Christian Association
- H.K.Y.W.C.A. Butterfly Estate Social Service Centre
- H.K.Y.W.C.A. Lok Wah Integrated Social Service Centre
- H.K.Y.W.C.A. Ngau Tau Kok Outreaching Social Work Office
- H.K.Y.W.C.A. School Social Work Unit
- Hui Chung Shing Memorial School of Society of Boys' Centres
- Jockey Club Tai Po Children and Youth Integrated Services Centre of Hong Kong Children and Youth Services
- Precious Blood Children's Village
- Shing Tak Centre of Society of Boys' Centres
- Sisters of the Good Shepherd Marycove Centre
- Sun Chui Children Centre of Hong Kong Lutheran Social Service, LC-HKS
- Tai Po District Youth Outreaching Social Work Team of Hong Kong Children and Youth Services
- Tai Po School Social Work Service of Hong Kong Children and Youth Services

Schools:

- Buddhist Bright Pearl Primary School
- Buddhist Chi King Primary School
- Buddhist Ho Nam Kam College
- Buddhist Leung Chik Wai College
- Free Methodist Bradbury Chun Lei Primary School
- HK SKH Bishop Hall Secondary School
- HKWMA Chu Shek Lun Secondary School
- Hong Kong Red Swastika Society Tai Po Secondary School
- Lok Sin Tong Yeung Chung Ming Primary School
- Ning Po No. 2 College
- Shatin Public Mei Lam Primary School
- Sheung Shui Government Secondary School
- S.K.H. Kei Lok Primary School
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EXECUTIVE SUMMARY

1. In response to the severe lack of indigenously developed drug prevention programs and related evaluation studies in Hong Kong, a proposal was prepared to bid for research grants from the Beat Drugs Fund Association on a competitive basis in the fall of 1999. The Beat Drugs Fund Association (major sponsor) eventually funded the project for a period of 3 years, beginning from September 2000. Subsequently, the Hong Kong Youth Institute has also provided additional financial support for the project.

2. There are three basic components of this project: development of an indigenous drug prevention program for young people in Hong Kong, implementation of the developed program, and evaluation of the program. This research report is concerned with the evaluation of the developed program - Project Astro MIND (Maturity, Intelligence and No Drugs).

3. The Astro Program is a psychosocial primary prevention program for high-risk youth, focusing on peer and other influences on youth to use drugs, and on the development of skills to resist those pressures. It consists of three sequential and developmentally appropriate programs starting in early adolescence, with each program conducted in the form of structured group sessions led by trained workers: Astro Kids, Astro Teens and Astro Leaders. Programs for parents and community leaders are also included in the design of the Astro Program.

4. There are 10 sessions in the Astro Kids program and 10 to 12 sessions in the Astro Teens program, with some sessions conducted in day camp or overnight camp. The contents of these two programs include the following areas: stress and stress management, decision-making, knowledge on gateway drugs, psychotropic drugs and sex, peer influence, self-esteem and refusal skills. For the Astro Leaders program, there are three sessions that include sensitivity training and leadership training as well as a community involvement project.

5. A research design with the following elements was adopted in the present evaluation study: a) collection of evaluation data from four approaches (objective outcome evaluation, subjective outcome evaluation, qualitative evaluation and evaluation based on repertory grid method), b) adoption of an experimental design (non-equivalent group design), c) collection of longitudinal data, and d) adoption of mixed methodology (i.e., concurrent collection of quantitative and qualitative data). The inclusion of different evaluation strategies permits triangulation of data collected by different methods.

   ■ For Evaluation Area 1, objective outcome evaluation based on longitudinal data collected from an experimental group (N=356) and a control group (N=414) was conducted. Objective outcome measures included indicators of knowledge, attitude, behavioral intention and refusal skills related to substance abuse and early sexual behavior.

   ■ For Evaluation Area 2, subjective outcome evaluation based on the responses of the workers (N=34) and participants (N=281) was carried out.

   ■ For Evaluation Area 3, qualitative evaluation based on in-depth interview data from 15 workers and 30 participants was performed. For the workers, the interview questions were developed with reference to the CIPP model (i.e., context, input, process and product evaluation).

■ For Evaluation Area 4, evaluation utilizing repertory grid data based on 30 informants was made.

6. For Evaluation Area 1 (i.e., objective outcome indicators), the findings are generally positive. Using different time points as reference, there is evidence showing that the experimental group performed better than the control group in terms of drug knowledge, sex knowledge, social skills, and refusal skills in different samples. The experimental group participants also found fewer benefits of abusing drugs and they had a stronger intention of not abusing drugs when compared to the control group participants in some of the samples.

7. The evaluation data based on subjective outcome assessment (i.e., Evaluation Area 2) are generally positive. Based on the perspectives of the workers and participants, the client satisfaction survey data suggest that the workers and participants were basically satisfied with the program and most of them felt that the program was helpful to adolescents. Although it is common to get high satisfaction rates in client satisfaction survey, the use of different perspectives, concealment of the identity of the respondents and calculation of inter-rater reliabilities for the analyses of the open-ended questions enhance the credibility of the related findings.

8. For Evaluation Area 3 (i.e., qualitative evaluation), the findings are very encouraging. The workers' perceptions of the program were generally positive and they perceived that the program was effective in changing the behavior of the program participants. The participants' perceptions of the program were also generally positive and the members found the program to be beneficial. The collection of qualitative interview data from quite a large sample (15 workers and 30 participants) and the use of inter-rater reliability checking have enhanced the credibility of the qualitative evaluation findings.

9. The evaluation findings based on repertory grid method (Evaluation Area 4) clearly revealed the beneficial effects of the program. Using data based on 30 informants, group analyses showed that the informants identified more with the "ideal self" and "a successful person" but less with "a drug addict" and "an unsuccessful person" after joining the program. Individual analyses using two exemplar cases also illustrate the perceived positive changes in the informants after joining the program.

10. An integration of the evaluation findings from four different approaches clearly suggests the Astro program is beneficial to the program participants. The objective outcome evaluation findings showed that the Astro program was effective in changing drug and sex knowledge, attitude, behavioral intention and refusal skills of the program participants in the positive direction in different samples. The subjective outcome evaluation findings showed that the workers and participants were satisfied with the program and they perceived the program to be helpful to the participants to distance themselves from drugs. The qualitative evaluation findings revealed that based on the narratives freely narrated by the workers and the program participants, the subjective experiences of the informants were generally positive and they perceived that there were many positive benefits of the program. The evaluation findings based on repertory grid data clearly revealed that the participants perceived themselves to be psychologically closer to their ideal selves and successful persons but farther away from drug addicts and unsuccessful persons after joining the program.

11. There are several contributions of the present evaluation study. First, because no known evaluation study of drug prevention program utilizing different evaluation approaches

has been carried out in different Chinese contexts, this is a groundbreaking attempt and the present findings contribute to the currently limited literature. Second, the present study provides additional evidence suggesting that a structured approach to drug prevention focusing on risk and protective factors is a promising direction. Third, the present study serves as an example on how programs in the social service context can be vigorously evaluated. Finally, the manuals developed and the experiences gained from this project are invaluable to drug prevention workers in different Chinese contexts. Nevertheless, there are also several limitations of the present study. First, because the span of the study, though longitudinal in nature, was still relatively short, we need to further examine the long-term effectiveness of the program. Second, a non-equivalent group design was adopted in this study. While this design is commonly used, its limitations should be duly acknowledged. It would be desirable if a randomized controlled trial could be implemented in future studies. Third, if resources permit, more participants should be recruited to participate in the qualitative evaluation and evaluation based on the repertory grid method.

12. Despite the above-mentioned limitations, an integration and triangulation of the four sources of evaluation data clearly shows that Project Astro MIND is effective in changing adolescents' drug and sex knowledge, attitude, behavioral intention, and refusal skills in a positive direction. The positive evaluation findings suggest that the program can successfully be used in school and community contexts in Hong Kong and in other Chinese speaking communities.

Chapter 1
Background of the Evaluation Study

Drug Prevention Programs for Adolescents

It is now well established in the drug prevention literature that drug information programs alone are ineffective. Worse still, the giving of information alone may increase drug use. For example, programs emphasizing the dangers of drug use may attract individuals who are sensation-seeking, whereas information about the chemical effects of drugs may arouse the curiosity of those who may want to experience the psychoactive effects of these drugs, and telling people about the modes of administration and other details of drug use may become a brief course on drug use rather than on preventing drug use (Panter & Melchoir, 1995). Recent approaches have turned to focus on comprehensive strategies that target early risk factors and protective factors in adolescent drug use. These factors include individual risk factors such as poor social skills, low self-esteem, and favorable attitudes towards drug use. Environmental risk factors including adverse family environment (such as poor parent-child bonding or low parental involvement in their children), negative peer influence (such as association with drug-using peer), poor school performance and delinquent behavior (Glantz, 1992). Hawkins, Catalano and Miller (1992) specifically argued for a risk-focused approach to drug prevention that seeks to reduce or buffer the effects of known antecedents of adolescent drug abuse and cultivate protective factors in high-risk youth. The related strategies include parenting skills training, social competence and abilities training, youth involvement in alternative activities and comprehensive risk-focused programs.

In a longitudinal study of the key mediators for adolescent drug use, McNeal and Hansen (1999) identified deterioration in four specific mediators as most related to the onset of drug use: normative beliefs (such as peer beliefs and endorsement of drug use), commitment (such as commitment not to use drugs), lifestyle incompatibility with drug use, and beliefs about consequences of drug use. On the other hand, they found that there was an increase in resistance skills among non-users. They recommended that future studies should focus on variables that are most significant for explaining drug use.

Based on the above observations, effective drug prevention work should seek to eliminate environmental influences that promote or facilitate drug use, and at the same time, reduce adolescents' vulnerability to the various environmental factors promoting drug use, given that drug abuse occurs as a result of both environmental and individual factors (Stoil & Hill, 1996). As such, there is an increasing emphasis on the use of structured intervention programs in drug prevention for young people. An examination of the Western literature shows that there are many structured drug prevention programs, such as the Life Skills Training program (Botvin, 1983; 2000; Botvin, Baker, Dusenbury, Tortu & Botvin, 1990; Griffin et al., 2003), SMART programs (St. Pierre et al., 1997), Drug Abuse Resistance and Education (DARE; Lynam et al., 1999; Rosenbaum & Hanson, 1998), Project ALERT (Bell, Ellickson & Harrison, 1993; Ellickson, Bell & Harrison, 1993) and Project STAR (Kaminski et al., 2002). Of course, while it is reasonable to assume that structured educational drug prevention programs have positive effects on adolescents, empirical research findings are indispensable for evidence-based practice in drug prevention.

Drug Prevention in Hong Kong

Drug prevention in Hong Kong focuses heavily on drug information education in schools and in the community (Action Committee Against Narcotics, 2002). Furthermore, several observations can be highlighted from the existing drug prevention programs. First, no vigorous evaluation studies with longitudinal design utilizing evaluation data from different sources have ever been attempted in Hong Kong. In fact, such evaluation studies have also been rarely attempted in overseas settings (Lorion & Ross, 1992). Second, based on the existing literature, the direction of drug prevention programs in Hong Kong that focuses primarily on drug information dissemination as commonly seen in the NGOs and schools must be regarded as outdated because its efficacy is dubious. Third, there is a severe lack of systematic and documented drug prevention programs that can be easily used by workers in the community and school contexts (Shek, 2002d; Shek, Lam & Tsoi, in press). Most workers used ad hoc session plans and materials in drug prevention programs, and employment of standardized intervention protocols are rare. Fourth, most of the existing programs have commonly used client satisfaction approach in evaluation and validated measures of objective and subjective outcome indicators are seldom used.

Objectives of the Astro Project

Because there is an urgent need to develop an indigenous drug prevention program that is systematic, conceptually sound and evidence-based, a proposal was drawn up by the Research Team to design and validate an indigenous drug prevention program in Hong Kong. With the support of the Beat Drugs Fund Association (major sponsor) and the Hong Kong Youth Institute, a three-year research project with a longitudinal design and control group comparisons was launched with the following objectives:

1. To develop a drug prevention program for Chinese adolescents so that the following outcomes would occur in the program participants after the completion of the program:

   ■ Knowledge about drugs and sex would increase;

   ■ Attitudes towards substance abuse and sex behavior would become more healthy;

   ■ Skills to refuse drugs and early sex would be strengthened;

   ■ Actual and potential usage of drugs and engagement in sex would decrease.

2. To produce a complete set of manuals for program delivery and evaluation.

3. To validate, with control group comparisons, the program so developed in a longitudinal study targeting groups of high-risk youth.

4. To train group leaders for drug prevention work through the operation of the Astro program.

The Astro program

In view of the severe lack of systematic and documented drug prevention programs in Hong Kong, the Research Team developed a pioneering drug prevention program – the Astro program. The Astro program is a psychosocial primary prevention program for high-risk

youth, focusing on peer and other influences on youth to use drugs, and on the development of skills to resist those pressures. It consists of three sequential and developmentally appropriate programs starting in early adolescence, with each program conducted in the form of structured group sessions. Apart from providing drug information, the content of the sessions also deals with themes relevant to adolescent development such as puberty and friendship. The related programs also teach young people a broad range of social and personal competence skills and help them to identify and resist peer and other social pressures, to resist drug use and to resist pressure to engage in early sexual activity. The content of these three levels of programs in the Astro program is summarized in Table 1.1.

Table 1.1 Content of the Astro programs

Program	Astro Kids	Astro Teens	Astro Leaders	Astro Club
Age range	10-13	13-16	Graduates of Astro Teens	Graduates of Astro programs
No. of sessions	10	12	3 + 1 community involvement project	---
Content	Stress and coping, family relationship, smoking, drug education, puberty, friendship, refusal skills, self understanding, pressure from media	Stress and coping, decision-making, gateway drugs, drug education, teenage sex, self-image, refusal skills, peer pressure, life planning	Self-image, life planning, community involvement project	Healthy activities and building up of support network among members

Ideally, an adolescent should progress through the three programs. However, each component can be used on its own. Astro Leaders is especially designed for graduates of Astro Teens as a peer-leader program to encourage them to become positive role models who will influence their peers to resist drug use and teenage sex. It also serves as booster sessions to reinforce skills learned in Astro Teens. It is believed that drug-free norms would be cultivated through peer leaders working in their respective settings.

Apart from working with adolescents, a parent involvement program named the Family Advocacy Network (FAN Club) has also been developed. The aim of the FAN Club is to strengthen families by re-establishing or reinforcing parent-child bonding, and providing resources and support services to meet parental needs, thereby including parents as partners in drug prevention. Community involvement by way of soliciting help from community leaders to assist in some of the sessions is also built into the programme structure. Such structuring of programs have been demonstrated to be effective in overseas contexts (e.g., St. Pierre et al. 1992, 1995, 1997).

There are several characteristics of the Astro Project. First, it was carried out in high-risk drug areas in Hong Kong, targeting high-risk youth who were prone to experimental drug use. Second, it was pioneering and innovative in terms of the use of a longitudinal research

design with control group comparisons, and it was the first attempt in Hong Kong to test a youth drug prevention program via such a vigorous design. Third, it provided multi-level intervention that targeted both the youth and their environment, in terms of family, peers, and community. Fourth, its strategies included multi-year developmentally appropriate components addressing adolescent concerns such as puberty, self-image, sex and relationships. Fifth, it sought to eliminate risk factors conducive to adolescent drug use by fostering a drug-free lifestyle, enhancing self-esteem, improving social skills, and teaching resistance skills. Finally, it provided a comprehensive set of manuals and evaluative measures for program delivery and evaluation.

Phases of the Project and Related Activities

There were three phases in the research project:

Phase 1: Development of manuals for intervention
Phase 2: Program implementation and data collection
Phase 3: Data analyses and publication of manuals

Phase 1: Development of manuals for intervention (September 2000 to February 2001)

The main activities of Phase 1 were to develop the following manuals for running groups (i.e., service implementation) and conducting research:

1. Operators' Guide
2. Manuals for Astro Kids program, including resource kit and evaluation manual
3. Manuals for Astro Teens program, including resource kit and evaluation manual
4. Manual for Astro Leaders program
5. Manual for Astro Parents program
6. Manual for Astro Family Advocacy Network (FAN Club)

Phase 2: Program implementation and data collection (February 2001 to December 2002)

The major activities at this phase were to conduct the drug prevention programs for high risk youth. An adolescent who fulfilled any two or more of the following criteria was regarded eligible for participation in the program:

1. Attending a Band 5 school (equivalent to the current Band 3 school)
2. Exhibition of conduct problems as defined by the Operational Manual for Outreaching Social Workers, the Hong Kong Council of Social Services
3. Drop out from school and/or unemployed
4. Drug use experience, particularly abuse of stimulants and/or polydrugs
5. Frequent smoking behaviour

Detailed information on the number of participants in the programs can be seen in Table 1.4 to Table 1.6.

Astro Kids Program

The total number of groups in the Astro Kids program was 13, with 139 experimental subjects and 213 control subjects (N=352). There are 10 sessions in the Astro Kids program, with some sessions conducted in day camp or overnight camp. The contents of the program include the following areas: stress and stress management, family relationship, knowledge on gateway drugs, psychotropic drugs and sex, peer influence, stress from media, self-understanding and refusal skills.

The following organizations, centres and schools were involved in the program: H.K.Y.W.C.A. Lok Wah Integrated Social Service Centre Day Care Centre, Buddhist Chi King Primary School, Precious Blood Children's Village, Chak Yan Centre and Shing Tak Centre of Society of Boys' Centres, Free Methodist Bradbury Chun Lei Primary School, Buddhist Bright Pearl Primary School, Lok Sin Tong Yeung Chung Ming Primary School, S.K.H. Kei Lok Primary School, and Shatin Public Mei Lam Primary School.

Astro Teens Program

The total number of groups in the Astro Teens program was 20, with 217 experimental subjects and 201 control subjects (N=418). There are 10 to 12 sessions in the Astro Teens program, with some sessions conducted in day camp or overnight camp. The contents of the program include the following areas: stress and stress management, decision-making, and knowledge on gateway drugs, psychotropic drugs and sex, peer influence, self-esteem, refusal skills and life planning.

The participating units in the Astro Teens program included the following: H.K.W.M.A. Chu Shek Lun Secondary School, Buddhist Chi King Primary School, Hong Kong SKH Bishop Hall Secondary School, Buddhist Ho Nam Kam College, Home Care for Girls, Buddhist Leung Chik Wai College, Sheung Shui Government Secondary School, Ning Po No. 2 College, Hong Kong Red Swastika Society Tai Po Secondary School, Hui Chung Shing Memorial School and Cheung Hong Hostel of Society of Boys' Centres, Tai Po Government Secondary School, Hong Kong Children and Youth Services Tai Po District Youth Outreaching Social Work Team, Hong Kong Children and Youth Services Jockey Club Tai Po Children and Youth Integrated Services Centre, Precious Blood Children's Village, and Sisters of the Good Shepherd Marycove Centre.

Astro Leaders Program

The total number of groups in the Astro Leaders program was 11, with 92 experimental subjects. The Astro Leaders graduated from Astro Teens program. As such, the pre-post assessments of Astro Leaders and their control group were based on the pre-post assessments when they were in the Astro Teens program. Astro Leaders consisted of three group sessions on sensitivity training and leadership training as well as one community involvement project. The community involvement projects held are listed in Table 1.2.

The following centres and units were involved in the Astro Leaders program: HKWMA Chu Shek Lun Secondary School, Buddhist Chi King Primary School, Hong Kong SKH Bishop Hall Secondary School, Buddhist Ho Nam Kam College, Home Care for Girls, Buddhist Leung Chik Wai College, Ning Po No. 2 College, Tai Po Government Secondary School, Hui Chung Shing Memorial School of Society of Boys' Centres, Sisters of the Good Shepherd Marycove Centre.

Table 1.2 Community involvement projects of the Astro Leaders program

1	Members performed volunteer services in the form of hip hop dance show. Agencies served: Caritas Wong Yiu Nam Centre, Irene House of the Mental Health Association of Hong Kong, Y.W.C.A. Lok Wah Integrated Social Service Centre.
2	Members arranged game stalls on Parents' Day for reinforcing parent-child bonding. Agency served: Sisters of the Good Shepherd Marycove Centre.
3	Two groups of Astro Leaders visited single elderly people. Locations of volunteer services: Lok Wah North Estate and Tai Po.
4	Members organized volunteer service for spastic children. Agency served: The Spastic Association of Hong Kong Shek Wai Kok Parents' Resource Centre.
5	Members joined an outdoor task-oriented program for training leadership skills.
6	Members assisted workers to organize adventure-based counseling camp for the Astro Teens members.
7	Members joined filmmaking workshops and served as recording crew for the Astro Club.
8	Members participated in the Astro Carnival and helped to set 6 game stalls for disseminating anti-drug messages. Community served: Lok Wah North Estate.
9	Members joined a leadership training camp and produced comics with anti-drug messages.
10	Members visited the Caritas Wong Yiu Nam Centre and designed a web site on drug information.

Parents' Program

The total number of FAN Club activities held was 14 and the frequency of participation was 197. Regarding the activities of the FAN Club, workshops, group discussions, talks, day camps, and a parent-child carnival were organized. The contents of the activities included parent-child communication, conflict resolution, parents' role in youth drug prevention, and activities to reinforce parent-child bonding. The following service units were involved: H.K.Y.W.C.A. Lok Wah Integrated Social Service Centre, H.K.Y.W.C.A. Tuen Mun Integrated Social Service Centre, S.K.H. Kei Lok Primary School, and Sisters of the Good Shepherd Marycove Centre.

Training for Workers

Whole-day training workshops were held for workers to explain the rationale, research methodology and design of the project, role expectation of group leaders and the details of the training programs. Sharing sessions for workers to share their experiences and give feedback on the project were also arranged. A total number of 66 participated in such training activities.

Activities for Community Leaders

Training workshops and sharing sessions were held for 51 community leaders (such as district board members, police, school principals) where they shared and discussed the roles of the community in youth drug prevention. These were held at the H.K.Y.W.C.A. Tuen Mun Integrated Social Service Centre and H.K.Y.W.C.A. Lok Wah Integrated Social Service Centre.

Activities for Astro Members

The Astro Club was formed to provide healthy activities for the Astro members. The details of the activities are listed in Table 1.3.

Table 1.3 Astro Club Activities

Astro Club Activities	Number of participants (N)
1 Adventure-based counseling day in H.K.Y.W.C.A. Youth Camp	42
2 Astro Natural High Party – Christmas Dancing party	42
3 Journey to Shek Kwu Chau – Two visits to the drug rehabilitation center	78
4 Adventure-based counseling camp in H.K.Y.W.C.A. Youth Camp	54
5 Adventure-based counseling camp in Duke of Edinburgh's Training Camp	36
6 飛躍禁毒常識街頭展覽 – Managing an exhibition and game stalls to promote drug prevention in the Lok Wah North Estate	5
7 飛躍繽紛嘉年華 – A carnival with six game stalls for promoting drug prevention in Lok Wah North Estate	66
Total	323

Table 1.4 Total number of groups and activities in the Astro project

Program	Proposed numbers	Numbers completed
Astro Kids	8 pairs of group*	13 pairs of group*
Astro Teens	20 pairs of group*	20 pairs of group*
Astro Leaders	10 groups	11 groups
FAN Club Activities	14 times	14 times
Astro Club Activities	--	8 times

*1 pair of groups included one experimental group and one control group

Table 1.5 Number of participating agencies and number of groups by districts

District	Number of agencies	Number of schools	Astro Kids Program	Astro Teens Program	Astro Leaders Program	FAN Club Activities
Kwun Tong	2	7	6	7	5	12
Tai Po	4	2	--	5	1	--
Shatin	1	3	4	--	--	--
Sheung Shui and Tuen Mun	4	2	1	3	1	1
Others	5	1	2	5	4	1
Total	16	15	13	20	11	14

Table 1.6 Number of participants and frequency of participation in Astro activities

Table 1.6a Number of participants

	Experimental	Control	Total
Astro Kids	139	213	352
Astro Teens	217	201	418
Total	356	414	770

Astro Leaders	92
Workers	■ 30 group workers ■ 66 joined the training workshops and sharing sessions

Table 1.6b Frequency of Participations

	Frequency of participation
FAN Club	197
Astro Club Activities	323
Community Leaders	51

Phase 3: Data analyses and publication of manuals (January 2003 to July 2003)

A total of 300 sets of training manuals were produced. Each set included:

1. Operators Guide (推行指引)
2. Manual for the Astro Kids program (飛躍少年組活動推行手冊)
3. Evaluation manual for the Astro Kids program (飛躍少年組評估手冊)
4. Material Kit for the Astro Kids program (飛躍少年組物資手冊)
5. Manual for the Astro Teens program (飛躍青年組活動推行手冊)
6. Evaluation manual for the Astro Teens program (飛躍青年組評估手冊)
7. Material Kit for the Astro Teens program (飛躍青年組物資手冊)
8. Manual for the Astro Leaders program (飛躍領袖組活動推行手冊)
9. Manual for the Astro Parents program (飛躍家長組活動推行手冊)
10. Manual for Astro Family Advocacy Network (FAN Club) (飛躍家長支援網絡手冊)
11. CD-Rom on program materials (附件及聲帶光碟)

The present report is primarily concerned with the evaluation of the Astro program with particular emphasis on the Astro Kids and Astro Teens programs. The methodology and the evaluation design are presented in Chapter 2. In Chapter 3, findings of the objective outcome evaluation are reported. In Chapter 4, findings of the subjective outcome evaluation are outlined. In Chapter 5, findings based on qualitative evaluation are described. In Chapter 6, evaluation findings utilizing repertory grid method are presented. Finally, discussion of the findings and the implications and conclusions of the study are outlined in Chapter 7.

Chapter 2
Research Design

Unique Features of the Present Evaluation Study

Program evaluation is not a simple and straightforward task and there are many types and approaches of evaluation (Chelimsky & Shadish, 1997; Chen, 1996; Posavac & Carey, 2003). In his discussion of the major strategies of evaluation, Patton (1997) outlined three basic types of evaluation: quantitative evaluation, qualitative evaluation, and utilization-focused evaluation. Ginsburg (2001) summarized the major forms of evaluation, including quantitative and qualitative approaches, cost-benefit analyses, satisfaction studies, needs assessment, single-subject designs, experimental approaches and models, utilization focused evaluation, empowerment evaluations, fraud and abuse detection, client satisfaction and journalistic evaluation. Using starting alphabets as the bases of classification, Patton (1987) suggested that there are more than 100 types of evaluation. Taking into account the relative merits of the different evaluation strategies and criteria governing the quality of quantitative, qualitative and mixed-method evaluation studies (Caracelli & Riggin, 1994; Creswell, 2003; Patton, 1997, 2002; Thyer, 1989, 1991; Tashakori & Teddlie, 1998), a research design utilizing different evaluation strategies was adopted in this study.

There are several unique features of the evaluation design of this study. First, a wide range of data was collected so that triangulation between different types of data collected by different methods can be conducted. Consistent with the principle of triangulation, four sets of evaluation data via different approaches were collected. These include objective outcome evaluation data, subjective outcome evaluation data (data collected via client satisfaction approach), in-depth interview data, and repertory grid data. Second, to examine the long-term effect of the intervention, longitudinal data were collected for the objective outcome evaluation. Third, to increase the vigor of the objective outcome evaluation, a control group was included. Fourth, both quantitative and qualitative evaluation data were included in the present study. Although there are debates regarding the relative merits of quantitative and qualitative evaluation, there is a rising trend arguing for integration of data collected by these approaches (Patton, 1997, 2002). In short, to evaluate the project in a comprehensive and vigorous manner, both quantitative and qualitative data were collected via a longitudinal research design. In addition, measures were taken to enhance the quality of the evaluation tasks performed (e.g., utilization of valid and reliable assessment tools and assessment of inter-rater reliability in qualitative data analyses). It must be emphasized that this is the *first scientific study* that possesses the above features regarding the evaluation of an indigenously developed drug prevention program in the Chinese context.

In order to obtain a comprehensive view of the effectiveness of the program and to study the effects of the program from different perspectives, evaluation data from four areas were collected:

- Area 1 : Objective Outcome Evaluation: An experimental design was employed to assess the objective outcomes of the program. Because random assignment of the subjects in the experimental group and control group was difficult, a non-equivalent group design was adopted. For the objective outcome indicators, participants responded to self-administered questionnaires at pretest and posttest 1. Amongst the participants, some

responded to the same questionnaire at posttest 2 and posttest 3 as well. In other words, the collection of objective outcome data was accomplished by a longitudinal research design.

- Area 2: Subjective Outcome Evaluation: Each participant was invited to respond to a self-administered feedback form after each session. In addition, each participant was asked to complete a global subjective outcome evaluation form after the completion of the training program. For the workers, each worker was invited to fill out a self-administered feedback form after each session. Similarly, each worker was invited to complete a global subjective outcome evaluation form after the completion of the program.

- Area 3: Qualitative Evaluation Based on In-Depth Interviews: In-depth interviews were conducted for 15 workers and 30 participants selected via convenient sampling method. For the workers, interview questions were developed to examine the program in terms of the CIPP model (Stufflebeam & Shinkfeld, 1985) with reference to the context, input, process and product of the program.

- Area 4: Evaluation Based on the Repertory Grid Method: Thirty participants were selected via convenient sampling method to complete repertory grid method that assessed their self-identity system before and after joining the program. Besides generating qualitative data, the grid data can also yield quantitative data.

Evaluation Area 1: Objective Outcome Assessment

To assess the effect of the project over time, a non-equivalent group design with the inclusion of an experimental group and a control group was used to collect longitudinal data from the participants.

Participants in the Experimental Group and Control Group

The subjects in the experimental group were the program participants. Information on the number of groups planned and actually conducted, number of participants, and the program implementation plan are presented in Table 2.1 to Table 2.4.

Table 2.1 Number of groups planned by number of planned post-tests

	Number of groups planned	Number of post-tests planned		
		Post 1	Post 2	Post 3
Astro Kids	16	16	16	8
Astro Teens	40	40	20	6

* Groups include experimental group and control group.

Table 2.2 Number of groups actually conducted by nature of groups by number of post-tests

	Number of groups conducted	Number of post-tests conducted		
		Post 1	Post 2	Post 3
Astro Kids	26	26	24	7
Astro Teens	40	40	30	10

*Groups include experimental group and control group.

Table 2.3 Number of participants in the experimental group and control group

Program	Group	Pre-Test	Post 1	Post 2	Post 3
Kids	Experimental	139	134	85	9
	Control	213	203	62	6
	Total	352	337	147	15
Teens	Experimental	217	200	104	27
	Control	201	193	88	27
	Total	418	393	192	54

Table 2.4 Schematic summary of the program implementation plan

		Program Implementation			
		2001 March to August	2001 Sept. to 2002 February	2002 March to August	2002 Sept. to Dec.
A	1 Astro Kids Pretest	Members participated in Astro Teens and posttests			
	1 Control group Pretest	Control group posttests			
B	5 Astro Teens Pretest	All members participated in posttests and 4 groups participated in Astro Leaders			
	5 Control groups Pretest	Control groups posttests			
C			7 Astro Kids Pretest	Participated in posttests	
			7 Control groups Pretest	Control groups posttests	
D			8 Astro Teens Pretest	All members participated in posttest and 7 groups participated in Astro Leaders	
			8 Control groups Pretest	Posttest	
			4 Astro Leaders	*Posttest	
E				5 Astro Kids and Pretest	Posttest
				5 Control groups Pretest	Posttest
F				7 Astro Teens and Pretest	Posttest
				7 Control groups Pretest	Posttest
				7 Astro Leaders	*Posttest

* Graduates of the Astro Teens program joined the Astro Leaders program. The pre-post assessments of the Astro Leaders program were based on the pre-post assessments of the Astro Teens programs.

Instruments

At the pretest and posttest sessions, the participants were invited to complete a self-administered questionnaire that includes different measures of substance abuse and psychosocial adjustment. A copy of the questionnaire is included in Appendix 1. For the measures of social skills and substance abuse, they were translated and adapted from the evaluation questionnaire originally constructed by St. Pierre and Kaltreider (1998). The list of objective outcome indicators used in this study is presented in Table 2.5. Information on the reliability of the related measures is presented in Table 2.6.

1. Social Skills Scale (Section 1 of Appendix 1): There are 6 items in this scale that assess the perceived social skills of the respondents. The respondents were asked to rate his/her ability to perform some social behavior (e.g., speaking to a stranger) on a 4-point scale ("Very Unable", "Unable", "Able", "Very Able"). A higher total score indicates a higher level of social skills.

2. Attitude Scales (Section 2 of Appendix 1): A total of 51 items were developed to assess the respondents' attitudes to smoking (6 items), drinking (8 items), marijuana (6 items), heroin (7 items), ecstasy (6 items), ketamine (7 items), methylamphetamine (i.e., "ice", 7 items) and sex (4 items). The respondents were asked to respond to the attitudinal statements on a 4-point scale ("Strongly Disagree", "Disagree", "Agree", "Strongly Agree"). By combining the scores related to smoking and drinking (14 items), a measure of attitude to gateway drugs was developed. Similarly, by adding items in the relevant measures, indicators of attitudes to psychotropic drugs and all drugs were developed. A total of 11 measures of attitudes to substance abuse and sex were used in this study. Lower scale scores indicate perceptions of fewer benefits of taking drug or engaging in sexual behavior.

3. Refusal Scales (Section 3 of Appendix 1): Several 2-item scales were developed to assess the respondents' abilities to refuse alcohol, smoking, marijuana, heroin, ecstasy, ketamine, and methylamphetamine (ice). The respondents were asked to indicate whether they would find it difficult to refuse the above substances given by their friends on a 5-point scale (e.g., "Very Difficult to Refuse", "Slightly Difficult to Refuse", "Don't Know", "Slightly Easy to Refuse", "Very Easy to Refuse"). Combining items on alcohol and smoking, a measure of refusal skills on gateway drugs was developed. Similarly, by adding up the scores of the relevant measures, indicators of refusal skills regarding psychotropic drugs and all drugs were developed. A total of 11 measures of refusal skills on substance abuse and sex were used in this study. A higher scale score indicates a higher level of perceived ability to refuse drugs.

4. Usage Scales (Section 4 of Appendix 1): Four scales were developed to measure the respondents' use of drugs (e.g., alcohol, smoking, heroin) and engagement in sexual behavior with reference to four time points: last 7 days, last 30 days, last 3 months, and "ever used". There are 9 items in each section and 11 measures for each time frame. A higher score refers to a higher level of substance use or sexual behavior.

5. Behavioral Intention Scales (Section 5 of Appendix 1): A total of 8 items were developed to assess whether the respondents would engage in substance abuse and sexual behavior in the next two years. For each item, the respondent was requested to respond to a 4-point scale ("Definitely Will", "Probably Will", "Probably Will Not", "Definitely Will Not"). There are 11 measures derived from the items in this section. A higher score

refs to a lower behavioral intention to take drugs or engage in sexual behavior in the near future.

6. Knowledge Scales (Section 6 of Appendix 1). A total of 26 items were developed to measure drug knowledge (18 items) and sex knowledge (8 items). For each item, the respondent was asked to respond to a 2-point scale ("True" or "False"). A higher score in these scales refers to a higher level of drug knowledge or sex knowledge.

7. Chinese Self-Esteem Scale. The Rosenberg Self-Esteem Scale was designed to assess the self-esteem of high school students (Rosenberg, 1979). The Chinese Rosenberg Self-Esteem Scale was locally adapted and acceptable reliability of this scale has been reported (Shek, 2002a, 2002b). Based on factor analysis, 5 items were retained.

8. Existential Well-Being Scale. The Existential Well-Being Scale, which formed a part of the Spiritual Well-Being Scale, was constructed by Paloutzian and Ellison (1982) to assess life direction and satisfaction. Based on factor analysis, 5 items extracted from the scale were used in this study (Shek, 2002a, 2002b).

9. Mastery Scale. Modeled after Pearlin and Schooler's Mastery Scale (1978), the 7-item Chinese Mastery Scale that attempts to measure a person's sense of control of his or her life was locally adapted (Shek, 2002a, 2002b).

10. Chinese Family Assessment Instrument. Shek (2002c) showed that the Chinese Family Assessment Instrument was valid and reliable. Based on factor analyses, 12 items extracted from the scale were used in this study.

11. Delinquent Scale. Based on previous research (Shek & Ma, 2001), 16 items were developed to assess delinquent behavior in the respondents.

12. The Chinese version of the 30-item General Health Questionnaire. The General Health Questionnaire was developed to measure current non-psychotic disturbances (Goldberg, 1972). Chan (1985) found that the Chinese GHQ compared favorably with the English version at the scale level and there is evidence suggesting that the GHQ possesses acceptable psychometric properties (Shek, 1989, 1993). Based on the findings of Shek (1993), 15 items based on Factor 1 (Anxiety) and Factor 2 (Depression) of the GHQ were used in this study. Reliability analyses showed that this abridged version of the GHQ was reliable (alpha=.93).

Evaluation Area 2: Subjective Outcome Evaluation

Subjective outcome evaluation or client satisfaction survey is commonly used to assess the perceived benefits of a program and degree of satisfaction that the participants have regarding the different aspects of a program. The use of subjective outcome indicators or the client satisfaction approach in evaluation has a long history in the human services (e.g., Holcomb, Adams, Ponder & Reitz, 1989; Lebow, 1982, 1984; McMurty & Hudson, 2000). Although there are arguments against the use of subjective outcome assessment (Young, Nicholson & Davis, 1995), there is evidence showing that subjective outcome measures were correlated with objective outcome measures (Ankuta & Abeles, 1993; Attkisson & Zwick, 1982; Carscaddon, George & Wells, 1990; Deane, 1993; Edwards, Yarvis, Mueller & Langsley, 1978; Larsen, Attkisson, Hargreaves & Nguyen, 1979; LaSala, 1997). In this project,

subjective outcome indicators were used to gauge the perceived benefits and levels of satisfaction of the workers as well as the program participants regarding the different aspects of the program. At the completion of the program, both workers and group members were invited to respond to structured questionnaires measuring their perceptions of the benefits of, and satisfaction with, the program.

For both Astro Kids and Astro Teens programs, the participants were asked to evaluate the program after each session and after the completion of the training. For the Global Subjective Outcome Evaluation Form for Astro Kids program (Appendix 2), the participants were asked to indicate their satisfaction with, and perception of, the qualities of the program (Question 1) as well as the evaluation of the helpfulness of the program (Question 2). The respondents were also asked to indicate whether the program could help them to distance themselves from smoking (Question 6), other drugs (Question 7) and sexual behavior (Question 8). Further, they were asked to respond to three open-ended questions, including their perceptions of the most important things they have learned (Question 3), things that should be improved (Question 4) and whether the participant would recommend the program to their friends (Question 5). The Global Subjective Outcome Evaluation Form for the Astro Teens program was basically the same except for some minor modifications (Appendix 3).

There were also two evaluation forms for the workers, one for the Astro Kids program and another for the Astro Teens program (Appendices 4 and 5). The content of these two forms were basically similar to those for the participants.

Evaluation Area 3: Qualitative Evaluation Based on In-depth Interviews

While quantitative evaluation can give ideas about group differences, qualitative studies can help to understand the subjective perceptions and personal experiences of the participants (Berg, 2003; Bryman, 1988; Lincoln & Guba, 1985; Minichiello, 1990; Neuman & Kreuger, 2003; Patton, 2002). According to Denzin and Lincoln (1998a, 1998b, 1998c, 2000), there are different perspectives in qualitative inquiry. In the present evaluation, instead of following a single qualitative approach (such as grounded theory approach or phenomenological approach), general principles in qualitative research were adopted. First, open-ended interview questions without preset answers were used and the informants could freely narrate in the interviews. Second, the subjective viewpoints and experiences of the informants were respected. Third, in-depth collection of information was carried out. Fourth, an inductive approach was used so that the themes and patterns of responses could emerge from the data. Fifth, the researchers were conscious of the possibilities of biases and preoccupation in the process of data collection and analyses. Finally, inter-rater reliability checks were carried out.

For the workers (N=15), in-depth interviews were carried out to gain an understanding of their experiences and perceived benefits of the program as well as their perceived changes in the participants after joining the program. Although the workers were recruited via convenient sampling, a wide range of workers from different agencies and schools were recruited so that a more comprehensive picture about the subjective experiences of the workers could be gained. The questions of the interview schedule were modeled after the CIPP model (Stufflebeam, 2000; Stufflebeam & Shinkfeld, 1985). A semi-structured interview guide regarding context (planning decisions), input (structuring decisions), process (implementation decisions) and product (outcomes) evaluation of the program was set. The interview questions in Chinese are given in Appendix 6.

As far as *context evaluation* is concerned, the workers' views on the context of evaluation, such as the needs of the participants as well as the strengths and weaknesses of the available programs were collected. Some of the questions are as follows:

- Have you conducted any drug prevention program before? If yes, for how many times?
- What were the training methods or services provided in the past?
- Did you carry out evaluation for the previous drug prevention programs? How was it done?
- Were the previous prevention programs effective?
- How much do you know about project Astro MIND?
- There are many Western structured drug prevention programs. Do you have any understanding of such programs?

For *input evaluation*, questions related to the appropriate approaches intended to bring about change and the structural plans were asked (Stufflebeam & Shinkfeld, 1985). The questions in the interview guide included:

- How did you choose the program participants?
- Did you encounter any difficulties in recruiting members?
- Did your involvement in this project affect your regular work?
- Did you receive adequate support for the implementation of the program?
- What was the situation regarding the collaboration amongst school, the agency and the community?

Regarding *process evaluation*, questions regarding the actual implementation of the project, including its strengths and weaknesses, were asked (Stufflebeam & Shinkfeld, 1985). The questions in the interview guide included:

- What is your impression of the program?
- What are the characteristics of the program?
- What is your view on the applicability of the project?
- Did you have any specific experiences regarding the implementation of the group?
- Did you experience any difficulties?
- What are your views on the different sessions of the program?
- What were the feedbacks of the group members on the program?
- What are your views on the evaluation of the project?
- Do you have any views on the collaboration experienced in the project?

The primary function of *product evaluation* is "to measure, interpret, and judge the attainments of a program" (Stufflebeam & Shinkfeld, 1985, p.176). As such, evaluation questions that determine the extent to which identified needs were met and the identification of the broad effects of the program were asked:

- What do you think are the differences between the project and those conducted by youth agencies in the past?
- What were the changes of members after joining the program?
  - ○ Knowledge, attitude and behavior regarding drugs?
  - ○ Knowledge, attitude and behavior regarding sex?
  - ○ Other aspects of change

- What do you think are the factors that lead to changes in the group members?
- If there were no changes, what do you think are the factors which inhibit change?
- Do you think the program is helpful for adolescents?
- Which areas of the group in the program can be improved?
- Have you any other views on the project?

For the participants, although they were recruited via convenient sampling, a wide range of participants, including those who had obvious positive changes and those who did not have obvious positive changes were recruited so that a more comprehensive picture of the subjective experiences of the participants were collected. The following questions were included in the interview guide (see Appendix 6):

- Overall speaking, what are your feeling and views towards the group?
- What do you think are the special features of this group?
- Do you like the group format? Why?
- What are your views regarding the content of the group?
- What is the most memorable experience in the group?
- What is your experience regarding your interaction with the group members?
- What were your initial expectation and impression when joining the group at the beginning?
- What are your feelings after joining the group?
- What are your changes after joining the group (free elicitation followed by probing)?
  - ○ Your drug knowledge?
  - ○ Your drug attitude?
  - ○ Your drug behavior (including whether you would try)?
  - ○ Your sex knowledge?
  - ○ Your sex attitude?
  - ○ Your sex behavior (including whether you would try)?
  - ○ Your mental outlook?
  - ○ Your interaction with others?
  - ○ Your relationship with family members?
- If there were changes after joining the program, what factors or experiences contributed to the changes?
- If there were no changes after joining the programs, what were the factors that led to the lack of changes?
- Do you think this group is helpful to the adolescents?
- What improvements are needed for this group?
- Would you take part in the group again if you were to given a chance? Why?
- Are you satisfied with this group? What are the things that you are satisfied with or dissatisfied with?
- Do you have any further comments or experiences?

Evaluation Area 4: Evaluation Utilizing the Repertory Grid Method

The repertory grid method is an assessment method closely related to personal construct psychology. It assesses the personal construct system of an individual (Fransella, 1981;

Fransella & Bannister, 1977; Kelly, 1955; Viney, 1998). The repertory grid method has been used to understand the self-identity system in numerous studies (Beail, 1985). There are three unique features of the repertory grid method. First, the assessment assesses the individual's self-identity system from the perspective of the individual (i.e., using the language of the informant). Second, the assessment can yield data that can be analyzed via quantitative as well as qualitative methods. Finally, the repertory grid method is a very flexible method (e.g., adjusting the number of elements and constructs) that can yield very rich information.

In the present study, a total of 30 informants completed the grids. The following twelve elements were used to elicit the constructs (see Appendix 7):

Element 1: Present Self
Element 2: Ideal Self
Element 3: Future Self (3 Years Later)
Element 4: Self Before Joining the Program
Element 5: Self After Joining the Program
Element 6: Father
Element 7: Mother
Element 8: Good Friend
Element 9: A Drug Addicted Person (Taking Psychotropic Substances)
Element 10: A Successful Person
Element 11: An Unsuccessful Person
Element 12: Form Teacher

The constructs were elicited via the triadic method. For every triad (i.e., three elements in which there was a self element present), the participant was asked how two of these were seen as similar to each other and different from the third. The participants were generally invited to give 12 constructs. After the constructs were elicited, the participant was then asked to rate all the elements on the construct (i.e., along the construct and contrast poles) on a 6-point scale, with 1 to 3 representing the construct pole and 4 to 6 representing the contrast pole.

The raw data for each grid (mostly 12 elements by 12 constructs) were analyzed by the INGRID 72 program (Slater, 1977). In the output of the analysis, there is a section on the distances between pairs of elements. Distances between elements represent the psychological distances between elements, with a minimum value of 0, a mean of 1 and it seldom exceeds the value of 2. Therefore, if the distance between a pair of element is close to zero, it means that they are seen as similar in the psychological space of the person. On the other hand, if the distance between a pair of element is close to 2, it means that they are seen to be dissimilar in the psychological space of the informant. Norris and Makhlouf-Norris (1976) suggested that distances between elements generated by INGRID 72 could be used to examine how a person sees himself or herself as being similar to certain people or dissimilar to others.

To examine the perceived changes of the participants after joining the program, differences in the distances between the following pairs of elements were examined:

- The mean distance between "Self Before Joining the Program" (Element 4) and "Ideal Self" (Element 2) versus the mean distance between "Self After Joining the Program" (Element 5) and "Ideal self" (Element 2): It was expected that if the participants had positive changes after joining the program, the distance between E2 and E5 would be shorter than that between E2 and E4 (i.e., the self after joining

the program would be seen as relatively closer to the ideal self).

- The mean distance between "Self Before Joining the Program" (Element 4) and "A Drug Addicted Person" (Element 9) versus the mean distance between "Self After Joining the Program" (Element 5) and "A Drug Addicted Person" (Element 9): It was expected that if the participants had positive changes after joining the program, the distance between E5 and E9 would be longer than that between E4 and E9 (i.e., the self after joining the program would be seen as relatively farther away from the drug addicted person).

- The mean distance between "Self Before Joining the Program" (Element 4) and "A Successful Person" (Element 10) versus the mean distance between "Self After Joining the Program" (Element 5) and "A Successful Person" (Element 10): It was expected that if the participants had positive changes after joining the program, the distance between E5 and E10 would be shorter than that between E4 and E10 (i.e., the self after joining the program would be seen as relatively closer to the successful person).

- The mean distance between "Self Before Joining the Program" (Element 4) and "An Unsuccessful Person" (Element 11) versus the mean distance between "Self After Joining the Program" (Element 5) and "An Unsuccessful Person" (Element 11): It would be expected that if the participants had positive changes after joining the program, the distance between E5 and E11 would be longer than that between E4 and E11 (i.e., the self after joining the program would be seen as relatively farther away from the unsuccessful person).

Summary

A research design with the following elements was adopted in the present evaluation study: evaluation data based on four approaches were collected, an experimental design (non-equivalent group design) was used, longitudinal data were collected for the objective outcome indicators, quantitative and qualitative data were collected. The inclusion of different evaluation strategies permits triangulation of data collected by different methods. For Evaluation Area 1, objective outcome evaluation based on longitudinal data collected from an experimental group (N=356) and a control group (N=414) was conducted. For Evaluation Area 2, subjective outcome evaluation based on the responses of the workers (N=34) and the participants (N=281) was carried out. For Evaluation Area 3, qualitative evaluation based on in-depth interview data collected from 15 workers and 30 participants was done. For Evaluation Area 4, evaluation utilizing the repertory grid data based on 30 informants was carried out.

Table 2.5 Objective outcome indicators used in the study

Scales		Composite scores		Possible
		Section	Question #	Range
Social skills		1	Sum of all items	6-24
Behavioral Intention	Ecstasy	5	5	1-4
	Ketamine	5	6	1-4
	Ice	5	7	1-4
	Sex	5	8	1-4
	Heroin	5	4	1-4
	Marijuana	5	3	1-4
	Alcohol	5	1	1-4
	Smoking	5	2	1-4
	Gateway	Alcohol + Smoking		2-8
	Psychotropic substances (PS)	Ice + Ketamine + Ecstasy + Marijuana		4-16
	All drugs	Gateway + PS + Heroin		7-28
Attitude	Ecstasy	2	Sum of question #28, #29, #30, #31, #32, #33	6-24
	Ketamine	2	Sum of question #34, #35, #36, #37, #38, #39, #40	7-28
	Ice	2	Sum of question #41, #42, #43, #44, #45, #46, #47	7-28
	Sex	2	Sum of question #48, #49, #50, #51	4-16
	Heroin	2	Sum of question #21, #22, #23, #24, #25, #26, #27	7-28
	Marijuana	2	Sum of question #15, #16, #17, #18, #19, #20	6-24
	Alcohol	2	Sum of question #7, #8, #9, #10, #11, #12, #13, #14	8-32
	Smoking	2	Sum of question #1, #2, #3, #4, #5, #6	6-24
	Gateway	Alcohol + Smoking		14-56
	Psychotropic substances (PS)	Ice + Ketamine + Ecstasy + Marijuana		26-104
	All drugs	Gateway + PS + Heroin		47-188

Table 2.5 Objective outcome indicators (Continued)

Scales		Composite scores		Possible
		Section	Question #	Range
Refusal skills	Ecstasy	3	Sum of question #1e, #2e	2-10
	Ketamine	3	Sum of question #1f, #2f	2-10
	Ice	3	Sum of question #1g, #2g	2-10
	Sex	3	3	1-5
	Heroin	3	Sum of question #1d, #2d	2-10
	Marijuana	3	Sum of question #1c, #2c	2-10
	Alcohol	3	Sum of question #1a, #2a	2-10
	Smoking	3	Sum of question #1b, #2b	2-10
	Gateway	Alcohol + Smoking		2-10
	Psychotropic substances (PS)	Ice + Ketamine + Ecstasy + Marijuan		4-20
	All drugs	Gateway + PS + Heroina		7-35
Usage – 7 days	Ecstasy	4	1f	0-3
	Ketamine	4	1g	0-3
	Ice	4	1h	0-3
	Sex	4	1i	0-3
	Heroin	4	1e	0-3
	Marijuana	4	1d	0-3
	Alcohol	4	Sum of question #1a, #1b	0-6
	Smoking	4	1c	0-3
	Gateway	Alcohol + Smoking		0-9
	Psychotropic substances (PS)	Ice + Ketamine + Ecstasy + Marijuana		0-12
	All drugs	Gateway + PS + Heroin		0-24
Usage – 30 days	Ecstasy	4	2f	0-6
	Ketamine	4	2g	0-6
	Ice	4	2h	0-6
	Sex	4	2i	0-6
	Heroin	4	2e	0-6
	Marijuana	4	2d	0-6
	Alcohol	4	Sum of question #2a, #2b	0-12
	Smoking	4	2c	0-6
	Gateway	Alcohol + Smoking		0-18
	Psychotropic substances (PS)	Ice + Ketamine + Ecstasy + Marijuana		0-24
	All drugs	Gateway + PS + Heroin		0-48

Table 2.5 Objective outcome indicators (Continued)

Scales		Composite scores		Possible Range
		Section	**Question #**	
Usage – 3 months	Ecstasy	4	3f	0-6
	Ketamine	4	3g	0-6
	Ice	4	3h	0-6
	Sex	4	3i	0-6
	Heroin	4	3e	0-6
	Marijuana	4	3d	0-6
	Alcohol	4	Sum of question #3a, #3b	0-12
	Smoking	4	3c	0-6
	Gateway	Alcohol + Smoking		0-18
	Psychotropic substances (PS)	Ice + Ketamine + Ecstasy + Marijuan		0-24
	All drugs	Gateway + PS + Heroin		0-48
Usage – Ever used	Ecstasy	4	4f	0-6
	Ketamine	4	4g	0-6
	Ice	4	4h	0-6
	Sex	4	4i	0-6
	Heroin	4	4e	0-6
	Marijuana	4	4d	0-6
	Alcohol	4	Sum of question #4a, #4b	0-12
	Smoking	4	4c	0-6
	Gateway	Alcohol + Smoking		0-18
	Psychotropic substances (PS)	Ice + Ketamine + Ecstasy + Marijuana		0-24
	All drugs	Gateway + PS + Heroin		0-48
Drug Knowledge		6	Sum of question #1, #2, #3, #4, #5, #6, #8, #9, #10, #12, #15, #17, #18, #21, #23, #24, #25, #26	0-18
Sex Knowledge		6	Sum of question #7, #11, #13, #14, #16, #19, #20, #22	0-8
All Knowledge		Drug Knowledge + Sex Knowledge		0-26

Note: Question 1 of Section 3 was used to compute Refusal skills (Psychotropic Substances)

Table 2.6 Reliability of the objective outcome indicators

Scales	Reliability (Alpha)			
	Pretest	Posttest 1	Posttest 2	Posttest 3
Social skills	0.6114	0.7048	0.7474	0.7257
Attitude (Ketamine)	0.7500	0.7343	0.7666	0.8082
Attitude ("Ice")	0.6397	0.7472	0.7585	0.7737
Attitude (Sex)	0.6425	0.6729	0.6848	0.7827
Attitude (Ecstasy)	0.7155	0.8193	0.8174	0.8488
Attitude (Heroin)	0.6985	0.7348	0.7352	0.7938
Attitude (Marijuana)	0.7650	0.8006	0.8027	0.8247
Attitude (Alcohol)	0.6578	0.5363	0.7296	0.6292
Attitude (Smoking)	0.6784	0.6203	0.6717	0.6540
Attitude (Gateway)	0.8974	0.7489	0.8987	0.8980
Attitude (PS)	0.9031	0.9248	0.9309	0.9370
Attitude (All drugs)	0.9452	0.9305	0.9566	0.9537
Refusal skills (Ecstasy)	0.4635	0.4460	0.5161	0.7253
Refusal skills (Ketamine)	0.4836	0.4835	0.5260	0.6616
Refusal skills ("Ice")	0.4216	0.4209	0.4960	0.7019
Refusal skills (Alcohol)	0.4957	0.5929	0.5059	0.7321
Refusal skills (Smoking)	0.6075	0.5308	0.6237	0.8218
Refusal skills (Marijuana)	0.4137	0.4579	0.4786	0.7701
Refusal skills (Heroin)	0.3322	0.3854	0.3799	0.7118
Refusal skills (Gateway)	0.8299	0.8283	0.8841	0.9088
Refusal skills (PS)	0.9639	0.9677	0.9796	0.9635
Refusal skills (All drugs)	0.9167	0.8527	0.9200	0.8575
Usage (Gateway)-7days	0.6755	0.6425	0.6999	0.6804
Usage (PS)-7days	0.8982	0.9016	0.8572	0.9512
Usage (All drugs)-7days	0.7927	0.7900	0.7245	0.6831
Usage (Gateway)-30days	0.6142	0.5868	0.6387	0.7325

Table 2.6 Reliability Test (Continued)

Scales	Reliability (Alpha)			
	Pretest	Posttest 1	Posttest 2	Posttest 3
Usage (PS)-30days	0.9099	0.9207	0.9690	0.8153
Usage (All drugs)-30days	0.7857	0.7660	0.7540	0.6599
Usage (Gateway)-3months	0.6493	0.5930	0.6346	0.7671
Usage (PS)-3months	0.8630	0.8776	0.9544	0.8607
Usage (All drugs)-3months	0.7730	0.7141	0.7755	0.6496
Usage (Gateway)-Ever used	0.7001	0.6849	0.6970	0.7351
Usage (PS)-Ever used	0.9001	0.8401	0.9417	0.7992
Usage (All drugs)-Ever used	0.8107	0.7881	0.8452	0.6802
Behavioral Intention (Gateway)	0.7757	0.7832	0.7959	0.6597
Behavioral Intention (PS)	0.9540	0.9649	0.9788	0.9743
Behavioral Intention (All drugs)	0.8507	0.9256	0.9310	0.9101
Drug knowledge	0.4964	0.6046	0.6517	0.5907
Sex knowledge	0.4347	0.4925	0.5768	0.5228
All knowledge	0.5608	0.6603	0.7208	0.6664
Self-esteem	0.5724	0.6449	0.5441	0.6828
Family Relationship	0.9694	0.9775	0.9748	0.9693
Existential well-being	0.7745	0.7771	0.8097	0.8487
Stress	0.9151	0.9255	0.9231	0.9146
Delinquency	0.8930			

Chapter 3
Results of Evaluation Area 1:
Objective Outcome Evaluation

Participants of the Study

The number of groups and participants of the program are outlined in Chapter 2. However, because of dropout during or after the program, the number of participants whose data could be used to assess the effectiveness of the program was lower than the number of members participating in the program (see Table 3.1).

Table 3.1 Number of participants of the project and the attrition rates

	Pre-Test	Post-Test 1	Attrition rate	Post Test 2	Attrition rate	Post Test 3	Attrition rate
Kids Experimental	139	134	3.6%	85	34.1%	9	85.9%
Kids Control	213	203	4.7%	62	70.9%	6	85.0%
Teens Experimental	217	200	7.8%	104	52.1%	27	72.5%
Teens Control	201	193	4.0%	88	56.2%	27	59.0%

Note: Definition of Attrition rates (posttest 1): Participants who left the Astro program. Definition of Attrition rates (posttest 2 and posttest 3): Participants who had finished the Astro program, but did not complete the relevant posttest questionnaires.

Demographic and Substance Abuse Characteristics of the Participants

Based on the criteria of whether the participant had ever taken the substance mentioned in the pretest questionnaire, the participants were divided into the Drug Group and Non-Drug Group at posttest 1 (see Table 3.2 to Table 3.4).

Table 3.2 Distribution of Participants in the Drug Group and the Non-Drug Group

		N	Percentage
Drug Group	Experimental	255	35%
	Control	248	34%
	Sub-total	**503**	**69%**
Non-Drug Group	Experimental	79	11%
	Control	148	20%
	Sub-total	**227**	**31%**
Total N		**730**	**100%**

Table 3.3 Number of participants in the experimental group (N=255) who indicated that they had ever used drugs or had sexual behavior at pretest

	N	Percentage
Alcohol	156	61%
Smoking	134	53%
Marijuana	27	11%
Heroin	7	3%
Ecstasy	42	16%
Ketamine	39	15%
"Ice"	14	5%
Sex	26	10%

Table 3.4 Number of participants in the control group (N=248) who indicated that they had ever used drugs or had sexual behavior at pretest

	N	Percentage
Alcohol	141	57%
Smoking	109	44%
Marijuana	26	10%
Heroin	10	4%
Ecstasy	29	12%
Ketamine	31	13%
"Ice"	19	8%
Sex	34	14%

Pretest Differences Between Experimental Group and Control Group

Differences between the experimental group and control group on measures of delinquency, psychological well-being, as well as drug and sex-related outcome indicators at pretest were assessed. Results in Table 3.5 generally showed that the experimental group displayed higher levels of delinquency, problematic attitudes to substance abuse, and abuse of drugs but lower levels of behavioral intention to refuse drugs and self-esteem than did the control group. In other words, the experimental group displayed more problems than the control group did at pretest. Because of differences between the two groups at pretest on the "all drugs" variables in the domains of attitudes, behavioral intention, refusal skills and drug use, the relevant "all drugs" variables were treated as covariates in the analysis of covariance analyses.

Attrition analyses

Analyses of the differences between those who completed the program and the planned posttests and those who did not complete the program and/or the planned posttests showed that there were only two differences between these two groups. As shown in Table 3.6, the participants who dropped out had more favorable attitude towards psychotropic substances and their involvement with sex was higher than did the participants who did not drop out at pretest. Because there were very few differences between the completers and the non-

completers, the possibility that the findings are adversely affected by sample attrition is not high.

Strategy of Analyses

Because the experimental group and control group differed on some of the outcome indicators, adjustment of the pretest levels of the dependent variables must be taken into account. A widely accepted analytic strategy to analyze outcome data emerging from a non-equivalent group design is to utilize analysis of covariance (ANCOVA) to assess the effect of the intervention (Allison, Gorman & Primavera, 1993; Games, 1990; St. Pierre, Kaltreider, Mark & Aikin, 1992; St. Pierre, Kaltreider, 1997). In the present analyses, ANCOVAs were used to examine the intervention effect with a number of variables as covariates (Overall & Woodward, 1977; Stevens, 2002; Tabachnick & Fidell, 2001). The covariates include the pretest score of the dependent variable under study (e.g., attitude to heroin at pretest), gender, psychological well-being of the respondent (existential well-being, self-esteem and general psychological morbidity), delinquency, and perceived family functioning at pretest. Because analyses showed that the experimental group and control group also differed on the "all drugs" variables in the attitude, behavioral intention, refusal and usage domains at pretest, the relevant "all drugs" variable in a particular domain was also included in each analysis (e.g., attitude toward "all drugs" at pretest). For example, to examine the difference between the experimental group and control group on attitude toward heroin abuse at posttest 1, attitude toward heroin, attitude to "all drugs", delinquency and measures of psychological well-being at pretest, as well as gender were included as the covariates. In determining the number of covariates, Huitema's recommendation (1980) was used. Because the sample size in some of the sub-samples was small, appropriate adjustment of the number of covariates in the related analyses was made by dropping those variables over which little differences were found for the experimental group and control group at pretest.

For the pretest-posttest 1 dataset, the main effect of Group (differences between the experimental group and control group at posttest 1) after controlling the effects of the covariates was examined. For the pretest-posttest 1-posttest 2 dataset, the main effects of Group (differences between the experimental group and control group at posttest 1 and posttest 2) and Time (posttest 1 vs. posttest 2) as well as the interaction effect of Group X Time, after controlling the effects of the covariates were examined. For the pretest-posttest 1-posttest 2-posttest 3 dataset, the main effects of Group (differences between the experimental group and control group at posttest 1, posttest 2 and posttest 3) and Time (posttest 1 vs. posttest 2 vs. posttest 3) as well as the interaction effect of Group X Time, after controlling the effects of the covariates were examined. To examine the effectiveness of treatment on the outcome measures, the main effect of Group and the interaction effect of Group X Time would be examined. The adjusted means in the experimental group and control group on the objective outcome indicators are presented in the tables in this report.

Analyses of the Pretest-Posttest 1 Data

The findings based on the ANCOVA analyses for the pretest-posttest 1 data are presented in Table 3.7a. Six observations could be seen. First, social skills of the participants in the experimental group were better than those of the control group in the Combined Sample.

Second, sexual knowledge and/or all knowledge in the experimental group were better than those of the control group in the Combined, Teens, Male and Female Samples. Third, while attitude towards "ice" in the experimental group was more positive than that of the control group in the Female Kids Sample, the control group was better than the experimental group regarding attitudes to substance abuse in the Combined Sample (smoking), Kids Sample (marijuana and smoking), Male Sample (smoking), and Male Kids Sample (Ecstasy, marijuana, smoking and all drugs). Fourth, behavioral intention not to smoke in the experimental group was lower than that of the control group in the Female Sample. Fifth, with reference to the 16 significant findings summarized in Table 3.7a, 7 were positive findings. Finally, in terms of usage of drugs (Table 3.7b to Table 3.7f), while the experimental group did not differ from the control group in terms of psychotropic substance abuse and the experimental group was better than the control group in terms of heroin abuse in the last 7 days (Combined and Teens Samples) and use of sex (Female Sample), abuse of gateway drugs in the experimental group was higher than that of the control group in different samples.

The ANCOVA findings for the Drug Group are presented in Table 3.8a. The findings showed that social skills of the experimental group were better than those of the control group in the Kids Sample and Female Sample. There was also evidence suggesting that sex knowledge and/or all knowledge in the experimental group were higher than those of the control group in the Combined, Teens, Female and Female Teens Samples. In addition, the experimental group had a lower behavioral intention to use heroin (Kids Sample) as well as Ecstasy, Ketamine, heroin and all drugs (Male Kids Sample) than the control group. In terms of usage of drugs and sex, there is evidence showing that the experimental group took less drugs and engaged in less sexual behavior than did the control group in some of the samples (Table 3.8b to Table 3.8f). On the other hand, refusal skills were observed to be higher in the control group than those of the experimental group in the Kids Sample (Ecstasy, Ketamine and alcohol), Male Sample (Ketamine and alcohol) and Female Kids Sample ("ice"). In addition, attitudes of the control group were more favorable than that of the experimental group in not using marijuana and smoking in the Male Kids Sample. With reference to the 20 significant findings summarized in Table 3.8a, 12 were positive findings.

For the Non-Drug Group (Table 3.9a), findings based on ANCOVA analyses showed that the experimental group had higher refusal skills than did the control group in the Male Sample (Ketamine, Ice, heroin, alcohol and smoking) and Male Teens Sample (Ecstasy, Ketamine, psychotropic substances and all drugs). In addition, the experimental group perceived less benefits of abusing drugs than did the control group for the Female Kids Sample (psychotropic substances), whereas the reverse was found for the Combined Sample (marijuana), Female Sample (marijuana) and Male Kids Sample (alcohol and smoking). Furthermore, drug knowledge and/or all knowledge in the experimental group were better than those in the control group for the Male, Male Kids, and Male Teens Samples. In terms of usage of drugs, there is evidence showing that the experimental group took less Ketamine and psychotropic substances than did the control group in the last 30 days in the Combined Sample (Table 3.9b to Table 3.9f). However, the experimental group had a lower behavioral intention not to smoke than did the control group in the Male Kids Sample. With reference to the 20 significant findings summarized in Table 3.9a, 15 were positive findings.

In short, the findings showed that the experimental group performed better than the control groups in terms of social skills, behavioral intention, attitudes, refusal skills and knowledge in some of the samples. While some negative findings were found, three points must be taken into account. First, the number of positive findings was greater than the number of

negative findings. Second, in view of the differences between the experimental group and control group at pretest, positive changes in the experimental group can be regarded as substantial. Third, as shown in the next section, most of the negative findings in the pretest-posttest 1 dataset disappeared when the pretest-posttest 1-postest 2 dataset was used as the basis of analyses.

Analyses of the Pretest-Posttest 1-Posttest 2 Data

The findings based on the ANCOVA analyses for the pretest-posttest 1-posttest 2 data are presented in Table 3.10. Six positive observations could be seen. First, social skills of the participants in the experimental group were better than those of the control group in the Combined, Teens, Kids, Male, Female and Male Kids Samples. Second, drug knowledge in the experimental group was better than that of the control group in the Teens, Male Teens and Female Teens Samples. Third, the experimental group performed better than the control group in terms behavioral intention to engage in sexual behavior (Kids Sample and Male Kids Sample) and smoking (Male Kids). Fourth, the experimental group perceived fewer benefits of taking "ice" (Kids and Male Samples) and gateway drugs (Female Teens) than did those of the control group. Fifth, the experimental group displayed higher refusal skills than the control group in resisting Ecstasy (Kids and Male Kids Samples), "ice" (Kids, Male and Male Kids Samples), sex (Female Kids Sample), marijuana (Combined, Kids and Male Samples), gateway drugs (Kids and Male Kids Samples), and psychotropic drugs (Kids Sample). Finally, the experimental group displayed less sex behavior in the last 30 days and 3 months than did the control group in the Female Sample. However, the control group was better than the experimental group in terms of attitudes to smoking (Kids Sample) and alcohol (Kids and Male Kids Samples). With reference to the 32 significant findings summarized in Table 3.10, 29 were positive findings.

For the Drug Group (Table 3.11), the findings showed that social skills in the experimental group were better than those in the control group in the Combined and Male Samples. There was also evidence suggesting that drug knowledge in the experimental group was better than that of the control group in the Teens and Male Teens Samples. In addition, the experimental group had a lower behavioral intention than the control group to use "ice" (Male Teens) and alcohol (Female Teens). Furthermore, the experimental group perceived fewer benefits of abusing Ketamine (Male Kids), heroin (Female Teens), marijuana (Teens), gateway drugs (Combined, Teens, Females, and Female Teens Samples), and psychotropic drugs (Female Teens). Finally, the experimental group displayed higher levels of refusal skills than did the control group in the areas of Ecstasy, Ketamine, "ice", heroin and marijuana in the Female Kids Sample. In terms of usage of drugs and sex, there is evidence showing that the experimental group engaged in less sexual behavior than the control group did in the Female Sample and Female Teens Sample. However, some negative findings in the attitudes towards substance abuse were found in the Combined, Kids, Male Kids and Female Teens Samples. Out of 30 significant findings presented in Table 3.11, 25 findings were positive.

For the Non-Drug Group, several observations can be observed from Table 3.12. First, the experimental group displayed a higher level of social skills than the control group did in the Combined, Kids, Male, and Female Teens Samples. Second, the experimental group was less likely to abuse Ketamine, sex, alcohol, smoking, and psychotropic substances than did the control group in the Male Kids Sample. Third, the experimental group perceived fewer

benefits of abusing "ice" (Male Teens) than did the control group. Fourth, the experimental group displayed higher refusal skills than did the control group with reference to different drugs in the Combined, Kids, Male, Male Kids, Female Kids and Male Teens Samples. Finally, the experimental group performed better than the control group on drug knowledge (Female Teens Sample) and sex knowledge (Male Sample). In terms of usage of drugs, there is evidence showing that the experimental group took less gateway drug than did the control group in the Female Sample, Male Kids Sample and Female Kids Sample. With reference to the 52 significant findings in Table 3.12, 43 were positive findings.

In short, the findings showed that the experimental group performed better than the control groups in terms of social skills, behavioral intention, attitudes, refusal skills and knowledge in some of the samples. While some negative findings were found, three points must be taken into account. First, the number of positive findings was overwhelmingly more than the number of negative findings. Second, in view of the differences between the experimental group and control group at pretest, the positive changes in the experimental group can be regarded as substantial. Third, most of the negative findings and some of the insignificant findings in the pretest-posttest 1 dataset disappeared when the pretest-posttest 1-postest 2 dataset was used as the basis of analyses, suggesting the differences between the experimental group and control group widened in the positive direction across time. Some examples of the related findings are graphically presented in Figure 3.1 to Figure 3.8.

Analyses of the Pretest-Posttest 1-Posttest 2-Posttest 3 Data

Because the related sample size was small, the number of covariates was reduced in the analyses. The findings in Table 3.13 generally showed that there were no significant findings except that self-esteem of the experimental group participants was better than that of the control group. The interaction effect is graphically presented in Figure 3.9. The non-significant findings were somewhat expected because of the low power associated with the statistical tests. Because the number of participants in the related dataset was small, interpretations of the findings should proceed with caution.

The significant findings based on different time points are summarized in Figure 3.10 to Figure 3.12.

Table 3.5 Differences between experimental group and control group at pretest

Measures	Experimental Group Mean	Control Group Mean	Direction	T	Sig.
Combined Sample (N=730)					
☹ Behavioral Intention (Ecstasy)	3.58	3.71	H	-1.989	*
☹ Behavioral Intention (Alcohol)	2.66	3.01	H	-4.288	****
☹ Behavioral Intention (Smoking)	2.95	3.29	H	-3.869	****
☹ Behavioral Intention (Gateway)	5.60	6.30	H	-4.517	****
☹ Behavioral Intention (All drugs)	27.47	27.52	H	-2.450	*
☹ Attitude (Ecstasy)	12.20	11.32	L	2.852	**
☹ Attitude ("Ice")	11.93	11.08	L	2.849	**
☹ Attitude (Smoking)	10.18	9.37	L	2.617	**
☹ Attitude (Marijuana)	9.41	8.92	L	2.008	*
☹ Attitude (Gateway)	26.99	24.89	L	3.457	***
☹ Attitude (PS)	43.72	40.69	L	3.002	***
☹ Attitude (All drugs)	70.71	65.58	L	3.409	***
☹ Refusal skills (All drugs)	33.00	34.64	H	-3.002	**
☹ Delinquency	32.41	27.96	L	4.137	****
☹ Self-esteem	13.45	13.92	H	-2.420	*

Scale	7 days		30 days		3 months		Ever	
	T	Sig	T	Sig	T	Sig	T	Sig
☹ Usage (Alcohol)	2.333	*	2.378	*	2.187	*	2.889	**
☹ Usage (Smoking)	3.235	***	2.863	**	4.087	****	3.675	***
☹ Usage (Ecstasy)	NS		NS		3.093	*	2.29	*
☹ Usage (Ketamine)	NS		NS		2.395	*	2.253	*
☹ Usage (Gateway)	3.212	***	3.120	**	3.664	****	3.796	****
☹ Usage (PS)	NS		NS		NS		2.980	**
☹ Usage (All drugs)	2.532	*	2.146	*	3.036	**	3.214	***

Note: PS includes "ice", Ketamine, marijuana and Ecstasy; Gateway means smoking and alcohol.

Symbols abbreviations:

Non-significant differences	NS
P<=0.0001	****
P<=0.001	***
P <=0.01	**
P <=0.05	*

Higher the better	H
Lower the better	L
"Experimental is better than control"	☺
"No significant difference"	😐
"Control is better than experimental"	☹

Table 3.6 Differences between participants who completed the program and the planned posttests and those who did not complete the program and/or the planned posttests at pretest

Scale	Completers Mean (N=339)	Non-Completers Mean (N=391)	Direction	T	Sig.
☹ Attitude (PS)	26.55	25.24	L	2.156	*
☹ Usage (Sex) – 3 months	0.24	0.11	L	2.332	*

Note: PS includes "ice", Ketamine, marijuana and Ecstasy; Gateway means smoking and alcohol.

Symbols abbreviations:

Non-significant differences	NS
P<=0.0001	****
P<=0.001	***
P <=0.01	**
P <=0.05	*

Higher the better	H
Lower the better	L
"Experimental is better than control"	☺
"No significant difference"	😐
"Control is better than experimental"	☹

Table 3.7a ANCOVA analyses of the pretest and posttest 1 data

Scale	Experimental Group Post 1 Mean	Control Group Post 1 Mean	Direction	F value	Sig.
Combined Sample (N=730)					
☺ Social skills	18.24	17.84	H	5.345	*
☺ Sex knowledge	5.81	5.55	H	6.595	**
☺ All knowledge	19.00	18.60	H	3.936	*
☹ Attitude (Smoking)	12.02	11.59	L	5.284	*
Teens Sample (N=393)					
☺ Sex knowledge	6.03	5.76	H	3.611	*
Kids Sample (N=337)					
☹ Attitude (Marijuana)	9.05	8.41	L	5.631	*
☹ Attitude (Smoking)	11.16	10.43	L	7.997	**
Male Sample (N=422)					
☺ Sex knowledge	5.74	5.48	H	3.64	*
☹ Attitude (Smoking)	12.09	11.49	L	5.535	*
Female Sample (N=308)					
☺ Sex knowledge	5.92	5.62	H	3.684	*
☹ Behavioral Intention (Smoking)	2.93	3.15	H	5.23	*
Male Kids Sample (N=208)					
☹ Attitude (Ecstasy)	9.53	8.73	L	4.684	*
☹ Attitude (Marijuana)	9.38	8.41	L	7.858	**
☹ Attitude (Smoking)	11.65	10.46	L	11.836	***
☹ Attitude (All drugs)	78.23	72.17	L	5.189	*
Female Kids Sample (N=129)					
☺ Attitude ("Ice")	9.84	10.95	L	3.796	*

Note: PS includes "ice", Ketamine, marijuana and Ecstasy; Gateway means smoking and alcohol.

Table 3.7b Drug usage and sex behavior
(Combined Sample)

	Scale Direction	7 days		30days		3 months	
		F	sig	F	sig	F	sig
☺ Heroin	L	5.994	*	0.106	NS	0.001	NS
😐 Alcohol	L	0.062	NS	1.805	NS	1.529	NS
😐 Marijuana	L	0.280	NS	0.111	NS	0.023	NS
😐 K	L	2.236	NS	1.588	NS	2.757	NS
😐 "Ice"	L	1.158	NS	0.501	NS	1.063	NS
😐 Ecstasy	L	0.889	NS	0.924	NS	0.402	NS
😐 Sex	L	3.473	NS	0.130	NS	0.029	NS
😐 PS	L	0.513	NS	1.156	NS	1.714	NS
☹ Smoking	L	6.337	*	6.349	*	6.582	*
☹ Gateway	L	1.269	NS	5.420	NS	5.827	*
☹ All drugs	L	0.913	NS	3.988	*	3.144	*

Table 3.7c Drug use and sex behavior
(Teens Sample)

	Scale Direction	7 days		30days		3 months	
		F	sig	F	sig	F	sig
☺ Heroin	L	8.093	*	0.280	NS	0.975	NS
😐 Alcohol	L	0.539	NS	0.008	NS	0.272	NS
😐 Marijuana	L	0.450	NS	0.318	NS	0.692	NS
😐 K	L	0.890	NS	0.101	NS	0.465	NS
😐 "Ice"	L	1.557	NS	0.000	NS	0.406	NS
😐 Ecstasy	L	0.063	NS	0.001	NS	0.006	NS
😐 Sex	L	2.039	NS	0.823	NS	0.445	NS
😐 PS	L	0.020	NS	0.007	NS	0.196	NS
☺ All drugs	L	0.002	NS	0.580	NS	1.877	NS
☹ Smoking	L	2.777	NS	3.684	NS	5.957	*
☹ Gateway	L	0.219	NS	1.435	NS	4.068	*

Table 3.7d Drug usage and sex behavior
(Kids Sample)

	Scale Direction	7 days		30days		3 months	
		F	sig	F	sig	F	sig
😐 Alcohol	L	0.102	NS	2.934	NS	0.285	NS
😐 Marijuana	L	4.464	NS	1.779	NS	3.965	NS
😐 K	L	1.031	NS	2.293	NS	3.631	NS
😐 "Ice"	L	0.973	NS	1.799	NS	0.467	NS
😐 Heroin	L	0.519	NS	0.020	NS	2.215	NS
😐 Ecstasy	L	2.039	NS	3.098	NS	1.269	NS
😐 Sex	L	0.055	NS	0.013	NS	0.284	NS
😐 Gateway	L	0.329	NS	3.484	NS	0.326	NS
😐 PS	L	1.253	NS	2.686	NS	2.072	NS
😐 All drugs	L	1.288	NS	3.742	NS	1.813	NS
☹ Smoking	L	3.889	*	2.862	NS	0.239	*

Table 3.7e Drug usage and sex behavior
(Male Sample)

	Scale Direction	7 days		30days		3 months	
		F	sig	F	sig	F	sig
😐 Alcohol	L	1.091	NS	0.390	NS	0.180	NS
😐 Marijuana	L	0.824	NS	0.414	NS	1.516	NS
😐 K	L	1.151	NS	2.564	NS	3.161	NS
😐 "Ice"	L	0.238	NS	3.203	NS	2.609	NS
😐 Heroin	L	1.100	NS	0.453	NS	2.989	NS
😐 Ecstasy	L	0.658	NS	2.117	NS	1.032	NS
😐 Sex	L	0.028	NS	0.999	NS	0.863	NS
😐 Gateway	L	0.001	NS	3.221	NS	0.868	NS
😐 PS	L	0.529	NS	3.027	NS	2.920	NS
☹ Smoking	L	1.334	NS	4.296	*	3.304	NS
☹ All drugs	L	0.19	NS	4.38	*	3.47	NS

Table 3.7f Drug usage and sex behavior (Female Sample)

	Scale Direction	7 days F	7 days sig	30days F	30days sig	3 months F	3 months sig
☺ Sex	L	3.601	NS	4.655	*	1.408	NS
😐 Marijuana	L	0.068	NS	0.368	NS	0.527	NS
😐 K	L	2.088	NS	0.003	NS	0.438	NS
😐 "Ice"	L	0.433	NS	1.030	NS	0.017	NS
😐 Heroin	L	2.014	NS	1.821	NS	2.114	NS
😐 Ecstasy	L	1.058	NS	0.174	NS	0.024	NS
😐 PS	L	0.632	NS	0.441	NS	0.026	NS
😐 All drugs	L	2.306	NS	0.139	NS	2.191	NS
☹ Alcohol	L	2.300	NS	3.093	NS	5.982	*
☹ Smoking	L	6.268	*	1.440	NS	2.961	NS
☹ Gateway	L	5.260	*	3.046	NS	7.376	**

Symbols abbreviations:

Non-significant differences	NS
$P <= 0.0001$	****
$P <= 0.001$	***
$P <= 0.01$	**
$P <= 0.05$	*

Higher the better	H
Lower the better	L
"Experimental is better than control!"	☺
"No significant difference"	😐
"Control is better than experimental"	☹

Table 3.8a ANCOVA analyses of the pretest and posttest 1 data in the Drug Group

Scale	Experimental Group Post 1Mean	Control Group Post 1Mean	Direction	F value	Sig.
Combined Sample (N=503)					
☺ Sex knowledge	5.916	5.65	H	5.079	*
Teens Sample (N=335)					
☺ Sex knowledge	6.07	5.78	H	3.803	*
Kids Sample (N=168)					
☺ Social Skills	18.49	17.67	H	4.739	*
☺ Behavioral Intention (Heroin)	3.70	3.39	H	4.649	*
☹ Refusal skills (Ecstasy)	8.09	8.54	H	3.881	*
☹ Refusal skills (Ketamine)	8.14	8.57	H	3.935	*
☹ Refusal skills (Alcohol)	7.09	7.63	H	3.839	*
Male Sample (N=293)					
☹ Refusal skills (Ketamine)	8.07	8.48	H	5.45	*
☹ Refusal skills (Alcohol)	6.92	7.38	H	4.193	*
Female Sample (N=210)					
☺ Social skills	18.28	17.79	H	3.968	*

Table 3.8a (Continued)

Scale	Experimental Group Post 1Mean	Control Group Post 1 Mean	Direction	F value	Sig.
Female Sample (N=210)					
☺ Sex knowledge	6.06	5.67	H	4.29	*
☺ All knowledge	19.56	18.90	H	3.665	*
Male Kids Sample (N=115)					
☺ Behavioral Intention (Ecstasy)	3.63	3.22	H	4.916	*
☺ Behavioral Intention (Ketamine)	3.61	3.25	H	4.148	*
☺ Behavioral Intention (Heroin)	3.74	3.27	H	7.085	**
☺ Behavioral Intention (All drugs)	23.64	21.39	H	3.959	*
☹ Attitude (Marijuana)	10.19	9.01	L	5.715	*
☹ Attitude (Smoking)	12.46	11.51	L	4.136	*
Female Kids Sample (N=53)					
☹ Refusal skills ("Ice")	8.36	9.05	H	4.037	*
Female Teens Sample (N=157)					
☺ All knowledge	19.70	18.81	H	4.316	*

Note: PS includes "ice", Ketamine, marijuana and Ecstasy; Gateway means smoking and alcohol.

Table 3.8b Drug use and sexual behavior (Combined sample)

	Scale Direction	7 days F	sig	30days F	sig	3 months F	sig
☺ Smoking	L	4.810	*	3.859	*	5.186	*
☺ Heroin	L	5.071	*	4.852	*	4.725	*
☺ Alcohol	L	0.427	NS	0.338	NS	0.565	NS
☺ Marijuana	L	0.607	NS	0.913	NS	0.855	NS
☺ Ecstasy	L	0.074	NS	0.313	NS	0.315	NS
☺ K	L	1.107	NS	0.957	NS	0.921	NS
☺ "Ice"	L	0.278	NS	0.174	NS	0.191	NS
☺ Sex	L	2.194	NS	2.206	NS	2.248	NS
☺ Gateway	L	3.031	NS	2.501	NS	3.481	NS
☺ PS	L	2.617	NS	2.880	NS	2.853	NS
☺ All drugs	L	0.861	NS	2.255	NS	2.949	NS

Table 3.8c Drug usage and sex behavior (Teens Sample)

	Scale Direction	7 days F	sig	30days F	sig	3 months F	sig
☺ Smoking	L	4.310	*	3.167	NS	4.268	*
☺ Alcohol	L	0.082	NS	0.051	NS	0.111	NS
☺ Marijuana	L	0.009	NS	0.005	NS	0.000	NS
☺ Heroin	L	2.692	NS	2.424	NS	2.262	NS
☺ Ecstasy	L	0.011	NS	0.113	NS	0.125	NS
☺ K	L	1.384	NS	1.153	NS	1.210	NS
☺ "Ice"	L	1.083	NS	0.968	NS	0.935	NS
☺ Sex	L	0.336	NS	0.325	NS	0.323	NS
☺ Gateway	L	2.442	NS	1.845	NS	2.552	NS
☺ PS	L	1.303	NS	1.360	NS	1.305	NS
☺ All drugs	L	0.052	NS	0.302	NS	1.358	NS

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Table 3.8d Drug use and sexual behavior (Kids sample)

	Scale Direction	7 days		30days		3 months	
		F	sig	F	sig	F	sig
☺ Alcohol	L	0.061	NS	0.103	NS	0.154	NS
☺ Marijuana	L	3.893	NS	3.572	NS	3.612	NS
☺ Smoking	L	1.866	NS	1.678	NS	1.544	NS
☺ Heroin	L	2.483	NS	2.967	NS	3.000	NS
☺ Ecstasy	L	1.338	NS	1.359	NS	1.356	NS
☺ K	L	1.943	NS	1.701	NS	1.679	NS
☺ "Ice"	L	2.955	NS	2.903	NS	2.945	NS
☺ Sex	L	0.150	NS	0.134	NS	0.155	NS
☺ Gateway	L	0.452	NS	0.493	NS	0.545	NS
☺ PS	L	2.412	NS	2.630	NS	2.627	NS
☺ All drugs	L	1.055	NS	2.673	NS	1.111	NS

Table 3.8e Drug use and sexual behavior (Male sample)

	Scale Direction	7 days		30days		3 months	
		F	sig	F	sig	F	sig
☺ K	L	6.311	*	5.725	*	5.732	*
☺ Ecstasy	L	3.996	*	3.683	NS	3.794	NS
☺ PS	L	5.596	*	5.137	*	5.117	*
☺ Alcohol	L	0.001	NS	0.091	NS	0.061	NS
☺ Marijuana	L	1.517	NS	1.398	NS	1.248	NS
☺ Smoking	L	3.079	NS	1.876	NS	2.973	NS
☺ "Ice"	L	2.279	NS	2.245	NS	2.114	NS
☺ Heroin	L	1.369	NS	1.435	NS	1.384	NS
☺ Sex	L	0.740	NS	0.530	NS	0.451	NS
☺ Gateway	L	1.242	NS	0.569	NS	0.980	NS
☺ All drugs	L	0.190	NS	2.610	NS	1.832	NS

Table 3.8f Drug use and sexual behavior (Female sample)

	Scale Direction	7 days		30days		3 months	
		F	sig	F	sig	F	sig
☺ Sex	L	4.451	*	4.284	*	3.752	*
☺ Alcohol	L	1.521	NS	2.024	NS	2.685	NS
☺ Marijuana	L	0.004	NS	0.055	NS	0.067	NS
☺ Smoking	L	0.917	NS	1.211	NS	1.420	NS
☺ Heroin	L	0.636	NS	0.527	NS	0.561	NS
☺ Ecstasy	L	0.195	NS	0.091	NS	0.113	NS
☺ K	L	2.992	NS	2.725	NS	2.832	NS
☺ "Ice"	L	0.203	NS	0.088	NS	0.097	NS
☺ Gateway	L	1.560	NS	2.219	NS	2.824	NS
☺ PS	L	0.714	NS	0.468	NS	0.460	NS
☺ All drugs	L	2.360	NS	0.014	NS	1.298	NS

Symbols abbreviations:

Non-significant differences	NS
P<=0.0001	****
P<=0.001	***
P <=0.01	**
P <=0.05	*

Higher the better	H
Lower the better	L
"Experimental is better than control"	☺
"No significant difference"	☺
"Control is better than experimental"	☹

Table 3.9a ANCOVA analyses of the pretest and posttest 1 data in the Non-Drug Group

Scale	Experimental Group Post 1 Mean	Control Group Post 1 Mean	Direction	F value	Sig.
Combined Sample (N=227)					
☹ Attitude (Marijuana)	8.78	8.03	L	4.898	*
Male Sample (N=129)					
☺ Refusal skills (Ketamine)	8.92	8.27	H	4.834	*
☺ Refusal skills ("Ice")	9.00	8.33	H	5.330	*
☺ Refusal skills (Alcohol)	8.68	7.99	H	3.838	*
☺ Refusal skills (Smoking)	8.89	8.36	H	5.065	*
☺ Refusal skills (Heroin)	9.00	8.43	H	3.953	*
☺ Drug knowledge	13.50	12.35	H	8.692	*
☺ All knowledge	19.10	17.56	H	9.193	*
Female Sample (N=98)					
☹ Attitude (Marijuana)	9.04	8.02	L	4.631	*
Male Kids Sample (N=93)					
☺ All Knowledge	18.70	17.51	H	4.103	*
☹ Behavioral Intention (Smoking)	3.62	3.91	H	4.535	**
☹ Attitude (Alcohol)	14.82	13.43	L	4.765	**
☹ Attitude (Smoking)	10.48	9.30	L	5.475	*
Female Kids Sample (N=76)					
☺ Attitude (PS)	36.52	37.93	L	5.066	*
Male Teens Sample (N=36)					
☺ Refusal skills (Ecstasy)	9.31	8.36	H	5.258	*
☺ Refusal skills (Ketamine)	9.15	8.15	H	4.549	*
☺ Refusal skills (PS)	17.84	15.57	H	4.531	*
☺ Refusal skills (All drugs)	30.85	27.17	H	4.437	*
☺ Drug knowledge	14.38	12.05	H	9.855	*
☺ All knowledge	20.21	17.62	H	5.510	*

Note: PS includes "ice", Ketamine, marijuana and Ecstasy; Gateway means smoking and alcohol.

Table 3.9b Drug use and sexual behavior (Combined sample)

	Scale	7 days		30days		3 months	
	Direction	F	sig	F	sig	F	sig
😊 K	L	0.184	NS	5.300	*	0.729	NS
😊 PS	L	0.244	NS	4.898	*	0.900	NS
😐 Alcohol	L	0.224	NS	0.182	NS	0.012	NS
😐 Marijuana	L	0.159	NS	3.216	NS	0.728	NS
😐 Smoking	L	0.021	NS	1.041	NS	0.036	NS
😐 "Ice"	L	0.159	NS	3.216	NS	0.717	NS
😐 Sex	L	1.612	NS	0.837	NS	0.643	NS
😐 Heroin	L	0.278	NS	3.369	NS	0.731	NS
😐 Ecstasy	L	0.173	NS	3.743	NS	1.203	NS
😐 Gateway	L	0.088	NS	0.167	NS	0.007	NS
😐 All drugs	L	1.223	NS	0.028	NS	0.617	NS

Table 3.9c Drug use and sexual behavior (Teens sample)

	Scale	7 days		30days		3 months	
	Direction	F	sig	F	sig	F	sig
😐 Alcohol	L	0.115	NS	0.496	NS	0.077	NS
😐 Marijuana	L	1.965	NS	1.673	NS	0.391	NS
😐 Smoking	L	0.107	NS	1.597	NS	0.000	NS
😐 K	L	0.345	NS	3.203	NS	0.391	NS
😐 "Ice"	L	1.965	NS	1.673	NS	0.391	NS
😐 Heroin	L	0.573	NS	1.784	NS	0.391	NS
😐 Ecstasy	L	0.394	NS	2.570	NS	1.089	NS
😐 Sex	L	1.654	NS	1.206	NS	0.795	NS
😐 Gateway	L	0.010	NS	1.458	NS	0.080	NS
😐 PS	L	0.504	NS	3.072	NS	0.617	NS
😐 All drugs	L	2.849	NS	0.038	NS	0.228	NS

Table 3.9d Drug use and sexual behavior (Kids sample)

	Scale	7 days		30days		3 months	
	Direction	F	sig	F	sig	F	sig
😐 Alcohol	L	0.697	NS	1.111	NS	0.511	NS
😐 Marijuana	L	0.980	NS	1.174	NS	0.002	NS
😐 Smoking	L	2.282	NS	2.083	NS	0.108	NS
😐 K	L	0.985	NS	1.152	NS	0.005	NS
😐 "Ice"	L	0.983	NS	1.174	NS	0.002	NS
😐 Heroin	L	0.991	NS	1.176	NS	0.001	NS
😐 Ecstasy	L	0.983	NS	1.178	NS	0.008	NS
😐 Sex	L	1.454	NS	1.515	NS	0.393	NS
😐 Gateway	L	1.238	NS	1.446	NS	0.544	NS
😐 PS	L	0.984	NS	1.154	NS	0.001	NS
😐 All drugs	L	0.249	NS	0.007	NS	1.375	NS

Table 3.9e Drug use and sexual behavior (Male sample)

	Scale	7 days		30days		3 months	
	Direction	F	sig	F	sig	F	sig
😐 Alcohol	L	0.153	NS	0.257	NS	1.079	NS
😐 Marijuana	L	0.663	NS	0.608	NS	0.728	NS
😐 Smoking	L	0.969	NS	1.567	NS	1.444	NS
😐 K	L	0.672	NS	0.599	NS	0.770	NS
😐 "Ice"	L	0.668	NS	0.608	NS	0.745	NS
😐 Heroin	L	0.682	NS	0.609	NS	0.728	NS
😐 Ecstasy	L	0.665	NS	0.611	NS	0.727	NS
😐 Sex	L	1.683	NS	1.073	NS	1.014	NS
😐 Gateway	L	0.743	NS	1.933	NS	0.494	NS
😐 PS	L	0.669	NS	0.606	NS	0.733	NS
😐 All drugs	L	0.730	NS	0.006	NS	0.994	NS

Table 3.9f Drug use and sexual behavior (Female sample)

	Scale Direction	7 days		30days		3 months	
		F	sig	F	sig	F	sig
🙂 Alcohol	L	0.394	NS	5.455	NS	0.122	NS
🙂 Marijuana	L	0.186	NS	5.695	NS	0.237	NS
🙂 Smoking	L	0.075	NS	0.316	NS	0.775	NS
🙂 K	L	3.629	NS	3.499	NS	0.123	NS
🙂 "Ice"	L	0.654	NS	0.026	NS	0.569	NS
🙂 Heroin	L	3.629	NS	3.499	NS	0.123	NS
🙂 Ecstasy	L	0.386	NS	3.359	NS	0.124	NS
🙂 Sex	L	0.440	NS	3.645	NS	0.460	NS
🙂 Gateway	L	1.703	NS	0.273	NS	0.371	NS
🙂 PS	L	0.042	NS	3.359	NS	0.124	NS
🙂 All drugs	L	2.147	NS	0.019	NS	0.001	NS

Symbols abbreviations:

Non-significant differences	NS
P<=0.0001	****
P<=0.001	***
P <=0.01	**
P <=0.05	*

Higher the better	H
Lower the better	L
"Experimental is better than control"	☺
"No significant difference"	😐
"Control is better than experimental"	☹

Table 3.10 ANCOVA analyses of the pretest, posttest 1 and posttest 2 data

	Post 1- Post 2 Mean		Scale Direction	Main effect Between subject factor Group effect		Interaction effect Group X Time	
	Experimental	Control		F	Sig	F	Sig
Combined Sample (N=339)							
☺ Social skills	18.06	17.80	H	12.519	****	NS	
☺ Refusal skills (Marijuana)	8.39	8.28	H	5.751	*	NS	
Teens Sample (N=192)							
☺ Social skills	17.99	17.98	H	6.147	*	NS	
☺ Drug Knowledge	13.74	13.30	H	7.170	**	NS	
Kids Sample (N=147)							
☺ Social skills	18.19	17.50	H	6.726	*	NS	
☺ Behavioral Intention (Sex)	3.63	3.57	H	5.273	*	NS	
☺ Attitude ("Ice")	10.61	10.82	L	4.781	*	NS	
☺ Refusal skills (Ecstasy)	8.51	8.31	H	4.837	*	NS	
☺ Refusal skills ("Ice")	8.45	8.31	H	5.641	*	NS	
☺ Refusal skills (Marijuana)	8.54	8.27	H	4.327	*	NS	
☺ Refusal skills (Gateway)	7.93	7.67	H	4.479	*	NS	
☺ Refusal skills (PS)	16.15	15.63	H	4.290	*	NS	
☹ Attitude (Alcohol)	15.26	14.28	L	4.297	*	NS	
☹ Attitude (Smoking)	11.09	10.19	L	6.090	*	NS	
Male Sample (N=193)							
☺ Social skills	18.17	17.76	H	10.384	**	NS	
☺ Attitude ("Ice")	11.27	11.28	L	4.857	*	NS	
☺ Refusal skills ("Ice")	8.52	8.32	H	4.774	*	NS	
☺ Refusal skills (Marijuana)	8.56	8.26	H	4.330	*	NS	
Female Sample (N=146)							
☺ Social skills	17.94	17.82	H	NS		4.304	*
☺ Usage (Sex) – 30days	0.04	0.22	L	6.903	**	NS	
☺ Usage (Sex) – 3 months	0.07	0.24	L	4.029	*	NS	
Male Kids Sample (N=101)							
☺ Social skills	18.37	17.12	H	4.976	*	NS	
☺ Behavioral Intention (Sex)	3.62	3.46	H	4.964	*	NS	
☺ Behavioral Intention (Smoking)	3.56	3.46	H	4.918	*	NS	

Table 3.10 (Continued)

	Post 1- Post 2 Mean		Scale Direction	Main effect Between subject factor Group effect		Interaction effect Group X Time	
	Experimental	Control		F	Sig	F	Sig
Male Kids Sample (N=101)							
😊 Refusal skills (Ecstasy)	8.46	8.07	H	4.599	*	NS	
😊 Refusal skills ("Ice")	8.41	8.03	H	4.495	*	NS	
😊 Refusal skills (Gateway)	8.53	8.10	H	NS		5.174	*
😞 Attitude (Alcohol)	15.68	14.40	L	5.143	*	NS	
Female Kids Sample (N=46)							
😊 Refusal skills (Sex)	2.980	2.975	H	5.129	*	NS	
Male Teens Sample (N=92)							
😊 Drug knowledge	13.54	13.32	H	8.176	**	NS	
Female Teens Sample (N=100)							
😊 Attitude (Gateway)	29.50	29.55	L	6.477	*	NS	
😊 Drug knowledge	13.85	13.47	H	4.924	*	NS	

Note: PS includes "ice", Ketamine, marijuana and Ecstasy; Gateway means smoking and alcohol.

Table 3.11 ANCOVA analyses of the pretest, posttest 1 and posttest 2 data in the Drug Group

	Post 1- Post 2 Mean		Scale Direction	Main effect Between subject factor Group effect		Interaction effect Group X Time	
	Experimental	Control		F	Sig	F	Sig
Combined Sample (N=187)							
😊 Social skills	18.31	18.00	H	6.819	**	NS	
😊 Attitude (Gateway)	28.58	29.07	L	4.996	*	NS	
😞 Attitude (Marijuana)	9.62	9.42	L	3.988	*	NS	
Teens Sample (N=135)							
😊 Attitude (Marijuana)	9.61	9.73	L	5.802	*	NS	
😊 Attitude (Gateway)	30.05	30.94	L	8.264	**	NS	
😊 Drug knowledge	13.74	13.20	H	7.293	**	NS	

Table 3.11 (Continued)

	Post 1- Post 2 Mean		Scale Direction	Main effect Between subject factor Group effect		Interaction effect Group X Time	
	Experimental	Control		F	Sig	F	Sig
Kids Sample (N=51)							
☹ Attitude (Ketamine)	11.15	10.83	L	NS		8.602	**
☹ Attitude (Ecstasy)	9.49	8.10	L	4.759	*	NS	
Male Sample (N=100)							
☺ Social skills	18.30	17.92	H	6.253	*	NS	
Female Sample (N=87)							
☺ Attitude (Gateway)	29.50	29.80	L	4.400	*	NS	
☺ Usage (Sex) – 7 days	0.98	2.31	L	7.168	**	NS	
☺ Usage (Sex) – 30 days	1.00	2.12	L	5.970	*	NS	
☺ Usage (Sex) – 3 months	1.00	2.13	L	5.606	*	NS	
Male Kids Sample (N=37)							
☺ Attitude (Ketamine)	11.51	11.57	L	NS		5.221	*
☹ Attitude (Alcohol)	17.00	15.08	L	5.145	*	NS	
Female Kids Sample (N=14)							
☺ Refusal skills (Ecstasy)	9.59	7.55	H	7.550	*	NS	
☺ Refusal skills (Ketamine)	9.56	7.51	H	7.932	*	NS	
☺ Refusal skills ("Ice")	9.49	7.60	H	7.766	*	NS	
☺ Refusal skills (Marijuana)	9.73	7.36	H	10.082	*	NS	
☺ Refusal skills (Heroin)	9.71	7.56	H	10.046	*	NS	
Male Teens Sample (N=62)							
☺ Behavioral Intention ("Ice")	3.76	3.59	H	5.046	*	NS	
☺ Drug knowledge	13.61	13.01	H	5.044	*	NS	
Female Teens Sample (N=73)							
☺ Behavioral Intention (Alcohol)	2.04	1.90	H	5.975	*	NS	
☺ Attitude (Heroin)	11.43	11.55	L	4.278	*	NS	
☺ Attitude (Gateway)	30.82	31.56	L	8.444	**	NS	
☺ Attitude (PS)	46.11	46.35	L	5.544	*	NS	
☹ Attitude (Marijuana)	10.18	10.00	L	4.748	*	NS	

Table 3.11 (Continued)

	Post 1- Post 2 Mean		Scale Direction	Main effect Between subject factor Group effect		Interaction effect Group X Time	
	Experimental	Control		F	Sig	F	Sig
Female Teens Sample (N=73)							
🙂 Usage (Sex) – 7 days	1.17	2.50	L	6.579	*	NS	
🙂 Usage (Sex) – 30 days	1.11	2.25	L	5.818	*	NS	
🙂 Usage (Sex) – 3 months	1.15	2.31	L	5.600	*	NS	

Note: PS includes "ice", Ketamine, marijuana and Ecstasy; Gateway means smoking and alcohol.

Table 3.12 ANCOVA analyses of the pretest, posttest 1 and posttest 2 data in the Non-Drug Group

	Post 1- Post 2 Mean		Scale Direction	Main effect Between subject factor Group effect		Interaction effect Group X Time	
	Experimental	Control		F	Sig	F	Sig
Combined Sample (N=152)							
🙂 Social skills	17.690	17.629	H	5.666	*	NS	
🙂 Refusal skills (Ecstasy)	8.502	8.483	H	7.419	**	NS	
🙂 Refusal skills (Ketamine)	8.519	8.448	H	4.431	*	NS	
🙂 Refusal skills ("Ice")	8.495	8.477	H	9.335	**	NS	
🙂 Refusal skills (Alcohol)	8.182	8.093	H	8.142	**	NS	
☹ Behavioral Intention (PS)	15.17	15.24	H	4.524	*	NS	
Teens Sample (N=56)							
☹ Social skills	16.824	17.627	H	NS		10.289	**
Kids Sample (N=96)							
🙂 Social skills	18.158	17.628	H	4.911	*	NS	
🙂 Refusal skills (Ecstasy)	8.606	8.458	H	5.847	*	NS	
🙂 Refusal skills ("Ice")	8.507	8.491	H	7.563	**	NS	
🙂 Refusal skills (Alcohol)	8.373	8.366	H	6.535	*	NS	
🙂 Refusal skills (smoking)	8.582	8.324	H	4.414	*	NS	
🙂 Refusal skills (Marijuana)	8.602	8.488	H	5.841	*	NS	
🙂 Refusal skills (Gateway)	7.969	7.790	H	4.340	*	NS	
☹ Refusal skills (sex)	2.799	3.104	H	7.439	**	NS	

Table 3.12 (Continued)

	Post 1- Post 2 Mean		Scale Direction	Main effect Between subject factor Group effect		Interaction effect Group X Time	
	Experimental	Control		F	Sig	F	Sig
Male Sample (N=93)							
☺ Social skills	17.899	17.726	H	4.740	*	NS	
☺ Refusal skills (Ketamine)	8.756	8.217	H	4.159	*	NS	
☺ Refusal skills ("Ice")	8.655	8.276	H	6.032	*	NS	
☺ Refusal skills (Alcohol)	8.429	7.877	H	6.020	*	NS	
☺ Refusal skills (Marijuana)	8.748	8.301	H	5.639	*	NS	
☺ Sex knowledge	5.960	5.378	H	4.045	*	NS	
☹ Usage (Gateway) – 30 days	2.17	1.59	L	4.205	*	NS	
Female Sample (N=59)							
☺ Usage (Alcohol) – 30 days	1.12	1.54	L	5.797	*	NS	
☺ Usage (Alcohol) – 3 months	1.10	1.53	L	6.583	*	NS	
☺ Usage (Gateway) – 30 days	1.81	2.56	L	4.784	*	NS	
☹ Social skills	17.338	17.561	H	NS		4.681	*
☹ Behavioral Intention (Ketamine)	3.558	3.710	H	NS		4.330	*
☹ Refusal skills (Heroin)	8.253	8.952	H	4.459	*	NS	
Male Kids Sample (N=64)							
☺ Behavioral Intention (Ketamine)	3.75	3.49	H	5.235	*	NS	
☺ Behavioral Intention (Sex)	3.68	3.36	H	4.54	*	NS	
☺ Behavioral Intention (Alcohol)	3.58	3.18	H	4.86	*	NS	
☺ Behavioral Intention (Smoking)	3.62	3.43	H	9.164	**	NS	
☺ Behavioral Intention (PS)	15.01	13.89	H	4.36	*	NS	
☺ Refusal skills (Ecstasy)	8.436	8.434	H	6.387	*	NS	
☺ Refusal skills (Ketamine)	8.78	8.06	H	5.958	*	NS	
☺ Refusal skills ("Ice")	8.66	8.08	H	6.047	*	NS	
☺ Refusal skills (Heroin)	8.75	8.21	H	5.477	*	NS	
☺ Refusal skills (Marijuana)	8.78	8.12	H	8.435	**	NS	
☺ Refusal skills (Alcohol)	8.62	8.14	H	4.207	*	NS	
☺ Refusal skills (Smoking)	8.81	8.04	H	7.96	**	NS	
☺ Usage (Smoking) – 7 days	0.46	0.70	L	11.376	**	NS	
☺ Usage (Smoking) – 3 months	0.48	0.63	L	6.456	*	NS	

Table 3.12 (Continued)

	Post 1- Post 2 Mean		Scale Direction	Main effect Between subject factor Group effect		Interaction effect Group X Time	
	Experimental	Control		F	Sig	F	Sig
Male Kids Sample (N=64)							
😞 Attitude (PS)	55.01	53.89	L	4.83	*	NS	
😞 Refusal skills (Sex)	2.70	3.09	H	7.193	**	NS	
Female Kids Sample (N=32)							
😊 Refusal skills (PS)	16.98	15.72	H	7.109	*	NS	
😊 Usage (Alcohol) – 3 months	1.10	1.31	L	4.879	*	NS	
😊 Usage (Gateway) – 3 months	1.59	1.88	L	5.672	*	NS	
Male Teens Sample (N=29)							
😊 Attitude ("Ice")	11.444	11.703	L	6.298	*	NS	
😊 Refusal skills ("Ice")	8.852	8.516	H	NS		5.558	*
😊 Refusal skills (Marijuana)	8.854	8.513	H	NS		6.922	*
Female Teens Sample (N=27)							
😊 Social skills	16.979	16.375	H	NS		8.105	**
😊 Drug knowledge	14.037	13.268	H	NS		5.324	*

Note: i) PS includes "ice", Ketamine, marijuana and Ecstasy; Gateway means smoking and alcohol.

ii) In Male Kids analysis, "All Drugs" and "Existential Well-Being" were excluded from the covariates.

Symbols abbreviations:

Non-significant differences	NS
P<=0.0001	****
P<=0.001	***
P <=0.01	**
P <=0.05	*

Higher the better	H
Lower the better	L
"Experimental is better than control"	😊
"No significant difference"	😐
"Control is better than experimental"	😞

Table 3.13 ANCOVA analyses of the pretest, posttest 1, posttest 2 and posttest 3 data

	Post 1- Post 2- Post 3 Mean		Scale Direction	Main effect		Interaction effect	
				Between subject factor Group effect		Group X Time	
	Experimental	Control		F	Sig	F	Sig
Combined Sample (N= 69)							
🙂 Self Esteem	15.10	13.17	H	NS		4.009	*

Note:
  i) PS includes "ice", Ketamine, marijuana and Ecstasy; Gateway means smoking and alcohol.
  ii) In Combined analysis, "Stress" and "Existential Well-Being" were excluded from the covariates.

Symbols abbreviations:

Non-significant differences	NS
P<=0.0001	****
P<=0.001	***
P <=0.01	**
P <=0.05	*

Higher the better	H
Lower the better	L
"Experimental is better than control"	🙂
"No significant difference"	😐
"Control is better than experimental"	🙁

Figure 3.1 Lack of difference between experimental group and control group on social skills based on the pretest-posttest 1 data vs. related significant difference between experimental group and control group based on the pretest-posttest 1-posttest 2 data in the Non-Drug Group

Outcome Variables: Social skills

$F=0.15$, $p>0.05$ $F=5.67$, $p<0.05$

Pretest-Post 1   Pretest-Post 1-Post 2

□ Experimental
□ Control

* Higher the better

Figure 3.2 Lack of difference between experimental group and control group on refusal skills towards ketamine based on the pretest-posttest 1 data vs. related significant difference between experimental group and control group based on the pretest-posttest 1-posttest 2 data in the Non-Drug Group

Figure 3.3 Lack of difference between experimental group and control group on drug knowledge based on the pretest-posttest 1 data vs. related significant difference between experimental group and control group based on the pretest-posttest 1-posttest 2 data in the Teens Sample

50
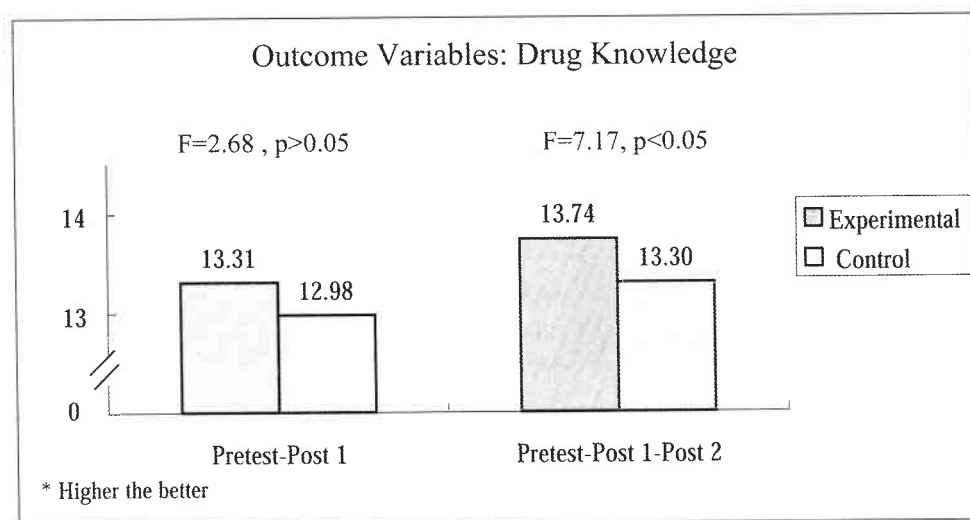
Figure 3.4 Lack of difference between experimental group and control group on the attitude towards marijuana based on the pretest-posttest 1 data vs. related significant difference between experimental group and control group based on the pretest-posttest 1-posttest 2 data in the Teens Sample of the Drug Group
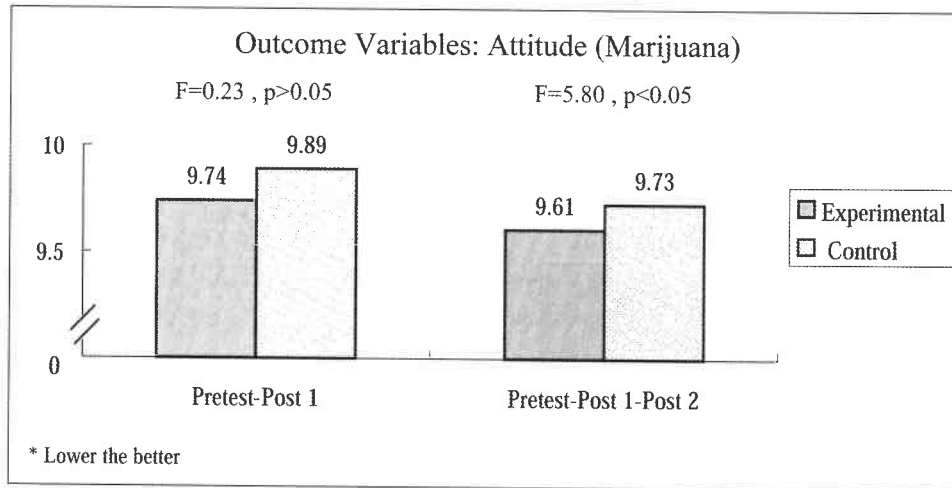
Figure 3.5 Lack of difference between experimental group and control group on refusal skills towards psychotropic substances based on the pretest-posttest 1 data vs. related significant difference between experimental group and control group based on the pretest-posttest 1-posttest 2 data in the Kids Sample
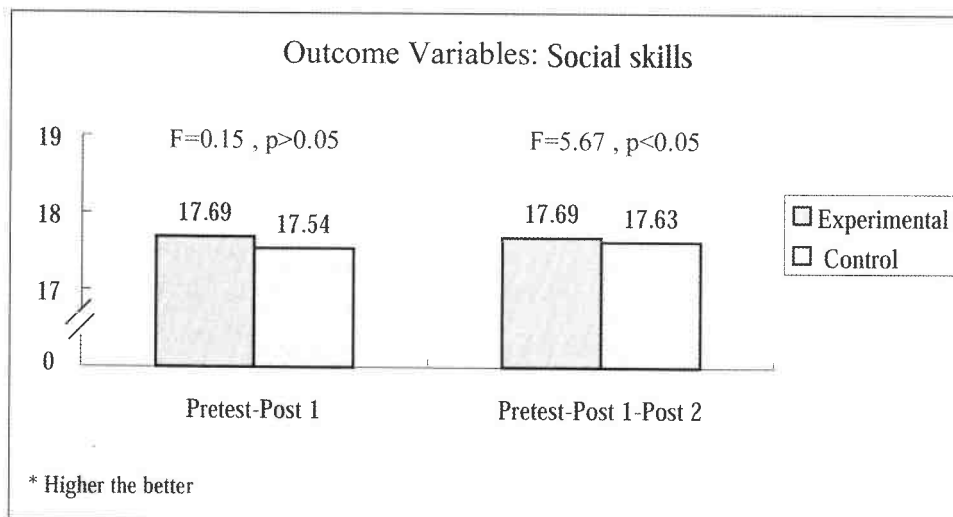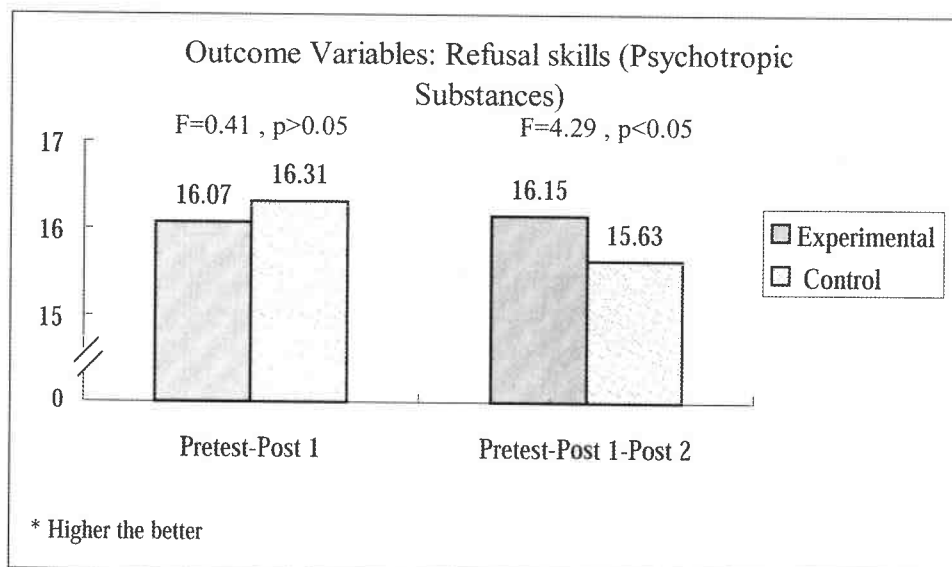
Figure 3.6 Lack of difference between experimental group and control group on attitude towards "ice" based on the pretest-posttest 1 data vs. related significant difference between experimental group and control group based on the pretest-posttest 1-posttest 2 data in the Kids Sample

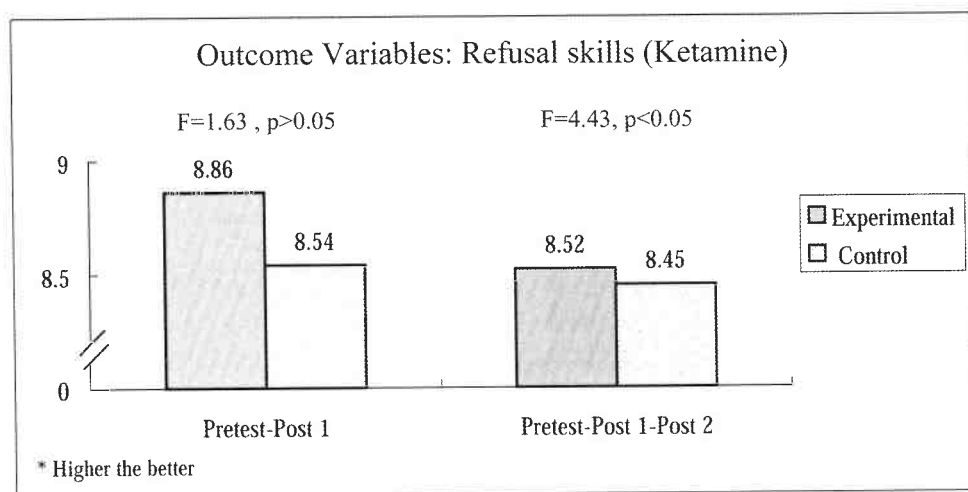Figure 3.7 Lack of difference between experimental group and control group on social skills based on the pretest-posttest 1 data vs. related significant difference between experimental group and control group based on the pretest-posttest 1-posttest 2 data in the Male Sample of the Drug Group

Figure 3.8 Lack of difference between experimental group and control group on attitude towards gateway drugs based on the pretest-posttest 1 data vs. related significant difference between experimental group and control group based on the pretest-posttest 1-posttest 2 data in the Female Sample of the Drug Group
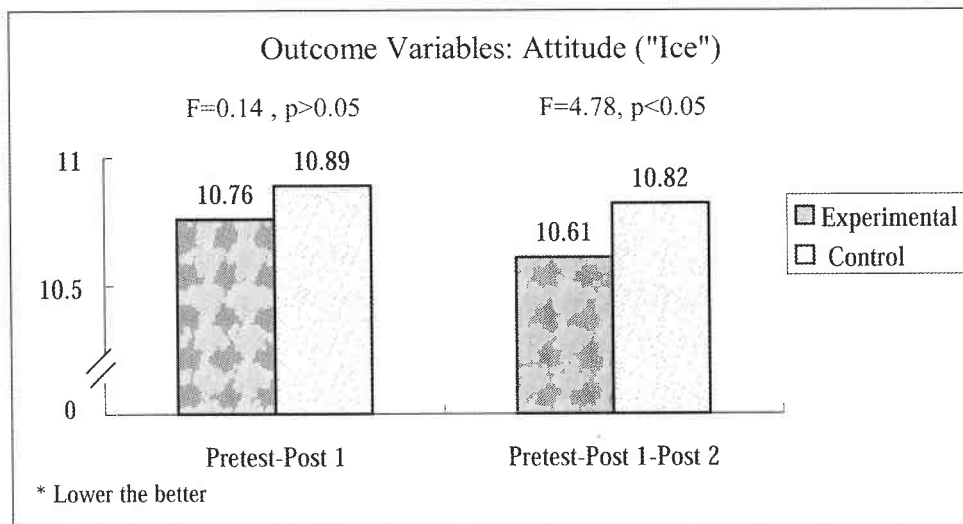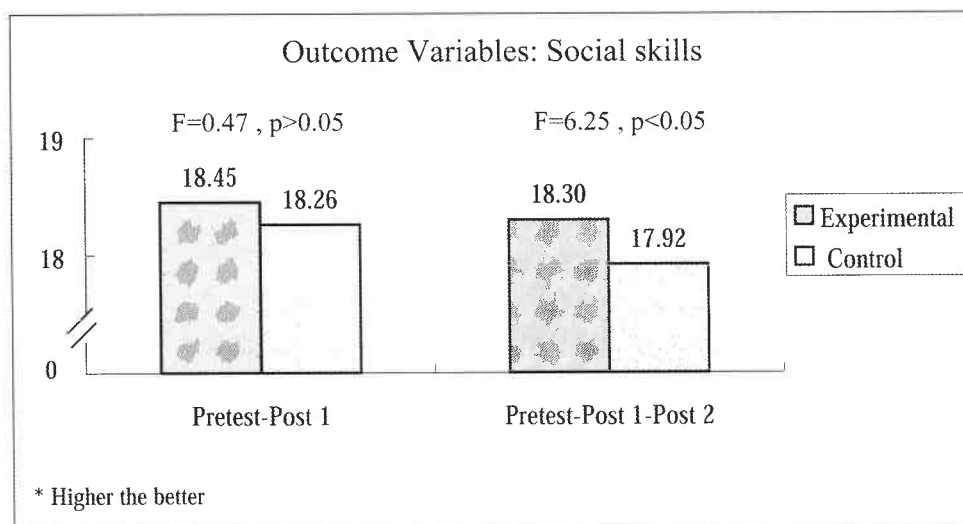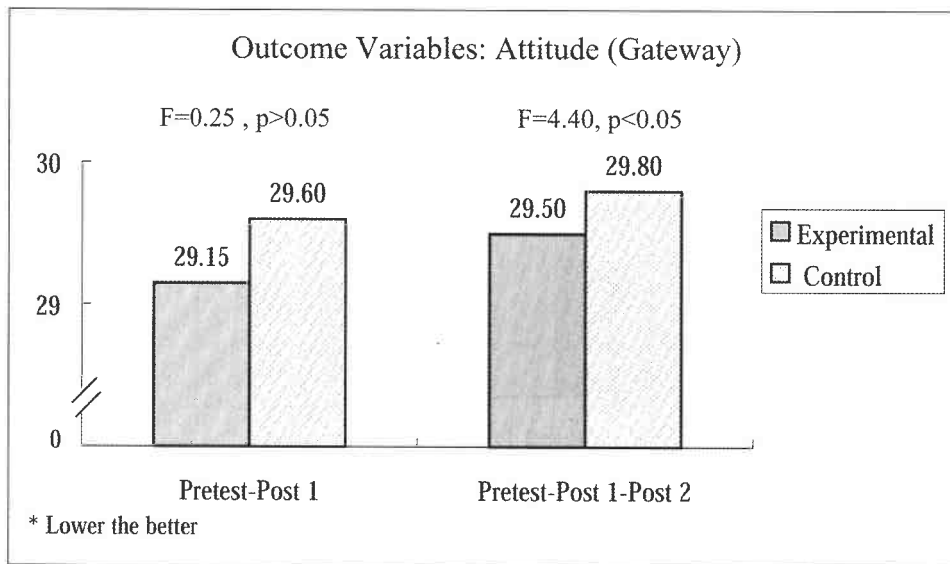

Figure 3.9 Time X Group interaction effect on self-esteem using Posttest 1-Posttest 2-Posttest 3 Data (with significant difference between the experimental group and control group at Post 3, p < .05)
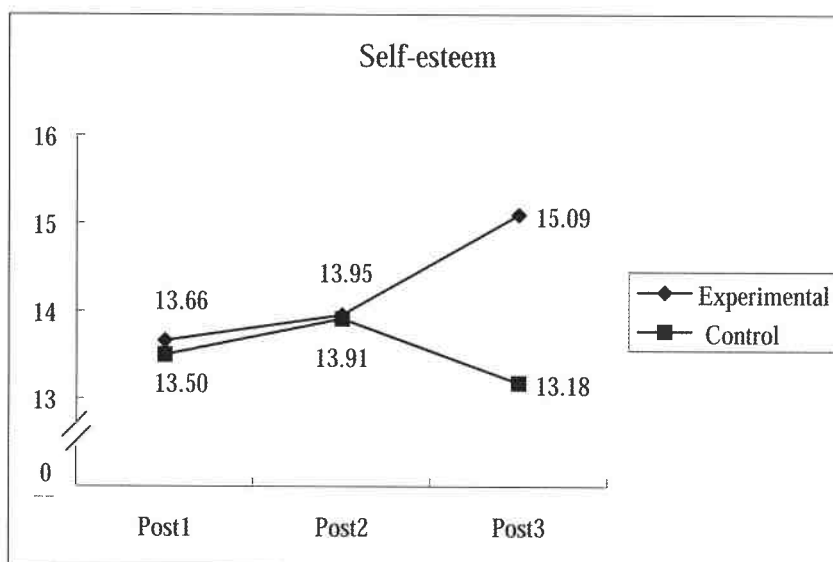
Figure 3.10 Summary of the significant findings based on different datasets in the total sample

Total Sample		Combined	Teens	Kids	Male	Female	Male Kids	Female Kids	Male Teens	Female Teens
Social skills		☺😐☺	😐☺	😐☺	😐☺	😐☺*	😐☺			
Behavioral Intention	Ecstasy									
	Ketamine									
	"Ice"									
	Sex		😐☺				😐☺			
	Heroin									
	Marijuana									
	Alcohol									
	Smoking					☹😐	😐☺			
	Gateway									
	PS									
	All drugs									
Attitude	Ecstasy						☹😐			
	Ketamine									
	"Ice"			😐☺	😐☺			☺😐		
	Sex									
	Heroin									
	Marijuana			☹😐			☹😐			
	Alcohol			😐☹			😐☹			
	Smoking		☹😐😐		☹☹	☹😐		☹😐		
	Gateway									😐☺
	PS									
	All drugs						☹😐			
Refusal skills	Ecstasy			😐☺			😐☺			
	Ketamine									
	"Ice"			😐☺	😐☺		😐☺			
	Sex							😐☺		
	Heroin									
	Marijuana		😐☺😐	😐☺	😐☺					
	Alcohol									
	Smoking									
	Gateway			😐☺			😐☺*			
	PS			😐☺						
	All drugs									
Drug Knowledge			😐☺						😐☺	😐☺
Sex Knowledge		☺😐☺	☺😐		☺😐	☺😐				
All Knowledge		☺😐☺								
Self Esteem		😐😐*								

Note: In the boxes with "faces" in the Combined Sample, the first "face" represents findings based on the pretest-posttest 1 data, the second "face" represents findings based on the pretest-posttest 1-posttest 2 data, and the third "face" or asterisk represents findings based on the pretest-posttest 1-posttest 2-posttest 3 data. In other samples, the first "face" represents findings based on the pretest-posttest 1 data and the second "face" or asterisk represents findings based on the pretest-posttest 1-posttest 2 data. In boxes without the "faces", it means that the experimental group and the control group did not differ at the different time points.

☺   Experimental Group significantly better than the Control Group
😐   No significant difference between the Experimental Group and Control Group
☹   Control Group significantly better than the Experimental Group
*   Significant interaction effect

Figure 3.11 Summary of the significant findings in the Drug Group in the different samples based on different data sets

Drug Group		Combined	Teens	Kids	Male	Female	Male Kids	Female Kids	Male Teens	Female Teens
Social skills		☺☺		☺😐	😐☺	☺😐				
Behavioral Intention	Ecstasy						☺😐			
	Ketamine						☺😐			
	"Ice"								😐☺	
	Sex									
	Heroin			☺😐			☺😐			
	Marijuana									
	Alcohol									😐☺
	Smoking									
	Gateway									
	PS									
	All drugs						☺😐			
Attitude	Ecstasy			😐☹						
	Ketamine			😐☹*			😐☺*			
	"Ice"									
	Sex									
	Heroin									😐☺
	Marijuana		😐☹	😐☺				☹😐			😐☹
	Alcohol						😐☹			
	Smoking						☹😐			
	Gateway		😐☺	😐☺		😐☺				😐☺
	PS									😐☺
	All drugs									
Refusal skills	Ecstasy			☹😐				😐☺		
	Ketamine			☹😐	☹😐			😐☺		
	"Ice"							☹☺		
	Sex									
	Heroin							😐☺		
	Marijuana							😐☺		
	Alcohol			☹😐	☹😐					
	Smoking									
	Gateway									
	PS									
	All drugs									
Drug Knowledge			😐☺						😐☺	
Sex Knowledge		☺😐	☺😐			☺😐				
All Knowledge						☺😐				☺😐

Note: In the boxes with "faces", the first "face" represents findings based on the pretest-posttest 1 data and the second "face" or asterisk represents findings based on the pretest-posttest 1-posttest 2 data. In boxes without the "faces", it means that the experimental group and the control group did not differ at the different time points.

☺   Experimental Group significantly better than the Control Group
😐   No significant difference between the Experimental Group and Control Group
☹   Control Group significantly better than the Experimental Group
*   Significant interaction effect

Figure 3.12 Summary of the significant findings in the Non-Drug Group in the different samples based on different data sets

Non-Drug Group		Combined	Teens	Kids	Male	Female	Male Kids	Female Kids	Male Teens	Female Teens
Social skills		😐☺	😐☹*	😐☺	😐☺	😐☹*				😐☺*
Behavioral Intention	Ecstasy									
	Ketamine					😐☹*	😐☺			
	"Ice"									
	Sex						😐☺			
	Heroin									
	Marijuana									
	Alcohol						😐☺			
	Smoking						☹☺			
	Gateway									
	PS	😐☹					😐☺			
	All drugs									
Attitude	Ecstasy									
	Ketamine									
	"Ice"								😐☺	
	Sex									
	Heroin									
	Marijuana	☹😐				☹😐				
	Alcohol						☹😐			
	Smoking						☹😐			
	Gateway									
	PS						😐☹	☺😐		
	All drugs									
Refusal skills	Ecstasy	😐☺		😐☺			😐☺		☺😐	
	Ketamine	😐☺			☺☺		😐☺		☺☺	
	"Ice"	😐☺		😐☺	☺☺		😐☺		😐☺*	
	Sex			😐☹			😐☹			
	Heroin				☺😐	😐☹	😐☺			
	Marijuana			😐☺	😐☺		😐☺		😐☺*	
	Alcohol	😐☺		😐☺	☺☺		😐☺			
	Smoking			😐☺	☺☺		😐☺			
	Gateway			😐☺						
	PS							😐☺	☺😐	
	All drugs								☺😐	
Drug Knowledge					☺😐				☺😐	😐☺*
Sex Knowledge					😐☺					
All Knowledge					☺😐		☺😐		☺😐	

Note: In the boxes with "faces", the first "face" represents findings based on the pretest-posttest 1 data and the second "face" or asterisk represents findings based on the pretest-posttest 1-posttest 2 data. In boxes without the "faces", it means that the experimental group and the control group did not differ at the different time points.

☺ Experimental Group significantly better than the Control Group
😐 No significant difference between the Experimental Group and Control Group
☹ Control Group significantly better than the Experimental Group
* Significant interaction effect

Chapter 4
Results of Evaluation Area 2:
Subjective Outcome Evaluation

Subjective Outcomes Based on Participants of the Astro Kids Program (N=106)

The findings on the participants' evaluation of the details of the program are shown in Table 4.1 to 4.6. As shown in Table 4.1, most of them were satisfied with the provision of information (89% were satisfied or very satisfied), arrangements of the day camp (71% were satisfied or very satisfied), provision of materials (90% were satisfied or very satisfied), worker's performance (85% were satisfied or very satisfied), refreshments (81% were satisfied or very satisfied), arrangement of group activities (86% were satisfied or very satisfied), and other activities (83% were satisfied or very satisfied). Furthermore, most of them were of the view that qualities of the different aspects of the program were good or very good with respect to the provision of information (85%), arrangements of the day camp (72%), provision of materials (82%), worker's performance (83%), refreshments (81%), arrangement of group activities (79%) and arrangement of other activities (84%).

Generally speaking, most of the participants felt that the program was either helpful or very helpful for adolescents in the areas of drug refusal attitudes (86%), improvement of drug refusal skills (88%), drug refusal behavior (89%), increase in social skills (87%) and increase of drug knowledge (90%). The findings can be seen in Table 4.2. Similarly, most of the participants held the views that the program could help group members to distance them from smoking (88% of the responses were "Helpful" or "Very Helpful"), usage of other drugs (93% of the responses were "Helpful" or "Very Helpful") as well as early sex (89% of the responses were "Helpful" or "Very Helpful"). The related findings are presented in Table 4.6 and Figure 4.1.

The responses to the three open-ended questions can be seen in Table 4.3 to Table 4.5. To enhance the reliability of the coding, a certain proportion of the responses to each question were randomly selected for inter-rater reliability checking. The findings suggest that the coding systems adopted were reliable.

Subjective Outcomes Based on Participants of the Astro Teens Program (N=175)

The findings on the participants' evaluation of the details of the program are shown in Table 4.7 to Table 4.12. From Table 4.7, results showed that most of them were satisfied with the provision of information (92% were satisfied or very satisfied), arrangements of the day camp (74% were satisfied or very satisfied), provision of materials (87% were satisfied or very satisfied), worker's performance (92% were satisfied or very satisfied), refreshments (74% were satisfied or very satisfied), arrangement of group activities (78% were satisfied or very satisfied), and other activities (82% were satisfied or very satisfied). Furthermore, most of them were of the view that qualities of the different aspects of the program were good or very good with respect to the provision of information (87%), arrangements of the

day camp (72%), provision of materials (87%), worker's performance (88%), refreshments (73%), and arrangement of group activities (77%).

Generally speaking, most of the participants felt that the program was either helpful or very helpful for adolescents in the areas of drug refusal attitudes (86%), improvement of drug refusal skills (84%), drug refusal behavior (81%), increase in social skills (83%) and increase of drug knowledge (89%). The results can be seen in Table 4.8. Similarly, most of the participants held the views that the program could help group members to distance them from smoking (74% of the responses were "Helpful" or "Very Helpful"), drinking (73%), usage of other drugs (86% of the responses were "Helpful" or "Very Helpful") and early sex (78% of the responses were "Helpful" or "Very Helpful"). The related findings are presented in Table 4.12 and Figure 4.2.

The responses to the three open-ended questions can be seen in Table 4.9 to Table 4.11. To enhance the reliability of the coding, a certain proportion of the responses to each question were randomly selected for inter-rater reliability checking. The findings suggest that the coding systems adopted were reliable.

Subjective Outcomes Based on Workers of the Astro Kids Program (N=13)

The findings on the workers' evaluation of the details of the program are shown in Table 4.13 to Table 4.18. From Table 4.13, results showed that most of them were satisfied with the provision of information (100% were satisfied or very satisfied), arrangements of the day camp (39% were satisfied and 46% had no opinion), provision of materials (100% were satisfied or very satisfied), worker's performance (92% were satisfied), refreshments (100% were satisfied or very satisfied), arrangement of group activities (100% were satisfied) and other activities (69% were satisfied). Furthermore, most of them were of the view that qualities of the different aspects of the program were good or very good with respect to the provision of information (92%), arrangements of the day camp (39% with "Good" and 46% had no opinion), provision of materials (100%), worker's performance (92%), refreshments (100%), arrangement of group activities (92%), and other activities (69%).

Generally speaking, most of the workers felt that the program was either helpful or very helpful for adolescents in the areas of drug refusal attitudes (85%), improvement of drug refusal skills (85%), drug refusal behavior (62%), increase in social skills (85%) and increase of drug knowledge (92%). The findings can be seen in Table 4.14. Similarly, most of the workers held the views that the program could help group members to distance them from smoking (84% of the responses were "Helpful" or "Very Helpful"), usage of other drugs (92% of the responses were "Helpful" or "Very Helpful") and early sex (77% of the responses were "Helpful" or "Very Helpful"). The findings can be seen in Table 4.18 and Figure 4.3.

The responses to the three open-ended questions can be seen in Table 4.15 to Table 4.17. To enhance the reliability of the coding, a certain proportion of the responses for each question were randomly selected for inter-rater reliability checking. The findings suggest that the coding systems adopted were reliable.

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Subjective Outcomes Based on Workers of the Astro Teens program (N=21)

The findings on the workers' evaluation of the details of the program are shown in Table 4.19 to Table 4.24. From Table 4.19, results showed that most of them were satisfied with the provision of information (95% were satisfied or very satisfied), arrangements of the day camp (81% were satisfied or very satisfied), provision of materials (95% were satisfied or very satisfied), worker's performance (95% were satisfied or very satisfied), refreshments (96% were satisfied or very satisfied), and arrangement of group activities (81% were satisfied or very satisfied). Furthermore, most of them were of the view that qualities of the different aspects of the program were good or very good with respect to the provision of information (95%), arrangements of the day camp (76%), provision of materials (86%), worker's performance (95%), refreshments (90%), and arrangement of group activities (76%).

Generally speaking, most of the workers felt that the program was either helpful or very helpful for adolescents in the areas of drug refusal attitudes (95%), improvement of drug refusal skills (81%), drug refusal behavior (90%), increase in social skills (81%) and increase of drug knowledge (95%). The findings can be seen in Table 4.20. Similarly, most of the workers held the views that the program could help group members to distance them from smoking (52% of the responses were "Helpful" or "Very Helpful"), drinking (47%), usage of other drugs (95% of the responses were "Helpful" or "Very Helpful"), as well as early sex (86% of the responses were "Helpful" or "Very Helpful"). The findings can be seen in Table 4.24 and Figure 4.4.

The responses to the three open-ended questions can be seen in Table 4.21 to Table 4.23. To enhance the reliability of the coding, a certain proportion of the responses for each question were randomly selected for inter-rater reliability checking. The findings suggest that the coding systems adopted were reliable.

Integration of the Findings on Subjective Outcome Measures

Overall speaking, the subjective outcome evaluation data regarding the global evaluation of the Astro Teens and Astro Kids programs based on the workers and participants clearly indicate that most of the workers and participants were satisfied with the programs. They also perceived many positive features of the program and they felt that the programs were helpful to the participants in drug prevention in terms of knowledge acquisition, healthy attitude formation and building up of resistance against substance abuse.

Table 4.1 Degree of satisfaction with and perceived qualities of the program amongst participants of the Astro Kids program (N=106)

	Level of Satisfaction					Qualities of the Program				
	Very Dis-satisfied	Dis-satisfied	Satisfied	Very Satisfied	Missing value	Very Poor	Poor	Good	Very Good	Missing Value
Information giving	5%	5%	50%	39%	1%	5%	5%	47%	38%	5%
Arrangement of Day Camp activities	5%	6%	38%	33%	18%	3%	7%	39%	33%	18%
Resources giving	3%	6%	43%	47%	1%	1%	13%	41%	41%	4%
Performance of workers	6%	7%	41%	44%	2%	6%	7%	43%	40%	4%
Refreshments	6%	7%	35%	46%	6%	3%	7%	36%	45%	9%
Arrangement of the program (e.g. place, activities, time, etc.)	4%	7%	33%	53%	3%	3%	13%	30%	49%	5%
Other activities	7%	3%	42%	41%	7%	2%	5%	42%	42%	9%

Table 4.2 Perceived degree of helpfulness of the Astro Kids program by the participants

	Degree of Helpfulness			
	Not At All Helpful	Slightly Helpful	Helpful	Very Helpful
Attitude towards refusing drugs	7%	7%	41%	45%
Improvement of refusal skills towards drugs	6%	6%	40%	48%
Behavior on refusing drugs	4%	7%	37%	52%
Improvement of social skills	4%	9%	50%	37%
Enhancement of drug knowledge	3%	7%	37%	53%

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Table 4.3 Participants' perceptions of the most important things that they had learned from the Astro Kids program

No.	Things	N	Percentage
1	Not to take drugs (拒絕毒品)	22	16%
2	Refusal skills (拒絕技巧)	13	9%
3	Harmful effect of smoking (吸煙的害處)	13	9%
4	Drug knowledge (藥物知識)	11	8%
5	Harmful effect of abusing drugs (濫藥的害處)	11	8%
6	Learned much knowledge (學習很多知識)	7	5%
7	Sex knowledge (性知識)	6	4%
8	Communication with others (與別人相處和溝通)	6	4%
9	Self understanding (認識自己)	5	4%
10	Friendship (友誼)	3	2%
11	Learning how to communicate with family members (學習怎樣與家人相處)	3	2%
12	Peer pressure affecting personal development (朋輩對自己的影響)	3	2%
13	Coping with stress (壓力的處理)	2	2%
14	Differentiating right and wrong (懂得分辨是與非)	2	2%
15	Expressing personal views (勇於表達自己的意見)	1	1%
16	No comments	31	22%
Total		139	100%

Remarks: Out of 35 randomly selected responses, the first rater and second rater agreed on 30 responses over the classification (inter-rater reliability= 85.71%).

Table 4.4 Comments and suggestions from members on how the Astro Kids program could be improved

No.	Items	No.	Percentage
1	More activities (多 D 活動)	5	5%
2	Longer period of time (時間長 D)	4	4%
3	Increase the number of group members (增加組員的數目)	2	2%
4	Control the noise among group members (組員開組時要靜 D 、不要吵)	2	2%
5	Improving personal attitude (改善自己的態度)	2	2%
6	More prize-giving(獎品豐富 D)	2	2%
7	Improving the performance of workers (改善工作員的表現)	1	1%
8	Improving the relationship among group members (改善組員間的關係)	1	1%
9	More interaction among group members (組員投入 D)	1	1%
10	Larger places for group work activities (小組可以在較大的活動地方進行)	1	1%
11	More refreshments (茶點可以豐富 D)	1	1%
12	Improving social skills (改善自己的社交技巧)	1	1%
13	No comments	83	77%
Total		106	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 18 responses over the classification (inter-rater reliability= 90%).

Table 4.5 Degree of willingness of the members to recommend the Astro Kids program to other people

No.	Items	No. of people	Percentage
1	Yes	72	68%
2	No	16	15%
3	Possibly	1	1%
4	No comments	17	16%
Total		106	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 20 responses over the classification (inter-rater reliability= 100%).

Table 4.6 Perceptions of the degree of helpfulness of the Astro Kids program amongst the participants

	Degree of Helpfulness				
	Not At All Helpful	Slightly Helpful	Helpful	Very Helpful	Missing Value
Do you think "Astro Kids" can help you to stay away from smoking?	3%	7%	31%	57%	2%
Do you think "Astro Kids" can help you to stay away from drugs (e.g. Cannabis, Heroin, Ketamine, MDMA, Ice)?	1%	5%	25%	68%	1%
Do you think "Astro Kids" can help you to prevent early sex?	3%	7%	30%	59%	1%

Table 4.7 Degree of satisfaction with and perceived qualities of the program amongst participants of the Astro Teens program (N=175)

	Level of Satisfaction					Perceived Qualities				
	Very Dis-satisfied	Dis-satisfied	Satisfied	Very Satisfied	Missing value	Very Poor	Poor	Good	Very Good	Missing Value
Information giving	3%	4%	69%	23%	1%	1%	6%	69%	18%	6%
Arrangement of Day Camp activities	3%	14%	51%	23%	9%	0%	13%	49%	23%	15%
Resources giving	3%	9%	65%	22%	1%	1%	8%	65%	22%	4%
Performance of workers	1%	5%	57%	35%	2%	1%	5%	56%	32%	6%
Refreshments	4%	14%	47%	27%	8%	4%	10%	51%	22%	13%
Arrangement of the program (e.g. place, activities, time, etc.)	2%	18%	56%	22%	2%	1%	17%	56%	21%	5%
Other activities	1%	9%	57%	25%	8%	1%	10%	56%	22%	11%

Table 4.8 Perceived degree of helpfulness of the Astro Teens program by the participants

	Degree of Helpfulness				
	Not At All Helpful	Slightly Helpful	Helpful	Very Helpful	Missing Value
Attitude towards refusing drugs	3%	11%	60%	26%	0%
Improvement of refusal skills towards drugs	2%	13%	53%	31%	1%
Behavior on refusing drugs	3%	15%	49%	32%	1%
Improvement of social skills	3%	14%	52%	31%	0%
Enhancement of drug knowledge	2%	9%	47%	42%	0%

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Table 4.9 Participants' perceptions of the most important things that they had learned from the Astro Teens program

No.	Things	N	Percentage
1	Drug knowledge (藥物的知識)	23	11%
2	Harmful effect of abusing drugs (濫藥的害處)	19	9%
3	Not to take drugs (拒絕毒品)	19	9%
4	Team spirit and co-operation (團結和合作)	17	8%
5	Sex knowledge (性知識)	16	7%
6	Refusal skills (拒絕技巧)	13	6%
7	Understanding other group members (認識其他組員)	6	3%
8	Improving social skills (改善人際關係)	6	3%
9	Self understanding (自我認識)	6	3%
10	Learning to get along with others (學習與其他人相處)	6	3%
11	Respecting other people (尊重別人)	4	2%
12	Harmful effect of smoking (吸煙的害處)	4	2%
13	Emotional control (情緒控制)	3	1%
14	Taking care of others (關心別人)	2	1%
15	Learning different knowledge (不同類型的知識)	2	1%
16	Choosing friends (學習選擇朋友)	2	1%
17	Procedure and methods on decision-making (抉擇的步驟和方法)	1	0%
18	Setting up goal (定下目標)	1	0%
19	Expressing personal view (表達自己的意見)	1	0%
20	Improving family relationship (改善家庭關係)	1	0%
21	Releasing stress (怎樣舒緩壓力)	1	0%
22	No comments	66	30%
Total		219	100%

Remarks: Out of 45 randomly selected responses, the first rater and second rater agreed on 40 responses over the classification (inter-rater reliability= 88.89%).

Table 4.10 Comments and suggestions from members for improving the Astro Teens program

No.	Things	N	Percentage
1	More refreshments (食物多 D)	18	9%
2	More exciting activities (遊戲可以生動些)	17	9%
3	More outdoor activities such as over-night camp (舉辦戶外活動，例如宿營)	17	9%
4	Better time management (時間方面可以配合得好 D)	16	7%
5	More group sessions (增加小組節數)	4	2%
6	Improving the arrangement for the program venue (改善開組地點的安排)	3	2%
7	More interaction among group members (組員可以投入些)	2	1%
8	Increasing the number of group members (組員的數目可以增加)	2	1%
9	Reducing the number of questionnaires (減少填寫問卷的數目)	2	1%
10	Group members have the right to choose (組員可以有選擇的權利)	1	1%
11	More prize-giving (獎品豐富 D)	1	1%
12	Arranging more voluntary services (安排義工服務)	1	1%
13	No comments	110	56%
Total		194	100%

Remarks: Out of 40 randomly selected responses, the first rater and second rater agreed on 34 responses over the classification (inter-rater reliability= 85%).

Table 4.11 Degree of willingness of the members to recommend the Astro
Teens program to other people

No.	Response	N	Percentage
1	Yes	107	61%
2	No	21	12%
3	Possibly	4	2%
4	No comments	43	25%
Total		175	100%

Remarks: Out of 35 randomly selected responses, the first rater and second rater agreed on 35 responses over the classification (inter-rater reliability= 100%).

Table 4.12 Perceptions of the degree of helpfulness of the Astro Teens program amongst the participants

	Level of Helpfulness				
	Not At All Helpful	Slightly Helpful	Helpful	Very Helpful	Missing Value
Do you think "Astro Teens" can help you to stay away from smoking?	10%	15%	46%	28%	1%
Do you think "Astro Teens" program can help you to stay away from alcohol?	10%	16%	47%	26%	1%
Do you think "Astro Teens" can help you to stay away from drugs (e.g. Cannabis, Heroin, Ketamine, MDMA, Ice) ?	5%	8%	42%	44%	1%
Do you think "Astro Teens"can help you to prevent early sex?	11%	10%	42%	36%	1%

Table 4.13 Degree of satisfaction with and perceived qualities of the program amongst workers of the Astro Kids program (N=13)

	Level of Satisfaction					Perceived Qualities				
	Very Dis-satisfied	Dis-satisfied	Satisfied	Very Satisfied	Missing value	Very Poor	Poor	Good	Very Good	Missing Value
Information giving	0%	0%	85%	15%	0%	0%	8%	77%	15%	0%
Arrangement of Day Camp activities	0%	15%	39%	0%	46%	0%	15%	39%	0%	46%
Resources giving	0%	0%	69%	31%	0%	0%	0%	92%	8%	0%
Performance of workers	0%	8%	92%	0%	0%	0%	8%	92%	0%	0%
Refreshments	0%	0%	92%	8%	0%	0%	0%	92%	8%	0%
Arrangement of the program (e.g. place, activities, time, etc.)	0%	0%	100%	0%	0%	0%	0%	92%	0%	8%
Other activities	0%	0%	69%	0%	31%	0%	0%	69%	0%	31%

Table 4.14 Perceived degree of helpfulness of the Astro Kids program by the workers

	Degree of Helpfulness			
	Not At All Helpful	Slightly Helpful	Helpful	Very Helpful
Attitude towards refusing drugs	0%	15%	54%	31%
Improvement of refusal skills towards drugs	0%	15%	39%	46%
Behavior on refusing drugs	0%	38%	54%	8%
Improvement of social skills	0%	15%	62%	23%
Enhancement of drug knowledge	0%	8%	69%	23%

Table 4.15 Workers' perceptions of the most important things that participants of the Astro Kids program had learned from the program

No.	Things	N	Percentage
1	Drug knowledge (藥物知識)	6	27%
2	Refusal skills (拒絕技巧)	4	18%
3	Awareness of the harmful effect of gateway drugs (煙酒的禍害)	2	9%
4	Interaction with others (待人接物的態度)	2	9%
5	Sex knowledge (性知識)	2	9%
6	Respecting other people (尊重別人)	1	4%
7	Listen to others (多聆聽)	1	4%
8	Understanding of how people and things affect personal development (認識身邊的事物和人物對自己的影響)	1	4%
9	Coping with peer pressure (如何面對朋輩壓力)	1	4%
10	Following group norms (遵守小組的規則)	1	4%
11	Emotional control (控制情緒)	1	4%
12	No comments	1	4%
Total		23	100%

Remarks: Out of 10 randomly selected responses, the first rater and second rater agreed on 8 responses over the classification (inter-rater reliability= 80%).

Table 4.16 Comments and suggestions from workers on how the Astro Kids program could be improved

No.	Responses	N	Percentage
1	Reduction of activities that require writing (減少需要書寫的活動內容)	3	17%
2	Modify activities in the manuals (將活動及遊戲內容再作修改)	2	12%
3	More group sessions (增加小組節數)	1	6%
4	Reduction of abstract concepts and focusing more on discussion and sharing sessions (少年組的組員應減少一些抽象概念，並加強分享討論的環節)	1	6%
5	Strengthening positive reinforcement from peers (可加強朋輩正面的影響)	1	6%
6	Revising the content of the session on sex because it is difficult to understand (修改少年組性教育的內容，因為比較深)	1	6%
7	Reduction of activities and topics in the manuals (減少活動內容涉及的主題數目)	1	6%
8	Members joining the group on a voluntary bases (讓組員自願參與小組活動)	1	6%
9	Replacing 'Astro Film' activities in each session by direct conversation between facilitators and group members (取消「飛躍片段」的活動，並改由工作員直接詢問組員的感受)	1	6%
10	Recruitment of both 'normal' youth and youth with deviant behavior at the same time (可同時招募行為好及有偏差行為的學生參加)	1	6%
11	Group activities suiting the characteristics of target groups (活動設計需符合參加者的特性)	1	6%
12	No comments	3	17%
Total		17	100%

Remarks: Out of 8 randomly selected responses, the first rater and second rater agreed on 6 responses over the classification (inter-rater reliability= 75%).

Table 4.17 Degree of willingness of the workers to recommend the Astro Kids program to other people

No.	Response	N	Percentage
1	Yes	9	70%
2	No	2	15%
3	No comments	2	15%
Total		13	100%

Remarks: Out of 13 randomly selected responses, the first rater and second rater agreed on 13 responses over the classification (inter-rater reliability= 100%).

Table 4.18 Perceptions of the degree of helpfulness of the Astro Kids program amongst the workers

	Degree of Helpfulness			
	Not At All Helpful	Slightly Helpful	Helpful	Very Helpful
Do you think "Astro Kids" program can help members to stay away from smoking?	8%	8%	46%	38%
Do you think "Astro Kids" program can help members to stay away from drugs (e.g. Cannabis, Heroin, Ketamine, MDMA, Ice) ?	0%	8%	61%	31%
Do you think "Astro Kids" can help members to prevent early sex?	8%	15%	62%	15%

Table 4.19: Degree of satisfaction with and perceived qualities of the program amongst workers of the Astro Teens program

	Level of Satisfaction					Perceived Qualities				
	Very Dis-satisfied	Dis-satisfied	Satisfied	Very Satisfied	Missing value	Very Poor	Poor	Good	Very Good	Missing Value
Information giving	0%	5%	76%	19%	0%	0%	0%	95%	0%	5%
Arrangement of Day Camp activities	0%	0%	52%	29%	19%	0%	0%	57%	19%	24%
Resources giving	0%	5%	81%	14%	0%	0%	10%	76%	10%	4%
Performance of workers	0%	5%	90%	5%	0%	0%	0%	95%	0%	5%
Refreshments	0%	0%	86%	10%	4%	0%	0%	80%	10%	10%
Arrangement of the program (e.g. place, activities, time, etc.)	0%	19%	67%	14%	0%	0%	19%	67%	9%	5%
Other activities	0%	9%	43%	5%	43%	0%	9%	38%	5%	48%

Table 4.20 Perceived helpfulness of the Astro Teens program by the workers

	Degree of Helpfulness				
	Not At All Helpful	Slightly Helpful	Helpful	Very Helpful	Missing Value
Attitude towards refusing drugs	0%	5%	71%	24%	0%
Improvement of refusal skills towards drugs	0%	19%	62%	19%	0%
Behavior on refusing drugs	0%	5%	71%	19%	5%
Improvement of social skills	0%	14%	76%	5%	5%
Enhancement of drug knowledge	0%	5%	57%	38%	0%

Table 4.21 Workers' perceptions of the most important things that participants of the Astro Teens program had learned from the program

No.	Responses	N	Percentage
1	Drug knowledge (藥物知識)	8	15%
2	Attitude towards refusing drugs (拒絕藥物的態度)	7	14%
3	Sex knowledge (性知識)	5	10%
4	Awareness of the outcomes of abusing drugs (認識濫藥的後果)	4	7%
5	Respecting other people (互相尊重)	4	7%
6	Improving social skills (改善人際關係)	4	7%
7	Refusal skills (拒絕技巧)	3	6%
8	Self understanding (認識自我)	3	6%
9	Coping with stress (處理壓力及其技巧)	3	6%
10	Listen to others (聆聽別人的意見)	2	4%
11	Taking care of others (懂得關心別人)	2	4%
12	Expressing personal view (表達自己的意見)	2	4%
13	Awareness of the ingredients of gateway drugs (認識煙酒內的成份)	1	2%
14	Setting up goal (定立目標)	1	2%
15	Emotional control (控制情緒)	1	2%
16	No comments	2	4%
Total		52	100%

Remarks: Out of 15 randomly selected responses, the first rater and second rater agreed on 12 responses over the classification (inter-rater reliability= 80%).

Table 4.22 Comments and suggestions from workers on how the Astro Teens program could be improved

No.	Responses	N	Percentage
1	Reduction of the number of group sessions (減少節數)	6	20%
2	More game activities in each session (多點活動式的環節)	3	10%
3	Organizing overnight camp and adventure-based counseling activities (舉行宿營及歷奇活動)	3	10%
4	Visits to drug rehabilitation organizations (安排參觀戒毒機構)	2	7%
5	Linking sessions on gateway drugs and drug knowledge together (煙酒和毒品的節數連續進行)	2	7%
6	Improvement of activities in role play sessions (改善角色扮演的遊戲)	1	4%
7	More practical emphasis and interaction in group activities (小組活動上可以較互動及實際一些)	1	4%
8	Replace "Secret Angel" in each session by words that can express members' views (取消「秘密天使」環節，改用文字形式表達)	1	4%
9	Organizing more outdoor activities (安排多些戶外活動)	1	4%
10	Reduction of the number of topics (減少主題節數)	1	4%
11	Reduction of the number of questionnaires (減少問卷數量)	1	4%
12	Modifying worksheet of the last session (第十一節內的工作紙內容及設計，可作修改)	1	4%
13	Strengthening activities in the session on self-esteem (加強自尊感的活動內容)	1	4%
14	No comments	4	14%
	Total	28	100%

Remarks: Out of 10 randomly selected responses, the first rater and second rater agreed on 7 responses over the classification (inter-rater reliability= 70%).

Table 4.23 Degree of willingness of the workers to recommend the Astro Teens program to other people

No.	Response	N	Percentage
1	Yes	15	70%
2	Yes, if the manuals are revised	2	10%
3	Some sessions will be recommended but overall will not	1	5%
4	No	1	5%
5	No comments	2	10%
Total		21	100%

Remarks: Out of 10 randomly selected responses, the first rater and second rater agreed on 10 responses over the classification (inter-rater reliability= 100%).

Table 4.24 Perceptions of the degree of helpfulness of the Astro Teens program amongst the participants

	Level of Helpfulness			
	Not At All Helpful	Slightly Helpful	Helpful	Very Helpful
Do you think "Astro Teens" program can help members to stay away from smoking?	5%	43%	52%	0%
Do you think "Astro Teens" program can help members to stay away from alcohol?	5%	48%	38%	9%
Do you think "Astro Teens" program can help members to stay away from drugs (e.g. Cannabis, Heroin, Ketamine, MDMA, Ice) ?	0%	5%	67%	28%
Do you think "Astro Teens" program can help members to prevent early sex?	0%	14%	62%	24%

Figure 4.1 Client satisfaction findings based on the participants (Astro Kids program)
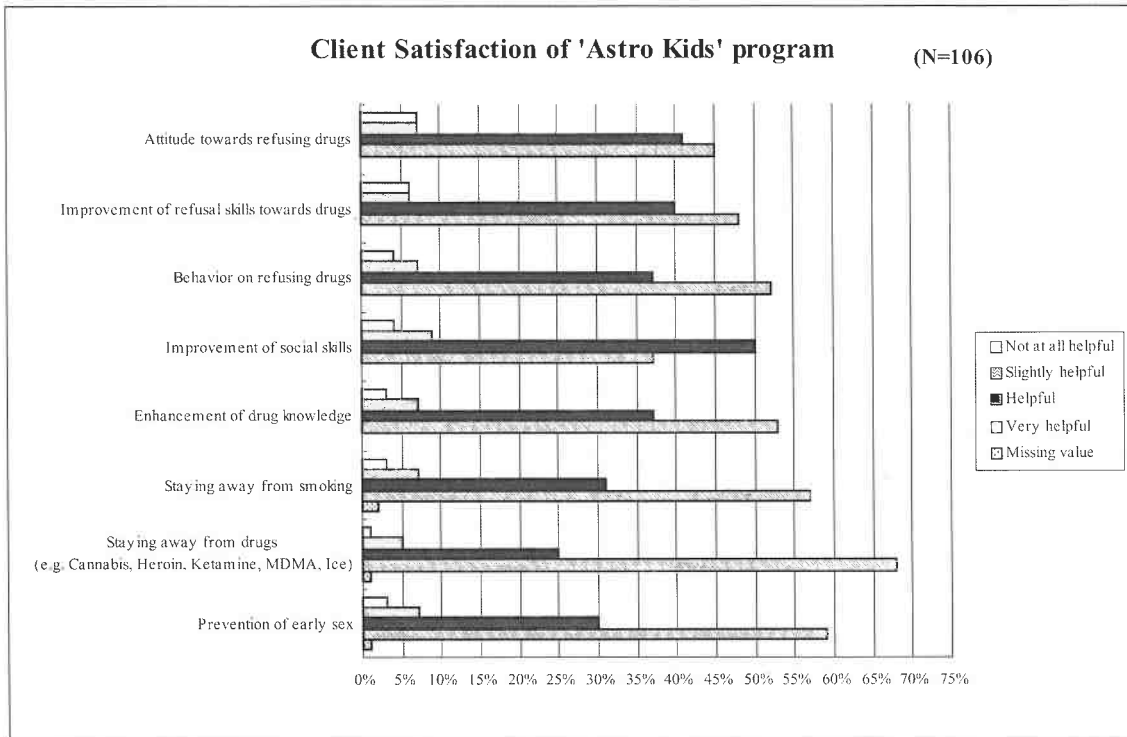

Figure 4.2 Client satisfaction findings based on the participants (Astro Teens program)
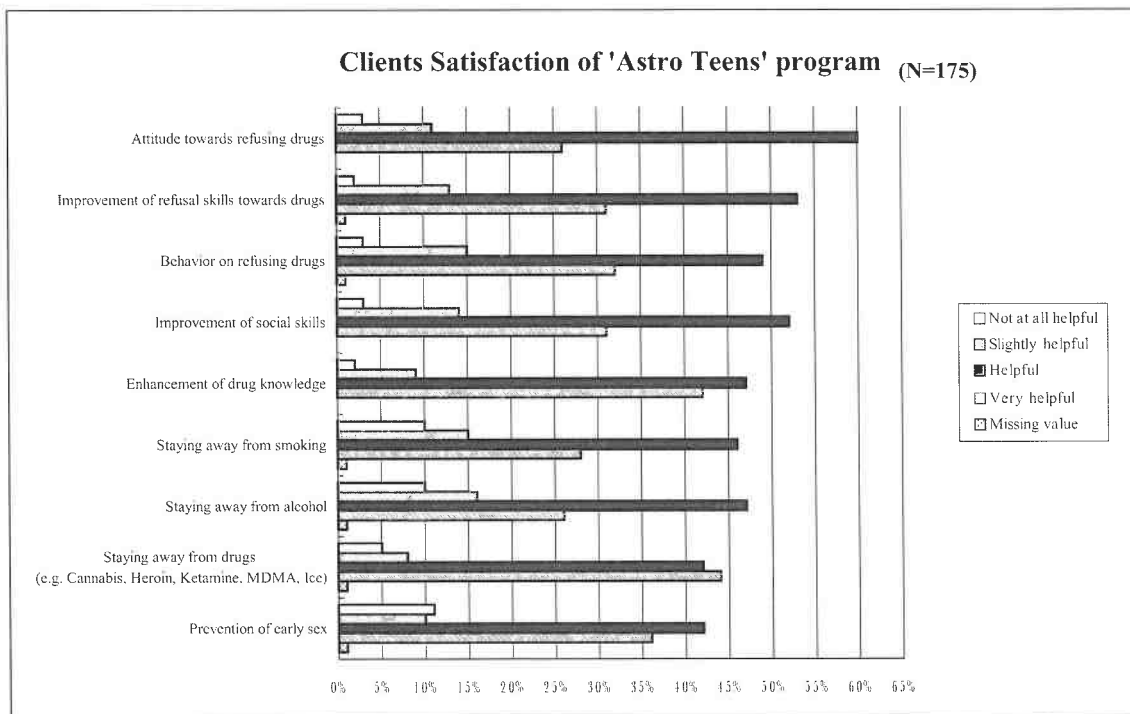
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Figure 4.3 Client satisfaction findings based on the workers (Astro Kids program)
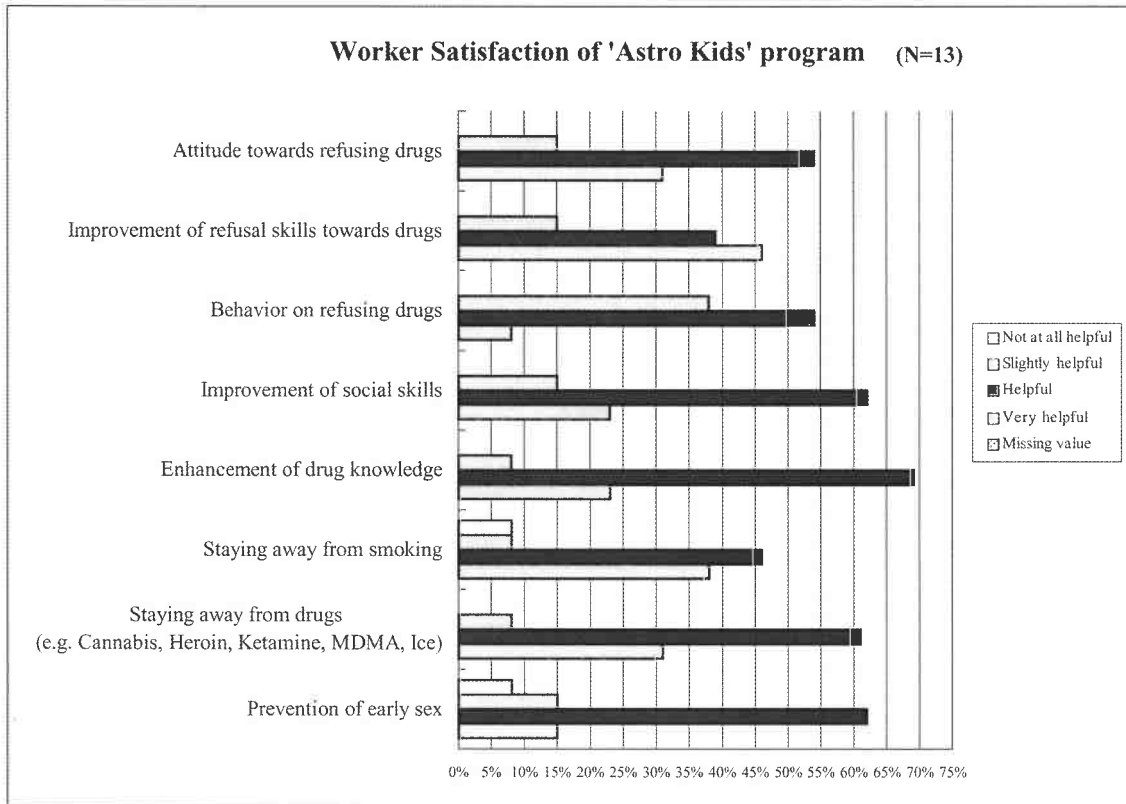

Figure 4.4 Client satisfaction findings based on the workers (Astro Teens)

Chapter 5
Results of Evaluation Area 3:
Qualitative Evaluation

Analyses of the Qualitative Data

The content of the interviews for the workers (N=15) and program participants (N=30) was transcribed. To facilitate analyses, a pre-structured case approach with reference to the interview questions or areas of interview questions was adopted (Miles & Huberman, 1994). The unit of analysis was a meaningful unit instead of a statement. For example, the statement that "the program helps me to gain more knowledge on substance abuse and develop more positive attitudes to substance abuse" would be broken down into two meaningful units or attributes, namely, "the program helps me to gain more knowledge on substance abuse" and "the program helps me to develop more positive attitudes towards drug abuse" (Shek, 2001; Shek & Chan, 1991). To examine the reliability of the coding schemes for some of the questions (particularly those questions regarding the effectiveness and benefits of the program), a certain proportion of the protocols was randomly selected and coded by a second rater to generate measures of inter-rater reliability (i.e., triangulation by researchers).

Qualitative Interviews with the Workers (N=15)

Context Evaluation

The questions in the interview guide for the workers were designed with reference to the CIPP model (Stufflebeam & Shinkfeld, 1985). As far as context evaluation concerned, 11 workers (73.33%) expressed that they had not conducted any systematic drug prevention programs before. Amongst those who indicated they had provided drug prevention programs before, analyses of the responses showed that most of the activities were relatively short and unsystematic, such as drug talks, carnivals and adventured-based counselling camps. The findings are shown in Table 5.1. Regarding the mode of evaluation for drug prevention programs held previously, some of the informants had used case analysis and client satisfaction questionnaires. However, 4 workers (26.67%) indicated that they had not conducted any systematic evaluation for such programs. With reference to the question of whether they knew the structured drug prevention programs developed overseas, 8 workers (53.33%) indicated that they did not know, 2 workers (13.33%) said that they had heard of, but they did not know much, and 3 workers (20%) said that they had only consulted local materials only.

Input Evaluation

Regarding the selection of program participants, 12 workers (80%) indicated that the participants were either selected by them in terms of severity of problems or recommended by the school. Only 3 workers (20%) indicated that they recruited members via open recruitment. Regarding the question of whether the workers encountered any difficulties in the recruitment plan, various difficulties were included. In particular, 4 workers mentioned the difficulty of recruiting participants in the experimental and control groups and another 4

workers mentioned the problem of labeling. The findings can be seen in Table 5.2. Regarding the question of whether the implementation of the program had affected the normal work of the workers, 5 workers (33.33%) indicated that the related work was additional and 7 workers (46.67%) indicated that the program was part of their normal workload. Concerning the question of whether adequate resources had been planned and arranged, amongst the 23 responses from the workers, 18 responses (78.26%) were positive. For those responses that were not positive, the problems included difficulty in planning meeting time and inadequate manpower coordination. As far as the cooperation among the school, agency, research team and community, 15 responses out of the 20 responses were positive. In particular, 4 workers (26.66%) expressed that the arrangement where research team members led the groups was a good arrangement.

Process Evaluation

Regarding the workers' impression of the program, most of the workers were positive about the program (Table 5.3) and they felt that there were many positive features of the program (Table 5.4). In addition, over half of the responses supported the applicability of the program, although the workers also mentioned some obstacles hindering the applicability of the program (Table 5.5). Concerning the special experiences of the workers, most of the narrated experiences (12 responses out of 17 responses) were positive in nature. For responses related to negative experiences, 4 responses were related to the discipline of the members and one response was related to the members' challenging the worker. The workers also perceived that the participants were positive about the program. Amongst the 38 responses, 27 responses were positive (Table 5.6).

With reference to the difficulties encountered, 37 responses were recorded. The informants expressed the following difficulties: cognitive understanding of the members (N=3), discipline problems (N=4), interaction problems among the members (N=5), timing problem (N=7), venue problems (N=1), too many group members (N=2), coordination problems (N=6), manual problems (N=7) and prolonged collection of evaluation data (N=2). Regarding the workers' views on the evaluation of the program, amongst the 37 responses, 31 responses were negative, such as the length of the questionnaire was too long and it took too much time to complete the questionnaires.

In short, most of the workers were generally positive about the implementation of the project. They had positive perceptions and experiences about the program and they felt that the members had good responses. They were also generally positive about the coordination between the research team and the workers and the related arrangements. However, they expressed concern about the difficulties encountered and the lengthy evaluation mechanism of the project.

Product Evaluation

Most of the informants perceived that the project was different from the "conventional" drug prevention programs. A summary of the 20 responses showed that the workers perceived the program to be systematic (N=6), rich and continuous (N=3), educational in nature (N=2), cognitive (N=2), long-term (N=2), large-scale (N=1), in-depth (N=1), having aftercare (N=1), adopting group work approach (N=1) and the content might be repetitive (N=1). Generally speaking, the workers perceived that the program was different from the conventional

programs in terms of its systematic design and longitudinal nature. However, some areas for further improvement of the program were also suggested. They are outlined in Table 5.9.

Regarding the perceived changes in the participants after they joined the program, most of the workers expressed that the program had helped the participants to acquire more knowledge on sex and substance abuse and to develop more positive attitudes and behavior in these two domains. The workers were also very positive about the beneficial effects of the programs on the participants. The findings are shown in Table 5.7. In addition, 13 workers (86.67%) perceived that the program was helpful to young people in general. However, 2 workers opined that the program might not be helpful for those who were rebellious. The related findings are shown in Table 5.8.

The workers gave 21 responses with respect to the question of why the program was able to bring forth the changes observed. The workers believed that the following factors were conducive to the positive changes in the participants: the use of group discussion and sharing (N=6), information disseminated (N=4), care of the workers (N=4), combination of group and case work (N=2), support provided by the workers and other people (N=2), leadership training (N=1), refusal skills training (N=1) and realization of the members' potentials (N=1).

In addition, the positive effects of the program can be seen in the following narratives of the workers:

Worker 1 (Astro Kids program)

「由少年組開始升級至領袖組嘅組員有好明顯嘅轉變,因為小組有連貫性,佢哋除咗會對藥物、性方面認識多咗外,性格亦變得成熟咗,想法同行為改變都較為正面,識得分辨是非,知道有D事唔可以做,例如濫藥。另外組員對自己行為嘅約束會較好,甚至可以引導他人,有D以往常喺校內生事嘅組員,在完成領袖組之後,都變得唔會生事,甚至引導他人。」

"The improvement was obvious for group members who had progressed from the Kids and Teens programs to the Leaders program. Because of the coherence of the program, they did not only gain more knowledge on drug and sex, but they also became more mature, with positive changes in thinking and behaviors. They could differentiate between right and wrong. They also knew that they should not do things such as taking drugs. Besides, members became more self-disciplined and even became leaders. After completion of the Leaders program, members who were rebellious at school in the past changed to be docile and they even guided the others."

Worker 2 (Astro Kids program)

「呢個計劃會著重認識,會喺遊戲之後引導組員,除咗詢問組員嘅感受外,仲會去教導組員正確嘅知識。而喺小組討論嘅過程中,見到佢哋嘅轉變,佢哋會經過思考去消化工作員所帶出嘅訊息。組員最大嘅進步喺佢哋而家懂得拒絕,之前會怕表達出嚟。」

"This program emphasized knowledge acquisition. After playing the games, the worker did not only ask how the members felt, but they also transmitted the correct knowledge to the

members. Changes among members could be found during the group discussion. They thought deeply about the messages from the worker. The biggest progress which the members made was they dared to refuse things that they were anxious to refuse in the past."

Worker 3 (Astro Teens program)

「之前覺得濫藥只能從個案工作處理，但而家知道原來小組工作都能夠幫助青少年認識同埋遠離毒品，而且反應不俗。」

"In the past, I thought that drug abuse problems could be intervened by casework only. However, after carrying out this program, I knew that group work was helpful for drug prevention work among adolescents. Also the feedback from the members was positive. "

Worker 4 (Astro Teens program)

「小組可以發揮一個渠道去討論，例如毒品、煙酒、性等，讓組員表達唔同嘅意見同討論，並透過組員間嘅互相影響，加上工作員嘅解釋，而影響小組內嘅其他組員。」

"Group work is a way for the adolescents to discuss the topics such as drug, cigarette, alcohol and sex. Members could express their views and could also influence each other with the assistance of the worker. "

Summary

The in-depth interview data based on the 15 workers showed that the workers' experiences with the program were very positive. They appreciated the unique characteristics of the program and they felt that the program was different from the conventional programs in drug prevention. They also perceived positive changes in the participants after joining the program and they believed that the program was helpful to adolescents in general. Finally, some areas for improvement and difficulties encountered were revealed from the in-depth interview data.

Qualitative Interviews with the Program Participants (N=30)

Regarding the feelings and views of the group, the responses were generally positive. Besides fun and enjoyment, some of the informants felt that the group was helpful to them and they experienced changes after joining the group. The related findings are presented in Table 5.10. When the informants were asked about the special features of the group, they mentioned several elements, including the dissemination of messages via discussion and activities, use of games, and cultivation of group cohesion (Table 5.11). Concerning the informants' perceptions of the content of the group, the responses were generally positive. Roughly one-fourth of the responses were negative comments about the format of the groups and 6 responses were "no comment" (Table 5.12).

With reference to the question on the experiences of the informants at the beginning phase of the program, more than half of the responses were either neutral or negative responses. The related respondents either had no expectation or they felt that they were forced by the school to join. On the other hand, 33.3% of the responses were positive responses where the

informants had expectations about joining the program. The findings are presented in Table 5.13. However, when the informants were asked about their experiences after joining the group, nearly all responses could be regarded as positive responses. There were two responses where the respondents did not feel any difference after joining the group (see Table 5.14).

Concerning the informants' perceptions of the changes after joining the group, the findings generally suggest that the program is effective. In the area of drug knowledge, amongst the 37 responses recorded, only 4 responses were neutral responses. Most of the responses suggest that the informants acquired drug knowledge from the program (Table 5.15a). In the area of drug attitude, except eight responses that were neutral responses (i.e., attitudes had not changed after joining the program), most of the responses suggest that the informants changed their attitudes toward a positive direction (Table 5.15b). Most of the responses in Table 5.15c also suggest that the informants were less likely to take drugs after joining the program.

In the domain of sex knowledge, the findings presented in Table 5.15d showed that the majority of the responses were positive responses where the informants felt that they had learned more about sex knowledge. Concerning attitude toward sex and behavioral intention toward sex, the positive responses represent roughly half of the total responses (Table 5.15e and Table 5.15f, respectively).

An examination of the findings in Table 5.15g shows that most of the responses suggest that the program had positive changes on the program participants. Except 4 neutral responses (i.e., no personal changes after joining the program), the remaining 30 responses were positive responses reflecting the informants' views that the program had brought positive personal changes in the program participants. There is also evidence showing the participants' relationships with others and the families had improved after joining the program (Table 5.15h and Table 5.15i).

When asked whether they would like to join the program again, a majority of the responses suggest that the informants were positive about taking part in the group again (Table 5.16). Besides feeling that the program was helpful to the program participants, the informants also expressed that the program would be helpful to adolescents in general. Amongst the 31 responses summarized in Table 5.17, only two responses were of the opinion that the program was not helpful to adolescents. Finally, the informants' views on how the program could be improved are summarized in Table 5.18. Their suggestions are mainly related to the format and contents of the group sessions.

In addition, the positive effects of the program can be seen in the following narratives of the program participants:

Informant 1 (Astro Kids program)

「以前對毒品都有少少抗拒，不過而家就更加大囉。增加多咗知識，知道毒品嘅嚴重性，依家連煙都唔食。」

"I was a little bit resistant to drugs in the past, but my resistance is even greater now. With the increase in knowledge, I understand the severity of taking drugs. I don't even smoke now."

Informant 2 (Astro Kids program)

「參加咗呢個小組後，令其他老師對組員D態度好咗，之前自己會喺學校講粗口，常常俾老師責罰，依家同老師嘅關係好咗，仲俾老師讚賞。」

"After joining the group, the relationship between teachers and members has improved. In the past, I spoke foul language in the school and the teachers always scolded me. But my relationship with the teachers is better now and they even praise me."

Informant 3 (Astro Teens program)

「對毒品深刻D，例如講Fing頭同K仔嘅影響，特別深刻。自己聽完之後都食少咗，會多留意自己嘅身體狀況，例如知道自己食咗Fing頭同K仔之後，記憶力差咗，會手震。其實自己High完之後仲辛苦。」

"Deeper understanding and impression about drugs especially the harmful effects after taking MDMA and Ketamine. After listening to the workers, I have taken less drugs and I am more concerned about my health condition, such as deterioration in memory and hand tremor as results of taking Ketamine and MDMA. Actually, I feel worse after having the "high" feelings associated with drugs."

Informant 4 (Astro Teens program)

「有改變，雖然我都唔算係濫用藥物，以前都只係食一兩次。之前都係放棄自己，覺得食咗都無乜所謂，只知道食咗之後最多咪會死，依家唔會濫用藥物，呢D真係唔係好嘢，依家知道死唔去就非常之慘，又會有好多後遺症。」

"I have changed. I am not exactly a substance abuser and I have only tried to take drugs one to two times. I gave up myself in the past. I only knew that at the worst, drug might cost my life. But now I would not take drug any more because I know it is not a good thing. If a person does not get killed, he or she will have other consequences which are really terrible and painful."

Summary

The in-depth interview data based on the 30 informants showed that the informants' experiences with the program were very positive. They appreciated the unique characteristics of the program. They also perceived positive changes in the program participants after joining the program and they believed that the program was helpful to themselves and adolescents in general. Most of the informants would like to join the program again if there were such a chance. Finally, some areas for improvement were suggested.

Table 5.1 Workers' responses to the question "what were the training methods or services provided in the past?"

No.	Content	No. of Responses	Percentage
1	Anti-drug talks	3	20.00%
2	Distribution of anti-drug leaflets	2	13.33%
3	One-shot workshop with games and activities	2	13.33%
4	"Healthy Generation" program	2	13.33%
5	Carnival or exhibition	2	13.33%
6	Participated in a project entitled "Sexual diseases competition"	2	13.33%
7	Alternative activities such as fitness training	1	6.66%
8	Adventure-based counseling or camping	1	6.66%
Total		15	100%

Table 5.2 Workers' responses to the question "did you encounter any difficulties in recruiting members?"

No.	Content	No. of Responses	Percentage
1	Difficulty in recruiting members in the control group	4	22.22%
2	Because the school selected students with problems to join the group, some students showed resistance	4	22.22%
3	There were too many sessions and students did not want to use their own time	3	16.66%
4	Attrition in the control group was higher	2	11.11%
5	Difficulty in recruiting members because similar programs had been held in the past	1	5. 56%
6	Gender ratios were not equal	1	5.56%
7	Objection from the parents because they perceived stigmatizing effect of joining the program	1	5.56%
8	No particular problems encountered	2	11.11%
Total		18	100%

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Table 5.3 Workers' responses to the question "what is your impression of the program?"

No.	Content	Responses (N)	Percentage
Positive Responses:			
1	The content was fruitful, systematic, with clear goals	13	38.23%
2	The program manual was helpful to the worker	4	11.77%
3	The content was primarily about drug prevention and related knowledge transmitted through games	4	11.77%
4	The content was related to the themes and rationales of different group sessions	3	8.82%
5	It was helpful to adolescents who have abused drugs	1	2.94%
6	The program evaluation was very systematic and academic	1	2.94%
Neutral Responses:			
7	The content was rather cognitive	2	5.88%
Negative Responses:			
8	The content of program manual might not suit the needs of different students	4	11.77%
9	Too many group sessions	1	2.94%
10	Not diverse enough because only group activities were used to transmit the knowledge	1	2.94%
Total		34	100%

Remarks: Out of 25 randomly selected responses, the first rater and second rater agreed on 20 responses over the categorization in terms of the basic categories (inter-rater reliability = 80%). Out of 25 randomly selected responses, the first rater and second rater agreed on 22 responses over the classification of positive and negative responses (inter-rater reliability = 88%).

Table 5.4 Workers' responses to the question "what are the characteristics of the program?"

No.	Content	Responses (N)	Percentage
Positive Responses:			
1	The content was mainly about drug prevention and the knowledge was transmitted by games	5	27.77%
2	Wide content coverage with many topics and information was sufficient	4	22.22%
3	A wide range of activities provided	4	22.22%
4	Adoption of a group work approach	2	11.11%
5	The program was coherent, progressive and developmental	1	5.56%
6	The program manual was helpful to the worker	1	5.56%
Negative Responses:			
7	The messages were too repetitive	1	5.56%
Total		18	100%

Remarks: Out of 14 randomly selected responses, the first rater and second rater agreed on 11 responses over the categorization in terms of the basic categories (inter-rater reliability = 78.57%). Out of 14 randomly selected responses, the first rater and second rater agreed on 12 responses over the classification of positive and negative responses (inter-rater reliability = 85.71%).

Table 5.5 Workers' responses to the question "what is the applicability of the program?"

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Basically appropriate and members were very involved in the group activities	3	16.67%
2	It increased the alertness of the members, especially for those who were curious about drugs	3	16.67%
3	Content was very relevant to the need of schools because many students would come across drug abuse problems	2	11.10%
4	It could improve family relationship by providing the chance for the parents to join the group activities	1	5.56%
5	The worker-client relationship could be enhanced through the group activities that set the stage for casework	1	5.56%
Neutral Responses:			
6	It was applicable to docile adolescents but the program needed some changes for those rebellious adolescents	1	5.56%
7	While discussion could be applied to docile members, more activities were needed for those rebellious members	1	5.56%
Negative Responses:			
8	The content focused on self-reflection, but the members might not be patient enough to think and discuss	2	11.10%
9	It was difficult for the outreaching team to carry out the program because the members from their clientele might not have patience and concentration to participate in all the sessions	2	11.10%
10	Some of the topics in early adolescent group should be amended (especially those about sex) because the content was too difficult for the members	1	5.56%
11	Many "passive" activities were included which were difficult for members to get involved	1	5.56%
Total		18	100%

Remarks: Out of 15 randomly selected responses, the first rater and second rater agreed on 12 responses over the categorization in terms of the basic categories (inter-rater reliability = 80%). Out of 15 randomly selected responses, the first rater and second rater agreed on 13 responses over the classification of positive and negative responses (inter-rater reliability = 86.67%).

Table 5.6 Workers' responses to the question on "what were the feedbacks of the group members on the program?"

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Members were very interested in cigarette and drug because some of them wanted to try and they did not know the harms of abuse	4	10.53%
2	Members were very involved in the group activities and they could grasp the knowledge	4	10.53%
3	Members were willing to share	3	7.90%
4	Members were conscientious	3	7.90%
5	Members learned team spirit	2	5.26%
6	Members were very interested in and willing to share in the two sessions which were about sex	2	5.26%
7	The consciousness of not taking drug among the members increased	2	5.26%
8	Members were more interested in the content which was about pressure, choice and self-image	2	5.26%
9	Members in Astro Kids program enjoyed the group work format	1	2.63%
10	Some of the members were black-listed students and they were very happy to participate in the program because they did not have such chance previously	1	2.63%
11	Group work aroused positive effects in the members	1	2.63%
12	The improvement was very obvious for the Astro Leaders members and they became mature and stable	1	2.63%
13	Members learned to control their emotions	1	2.63%
Negative Response:			
14	Members felt bored at the two sessions on drug abuse because the same messages kept repeated	3	7.90%
15	Members felt bored at the topics about cigarette, alcohol and drug because they did not have those problems	3	7.90%
16	Members showed difficulty to grasp the knowledge in reflective activities	2	5.26%
17	The topic about family relationship should involve the parents as well	1	2.63%
18	Members were not involved	1	2.63%
19	The reaction of those who joined in a semi-voluntary manner was not good	1	2.63%
Total		38	100%

Remarks: Out of 25 randomly selected responses, the first rater and second rater agreed on 19 responses over the classification of category (inter-rater reliability = 76%). Out of 25 randomly selected responses, the first rater and second rater agreed on 21 responses over the classification of positive and negative responses (inter-rater reliability = 84%).

Table 5.7 Workers' responses to the question on "what were the changes of members after joining the program?"

a. Knowledge, attitude, and behavior related to drugs:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Increased knowledge about drugs	14	29.78%
2	Attitude towards drug became positive	14	29.78%
3	Increased skills to refuse taking drug	6	12.77%
4	Members abusing drugs had self-reflections. Some of them stopped taking drug. Some of them reduced the dosage of drug and frequency of taking drug.	2	4.26%
5	Some of the members shared what they had learned from the group to those outside the group	2	4.26%
6	Reduced the frequency of going to disco	2	4.26%
7	Reduced smoking	2	4.26%
Negative Response:			
8	Attitude and behavior changes were not obvious	4	8.50%
9	It was hard to change the values of the members even though they knew their values were wrong	1	2.13%
Total		47	100%

Remarks: Out of 30 randomly selected responses, the first rater and second rater agreed on 24 responses over the classification of category (inter-rater reliability = 80%). Out of 30 randomly selected responses, the first rater and second rater agreed on 26 responses over the classification of positive and negative responses (inter-rater reliability = 86.67%).

b. Knowledge, attitude, and behavior related to sex:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Increased knowledge about sex	10	50.00%
2	Attitude towards sex became more conservative and conscientious	6	30.00%
3	Learned how to protect themselves	2	10.00%
Neutral Responses:			
4	Attitude towards sex remained the same	2	10.00%
Total		20	100%

Remarks: Out of 15 randomly selected responses, the first rater and second rater agreed on 13 responses over the classification of category (inter-rater reliability = 86.67%). Out of 15 randomly selected responses, the first rater and second rater agreed on 12 responses over the classification of positive and negative responses (inter-rater reliability = 80%).

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Table 5.7 (Continued)

c. Others changes:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Improvement of interpersonal skills	6	20.00%
2	Learned how to respect others and willing to receive advice from others	5	16.67%
3	Increased self-understanding	3	10.00%
4	Increased sense of responsibility	3	10.00%
5	Increased confidence	3	10.00%
6	Became more disciplined and had related changes in behaviors	3	10.00%
7	Improved relationship with teachers	2	6.67%
8	Improved emotional control	1	3.33%
9	Learned to express their feelings and opinions	1	3.33%
10	Made progress on school performance and took initiative to study	1	3.33%
Neutral Responses:			
11	Not much changes in family relationship because some of the members' families did not care about them and others were over-protected by their families	2	6.67%
Total		30	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 15 responses over the classification of category (inter-rater reliability = 75%). Out of 20 randomly selected responses, the first rater and second rater agreed on 18 responses over the classification of positive and negative responses (inter-rater reliability = 90%).

Table 5.8 Responses to the question "do you think the group is helpful for adolescents?"

No.	Content	No. of Responses	Percentage
Yes:			
1	To a certain extent because it provides an opportunity for adolescents to enrich their knowledge	7	46.66%
2	Helpful with respect to drug prevention	3	20.00%
3	Widens the horizon of the members and provides a chance for them to learn and obey the rules	1	6.67%
4	A source of help for members	1	6.67%
5	Learns correct values	1	6.67%
No:			
6	Not useful for rebellious adolescents	2	13.33%
Total		15	100%

Remarks: Out of 12 randomly selected responses, the first rater and second rater agreed on 10 responses over the classification (inter-rater reliability = 83.33%).

Table 5.9 Workers' responses to the question "which areas of the group can be improved?"

No.	Content	No. of Responses	Percentage
1	To contain more activities, pictures and videos because the members were weak at comprehension	4	16.66%
2	To reduce the number of sessions	6	25.00%
3	To improve the concentration of the members, the topics can be broken into more sessions with shorter length of time for each session	3	12.49%
4	The effect of the group can last longer by long-term follow-up work	2	8.32%
5	To delete one session which is about cigarette and alcohol because the members did not have those problems.The problems were also not as serious as drug abuse.	1	4.17%
6	To design more challenging activities in order to increase the members' involvement	1	4.17%
7	To provide a list of references and to reduce the content of questionnaire	1	4.17%
8	To rearrange the priority of the topics by putting the interesting topics at the beginning in order to increase the adolescents' interest to join the program	1	4.17%
9	To improve the member selection method at school; some of the students might be left out if the school only picks those on the list	1	4.17%
10	To explore more about the values of members	1	4.17%
11	To increase the content about family relationship	1	4.17%
12	More continuity and opportunities for adolescents to actualize themselves if they participate at all 3 levels	1	4.17%
13	To involve the teachers so that they can gain the knowledge as well	1	4.17%
Total		24	100%

Table 5.10 Participants' responses to the question "what are your feelings and views towards the group?"

No.	Content	No. of Responses	Percentage
1	Having fun and enjoyment	14	41.18%
2	Quite good	8	23.53%
3	Could learn much knowledge	6	17.65%
4	Cohesive	2	5.88%
5	Happy	2	5.88%
6	Seeing changes in myself	1	2.94%
7	The program was helpful	1	2.94%
Total		34	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 16 responses over the classification (inter-rater reliability = 80%).

Table 5.11 Participants' responses to the question "what do you think are the special features of this group?"

No.	Content	No. of Responses	Percentage
1	Sent the messages through discussion and activities	10	29.42%
2	Could learn much knowledge through games	8	23.53%
3	Provided much knowledge to participants	3	8.83%
4	Cultivated group cohesion through activities	2	5.88%
5	No fixed rules	2	5.88%
6	Learned from the outdoor activities and training in "Astro Leaders" program (e.g. camping, hip-pop dancing)	2	5.88%
7	Relationships between workers and members became close	1	2.94%
8	Focused on the knowledge and effects of drug abuse	1	2.94%
9	Discussion on the future life with group members	1	2.94%
10	No special feature	4	11.76%
Total		34	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 15 responses over the classification (inter-rater reliability = 75%).

Table 5.12 Participants' responses to the question "what are your view regarding the content of the group?"

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Quite good	6	19.35%
2	Different topics were helpful to group members	2	6.45%
3	Knowledge transmitted through games and activities	2	6.45%
4	The use of group format was impressive	2	6.45%
5	The games were interesting	2	6.45%
6	Discussion and sharing sessions were interesting	2	6.45%
7	Learned more about the harmful effects of smoking and drinking	1	3.23%
Negative Responses:			
8	Some games were boring	5	16.14%
9	Some of the topics were the same and repetitive	2	6.45%
10	Repetitive formats in the Questions and Answers competitions	1	3.23%
11	No comment	6	19.35%
Total		31	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 16 responses over the categorization in terms of the basic categories (inter-rater reliability = 80%). Out of 20 randomly selected responses, the first rater and second rater agreed on 18 responses over the classification of positive and negative responses (inter-rater reliability = 90%).

Table 5.13 Participants' responses to the question "what were your initial expectation and impression of the group when joining the group at the beginning?"

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Expected to play	6	18.18%
2	Desired to learn, such as knowledge about drugs	3	9.09%
3	Wished to be more independent and confident of myself	1	3.03%
4	Wished to learn the ways of reducing stress	1	3.03%
Neutral Responses:			
5	No expectation	12	36.37%
6	No expectation because forced by the school to join	7	21.21%
Negative Responses:			
7	Much resistance as I was labeled "bad student" by the teacher	3	9.09%
Total		33	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 14 responses over the categorization in terms of the basic categories (inter-rater reliability = 70%). Out of 20 randomly selected responses, the first rater and second rater agreed on 16 responses over the classification of positive and negative responses (inter-rater reliability = 80%).

Table 5.14 Participants' responses to the question "what are your feelings after joining the group?"

No.	Content	No. of Responses	Percentage
1	Fruitful such as gaining knowledge about drug and sex	9	23.68%
2	Quite good and enjoyable	7	18.42%
3	Happier than expected	4	10.54%
4	Would like to join the group again	4	10.54%
5	Changes in myself	2	5.26%
6	Increased sense of belonging to the group	2	5.26%
7	My relationships with friends and others have improved	2	5.26%
8	Have learned interpersonal skills and cooperation with others	1	2.63%
9	Has learned independence and confidence	1	2.63%
10	Abilities of oneself validated by group activities	1	2.63%
11	Have had greater sense of responsibility	1	2.63%
12	Have begun to be more considerate to others	1	2.63%
13	Was able to take part in voluntary service	1	2.63%
14	No differences when compared with the beginning phase of the group	2	5.26%
Total		38	100%

Remarks: Out of 25 randomly selected responses, the first rater and second rater agreed on 22 responses over the classification (inter-rater reliability = 88%).

Table 5.15 Participants' responses to the question "what are your changes after joining the program?"

a. Drug knowledge:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Learned more about drugs	26	70.27%
2	Learned the harmful effects and consequences of drug abuse	3	8.11%
3	Learned more about cigarette and its ingredients	2	5.41%
4	Learned more about refusal skills	2	5.41%
Neutral Responses:			
5	No changes	4	10.80%
Total		37	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 16 responses over the categorization in terms of the basic categories (inter-rater reliability = 80%). Out of 20 randomly selected responses, the first rater and second rater agreed on 18 responses over the classification of positive and negative responses (inter-rater reliability = 90%).

b. Attitude towards Drugs

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Less favorable attitudes to drugs and more thoughts about the consequences	7	24.13%
2	Less curious about drugs after joining the program	5	17.24%
3	Held a more serious attitude towards drugs and would not try in a casual manner	4	13.79%
4	Would not take drugs because of bad mood	3	10.34%
5	Would not take drugs because of peer influence	1	3.45%
6	Attitude changed from "does not really matter" to "definitely will not try"	1	3.45%
Neutral Responses:			
7	No changes as I would not take drugs	7	24.13%
8	No changes	1	3.45%
Total		29	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 14 responses over the categorization in terms of the basic categories (inter-rater reliability = 70%). Out of 20 randomly selected responses, the first rater and second rater agreed on 16 responses over the classification of positive and negative responses (inter-rater reliability = 80%).

Table 5.15 (Continued)

c. Behavioral intention towards Drugs:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	No more drugs attempts after joining the group	21	58.33%
2	Took less drugs when compared with the past	4	11.11%
3	Would tell others about the harmful effect of drugs abuse	3	8.33%
4	Took Ecstasy before, but absolutely would not take now	2	5.56%
5	Smoked less because it is harmful to our lungs	1	2.78%
Neutral Responses:			
6	No changes	5	13.89%
Total		36	100%

Remarks: Out of 25 randomly selected responses, the first rater and second rater agreed on 22 responses over the categorization in terms of the basic categories (inter-rater reliability = 88%). Out of 25 randomly selected responses, the first rater and second rater agreed on 23 responses over the classification of positive and negative responses (inter-rater reliability = 92%).

d. Sex knowledge:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Learned more about sex	18	40.91%
2	Learned more about refusal skills in sex	9	20.45%
3	Learned more about the consequences of sexual intercourse	3	6.82%
4	Learned more about the legal issues around sex	2	4.55%
Neutral Responses:			
5	No changes	12	27.27%
Total		44	100%

Remarks: Out of 25 randomly selected responses, the first rater and second rater agreed on 20 responses over the categorization in terms of the basic categories (inter-rater reliability = 80%). Out of 25 randomly selected responses, the first rater and second rater agreed on 22 responses over the classification of positive and negative responses (inter-rater reliability = 88%).

Table 5.15 (Continued)

e. Attitude towards sex:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	More positive when talking about sex rather than feeling embarrassed	9	25.71%
2	Would think more about the outcome of sexual intercourse	5	14.29%
3	Would not attempt	1	2.86%
Neutral Responses:			
4	No changes	20	57.14%
Total		35	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 17 responses over the categorization in terms of the basic categories (inter-rater reliability = 85%). Out of 20 randomly selected responses, the first rater and second rater agreed on 18 responses over the classification of positive and negative responses (inter-rater reliability = 90%).

f. Behavioral intention towards sex:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Would not have sexual intercourse with others casually	5	16.67%
2	Would not try	6	20.00%
3	Would set an age limit for myself	1	3.33%
Neutral Responses:			
4	No changes and would say "no" to drugs	9	30.00%
5	No changes	9	30.00%
Total		30	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 14 responses over the categorization in terms of the basic categories (inter-rater reliability = 70%). Out of 20 randomly selected responses, the first rater and second rater agreed on 17 responses over the classification of positive and negative responses (inter-rater reliability = 85%).

Table 5.15 (Continued)

g. Changes of self

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Became more optimistic	6	17.65%
2	Better self-knowledge	6	17.65%
3	Better emotional control	5	14.72%
4	Became psychologically stronger	3	8.82%
5	Knew different ways to solve problems	2	5.88%
6	Knew how to accept others' views	2	5.88%
7	Became more enthusiastic	2	5.88%
8	Knew how to reduce stress	1	2.94%
9	Increase in self-confidence	1	2.94%
10	Increase in sense of responsibility	1	2.94%
11	Knew how to express one's views	1	2.94%
Neutral Responses:			
12	No changes	4	11.76%
Total		34	100%

Remarks: Out of 25 randomly selected responses, the first rater and second rater agreed on 22 responses over the categorization in terms of the basic categories (inter-rater reliability = 88%). Out of 25 randomly selected responses, the first rater and second rater agreed on 23 responses over the classification of positive and negative responses (inter-rater reliability = 92%).

h. Human relationship:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Learned how to communicate with others	8	26.67%
2	Learned how to accommodate and concern others	4	13.33%
3	Relationship with teachers became better and improved	4	13.33%
4	Learned how to respect others	1	3.34%
Neutral Responses:			
5	No changes	3	10.00%
6	The question was not asked in the interview	10	33.33%
Total		30	100%

Remarks: Out of 15 randomly selected responses, the first rater and second rater agreed on 12 responses over the categorization in terms of the basic categories (inter-rater reliability = 80%). Out of 15 randomly selected responses, the first rater and second rater agreed on 13 responses over the classification of positive and negative responses (inter-rater reliability = 86.67%).

Table 5.15 (Continued)

i. Relationship with the family:

No.	Content	No. of Responses	Percentage
Positive Responses:			
1	Relationship has improved	9	29.04%
2	More communication with parents	2	6.45%
3	More understanding of the feelings of family members	2	6.45%
4	Learned how to respect family members	1	3.23%
Neutral Responses:			
5	No change	11	35.48%
6	The question was not asked in the interviews	6	19.35%
Total		31	100%

Remarks: Out of 15 randomly selected responses, the first rater and second rater agreed on 11 responses over the categorization in terms of the basic categories (inter-rater reliability = 73.33%). Out of 15 randomly selected responses, the first rater and second rater agreed on 13 responses over the classification of positive and negative responses (inter-rater reliability = 86.67%).

Table 5.16 Participants' responses to the question "Would you take part in the group again if you were given a chance? Why?"

No.	Content	No. of Responses	Percentage
Yes:			
1	Enjoyable	12	38.71%
2	Can learn much, such as the knowledge on drugs and sex	3	9.68%
3	Would join if new topics were introduced	2	6.45%
4	Can learn more about oneself	2	6.45%
5	Joyful experiences	2	6.45%
6	Helpful to oneself	1	3.23%
7	No reason	6	19.35%
No:			
8	No reason	3	9.68%
Total		31	100%

Remarks: Out of 20 randomly selected responses, the first rater and second rater agreed on 18 responses over the classification (inter-rater reliability = 90%).

Table 5.17 Participants' responses to the question "do you think this group is helpful to the adolescents?"

No.	Content	No. of Responses	Percentage
Yes:			
1	No explanation offered	10	32.25%
2	Particular helpful for young people to learn different kinds of knowledge, such as topics on drug abuse, sex and self-exploration	9	29.01%
3	Helpful to docile adolescents	3	9.67%
4	Can learn and apply refusal skills	1	3.23%
5	Helpful to those members who live in the hostel	1	3.23%
6	Helpful to those members who join the program for the first time	1	3.23%
7	Helpful because the topics are very appropriate to contemporary young people	1	3.23%
8	Can help young people to deal with their rebellious emotion	1	3.23%
9	Can cultivate team spirit among members	1	3.23%
10	Provides another alternative for young people	1	3.23%
No:			
11	Not helpful to non-hostel members as they only play and would not have time to think about themselves	1	3.23%
12	Hard to change the beliefs of adolescents, especially those who are drug abusers	1	3.23%
Total		31	100%

Remarks: Out of 25 randomly selected responses, the first rater and second rater agreed on 21 responses over the classification (inter-rater reliability = 84%).

Table 5.18 Participants' responses to the question "what improvements are needed for this group?"

No.	Content	No. of Responses	Percentage
1	More active forms of activities other than discussion and written exercises	9	19.15%
2	More outdoor activities, such as camping, hiking, playing war game	7	14.88%
3	Shorter time duration	5	10.64%
4	More involvement of members in the group	2	4.25%
5	Insufficient time for the group, can be better improved by extending half an hour in the group	2	4.25%
6	Can invite ex-drug abusers to share their experiences	2	4.25%
7	Workers can give more encouragement to members to involve more in the groups	1	2.13%
8	Workers can have more communication with staff in the center	1	2.13%
9	Some activities can be simplified, such as the activity of blowing balloons in the second session, so that workers can bring out the objectives of the activities easily	1	2.13%
10	Improve the timing for bringing out the objectives of the activities since members would not respond positively after the activities	1	2.13%
11	Pay more attention to the willingness of the members to join the group when recruiting group members	1	2.13%
12	Add a revision session after finishing every 3 sessions so that members can revise what they have learned	1	2.13%
13	Can add some sessions related to the interests of young people, such as sessions on playing guitar and basketball	1	2.13%
14	Broadcast anti-drug video tapes in the group	1	2.13%
15	More refreshments and prizes	1	2.13%
16	Increase the number of sessions	1	2.13%
17	Reduce the number of posttest measures	1	2.13%
18	No, because everything was quite good	9	19.15%
Total		47	100%

Remarks: Out of 30 randomly selected responses, the first rater and second rater agreed on 26 responses over the classification (inter-rater reliability = 86.67%).

Chapter 6
Results of Evaluation Area 4:
Evaluation Based on the Repertory Grid Method

Analyses of Evaluation Data Collected Via the Repertory Grid Method

Repertory grid data can be analyzed by both quantitative and qualitative methods (Adams-Webber, 1989; Bannister, 1965). For quantitative data analyses, many computer programs are available (Shaw, 1981). For the present study, INGRID 72 was used to analyze the data, the details of which can be seen in Slater (1976, 1977). INGRID 72 generates a wide range of information, including distances between elements in the psychological space of the informant. According to Norris and Makhlouf-Norris (1976), distance between two elements can be regarded as the degree of similarity or dissimilarity between two elements and this measure can be regarded as an indicator of a person's degree of identification with an element. Stanley (1985) used distances between elements to assess psychological and social alienation in young offenders. Local researchers have also used distances between elements to explore the self-identity systems of mental patients (Tam & Shek, 1988) and drug addicted person (Ng, 2002).

Group Analyses

To examine perceived changes of the participants after joining the program, the distances between the following pairs of elements were compared:

- The mean distance between "Self Before Joining the Program" (Element 4) and "Ideal Self" (Element 2) versus the mean distance between "Self After Joining the Program" (Element 5) and "Ideal self" (Element 2)

- The mean distance between "Self Before Joining the Program" (Element 4) and "A Drug Addicted Person" (Element 9) versus the mean distance between "Self After Joining the Program" (Element 5) and "A Drug Addicted Person" (Element 9)

- The mean distance between "Self Before Joining the Program" (Element 4) and "A Successful Person" (Element 10) versus the mean distance between "Self After Joining the Program" (Element 5) and "A Successful Person" (Element 10)

- The mean distance between "Self Before Joining the Program" (Element 4) and "An Unsuccessful Person" (Element 11) versus the mean distance between "Self After Joining the Program" (Element 5) and "An Unsuccessful Person" (Element 11)

Group analyses of the grid data of the 30 informants showed that the expectations outlined in Chapter 2 were supported:

- The mean distance between Element 4 (Self Before Joining the Program) and Element 2 (Ideal Self) differed significantly from the mean distance between Element 5 (Self After Joining the Program) and Element 2 (Ideal Self): $t=5.32$, $p < .0001$, omega square$=0.32$. In other words, the informants psychologically identified themselves more with the "Ideal Self" after joining the program. The difference is graphically presented in Figure 6.1.

- The mean distance between Element 4 (Self Before Joining the Program) and Element 9 (A Drug Addicted Person) differed significantly from the mean distance between Element 5 (Self After Joining the Program) and Element 9 (A Drug Addicted Person): $t=-4.24$, $p < .0001$, omega square$=0.22$. In other words, the informants psychologically identified themselves less with "A Drug Addicted Person" after joining the program. The difference is graphically presented in Figure 6.2.

- The mean distance between Element 4 (Self Before Joining the Program) and Element 10 (A Successful Person) differed significantly from the mean distance between Element 5 (Self After Joining the Program) and Element 10 (A Successful Person): $t=4.74$, $p < .0001$, omega square$=0.26$. In other words, the informants psychologically identified themselves more with "A Successful Person" after joining the program. The difference is graphically presented in Figure 6.3.

- The mean distance between Element 4 (Self Before Joining the Program) and Element 11 (An Unsuccessful Person) differed significantly from the mean distance between Element 5 (Self After Joining the Program) and Element 11 (An Unsuccessful Person): $t=-3.51$, $p < .0001$, omega square$=0.16$. In other words, the informants psychologically identified themselves less with "An Unsuccessful Person" after joining the program. The difference is graphically presented in Figure 6.4.

Individual Grid Analyses: Exemplar Cases

Besides group analyses, data collected by the repertory grid method can also be analyzed at the individual grid level. Two exemplar cases showing drastic positive changes in the informants after joining the program are presented for illustration.

Exemplary Case 1 (Informant No. 23)

The informant perceived herself to have the following qualities before joining the program (Element 4): playful, does not understand oneself, has no future, has no goals, failure, non-persuasive, has no self-control, has no power and does not listen to others (see Table 6.1). However, the informant perceived herself to have the following characteristics after joining the program: mature, understands oneself, thinks about the future, has goals, successful, persuasive, has self-control, has power, and accepts others' views. An examination of the grid data showed that the informant perceived herself to be very close to a drug addicted person and an unsuccessful person before joining the program. However, she began to identify herself with the ideal self and a successful person but not identifying herself with an unsuccessful person and a drug addicted person after joining the program. The related findings are presented in Table 6.2. The perceptions of the different elements in the psychological space of the informant based on the first factor of the principal components analyses are presented in Figure 6.5. In the line graph, the findings clearly suggest that the informant perceived that the self before joining the program and the self after joining the program were very different and the positive changes after joining the program were remarkable.

Exemplar Case 2 (Informant No. 26)

The informant perceived himself to have the following qualities before joining the program (Element 4): not growing, communicates, excels, much temper tantrum, dependent on parents, has no self-confidence, motivated to study, no goals, not thinking about the future, active

but not serious. However, he perceived he had the following characteristics after joining the program (Element 5): has growth, has much communication, excels, little temper tantrum, independent, has self-confidence, motivated to study, independent, has goals, think about the future, studies well and silent (Table 6.3). An examination of the grid data showed that the informant perceived himself to be very close to a drug addicted person and an unsuccessful person but farther away from the ideal self and a successful person before joining the program. However, he began to identify himself with the ideal self and the successful person but farther away from the unsuccessful person and drug addicted person after joining the program. The related findings are presented in Table 6.2. The perceptions of the different elements in the psychological space of the informant based on the first factor of the principal components analyses are presented in Figure 6.6. In the line graph, the findings clearly showed that the self before joining the program was different from the self after joining the program. The positive changes after the program are obvious and pronounced.

Figure 6.1 Distance between "Self Before Joining the Program" (E4) and "Ideal Self" (E2) vs. distance between "Self After Joining the Program" (E5) and "Ideal Self" (E2)

Distance Between "Self Before Joining the Program" (E4) and "Ideal Self" (E2) — 1.08

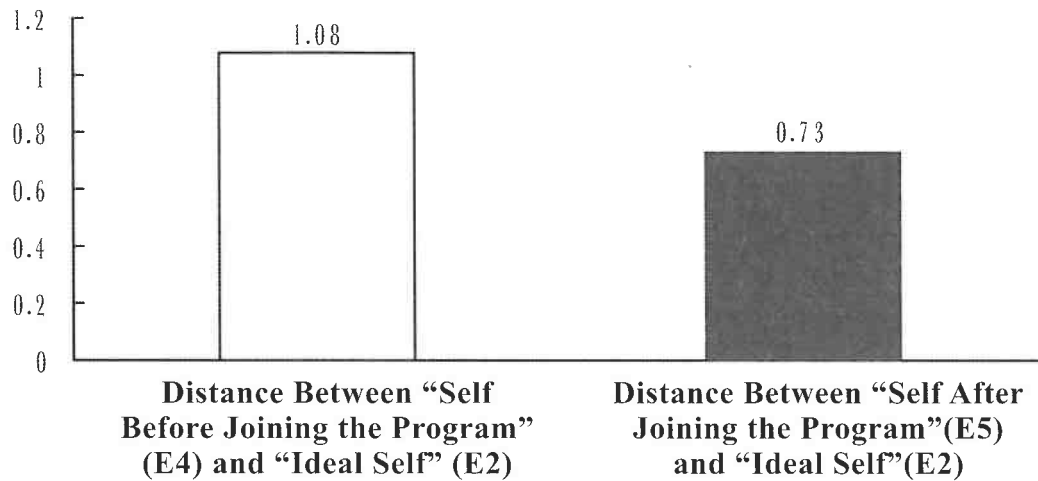**Distance Between "Self After Joining the Program"(E5) and "Ideal Self"(E2)** — 0.73

Figure 6.2 Distance between "Self Before Joining the Program" (E4) and "A Drug Addicted Person" (E9) vs. distance between "Self After Joining the Program" (E5) and "A Drug Addicted Person" (E9)
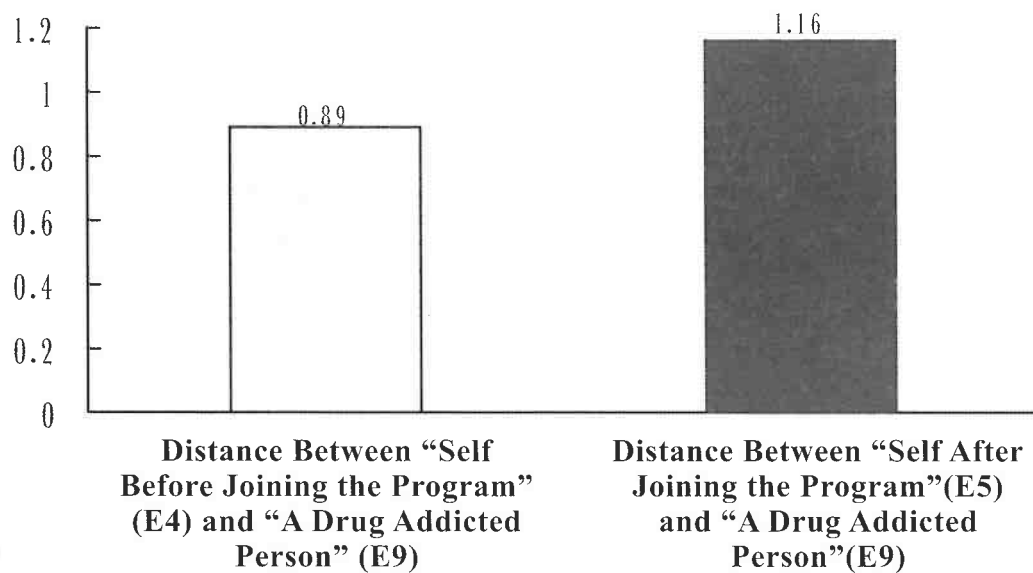

Distance Between "Self Before Joining the Program" (E4) and "A Drug Addicted Person" (E9) — 0.89

Distance Between "Self After Joining the Program"(E5) and "A Drug Addicted Person"(E9) — 1.16

Figure 6.3 Distance between "Self Before Joining the Program" (E4) and "A Successful Person" (E10) vs. distance between "Self After Joining the Program" (E5) and "A Successful Person" (E10)
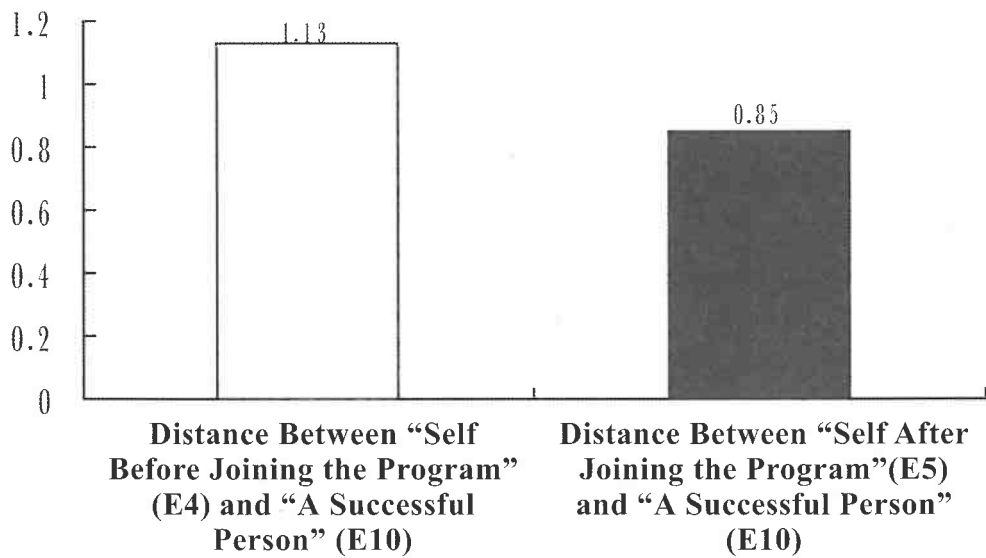

Figure 6.4 Distance between "Self Before Joining the Program" (E4) and "An Unsuccessful Person" (E11) vs. distance between "Self After Joining the Program" (E5) and "An Unsuccessful Person" (E11)
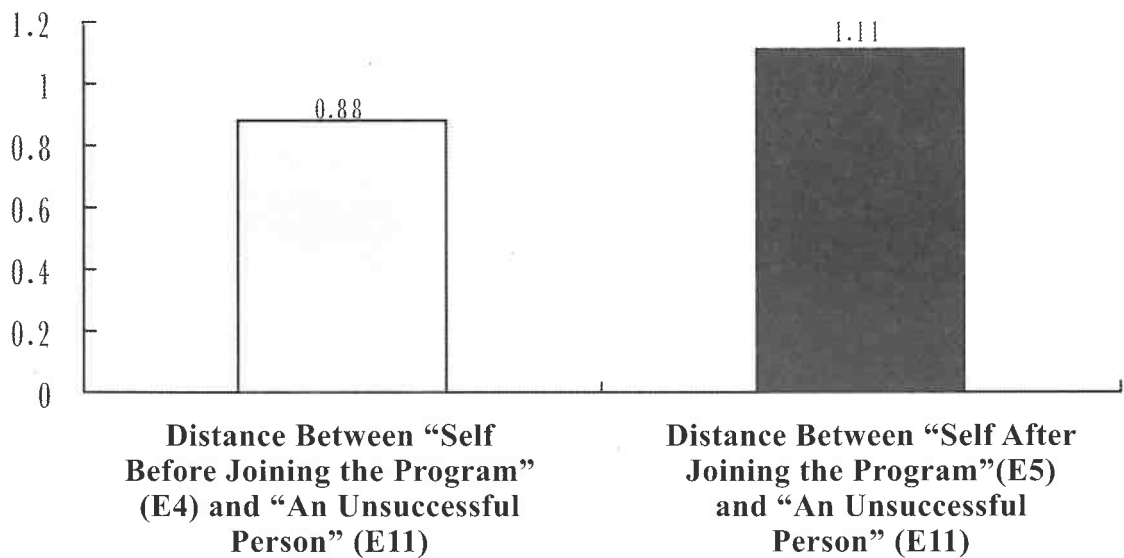
Table 6.1 Raw grid data of Informant No. 23

Construct Pole	1	2	3	4	5	6	7	8	9	10	11	12	Contrast Pole
識諗 (Mature)	2	1	1	5	2	4	2	2	6	2	5	1	貪玩 (Playful)
了解我 (Understands Me)	3	1	2	5	3	6	3	2	3	2	4	2	唔了解我 (Does Not Understand Me)
諗將來 (Thinks About Future)	2	1	1	5	2	4	2	2	3	3	4	1	無將來 (Not Think About Future)
有目標 (Has Goals)	2	1	2	5	3	4	4	2	3	3	4	2	無目標 (No Goals)
成功 (Successful)	2	1	2	6	3	3	2	2	5	2	4	1	失敗 (Failure)
有說服力 (Persuasive)	3	1	2	6	2	5	3	3	6	2	5	1	無說服力 (Not Persuasive)
無自制能力 (No Self-Control)	4	6	5	2	4	4	4	4	1	4	2	5	有自主能力 (Has Self-Control)
明白我 (Understands Me)	2	2	2	4	3	6	4	3	5	3	4	2	唔明白我 (Does Not Understand Me)
無權力 (No Power)	5	6	5	2	5	3	5	5	2	5	2	6	有權力 (Has Power)
會接受其他人意見 (Accept Others' Views)	2	1	2	5	3	6	3	1	6	2	5	3	唔聽其他人意見 (Does Not Accept Others' Views)

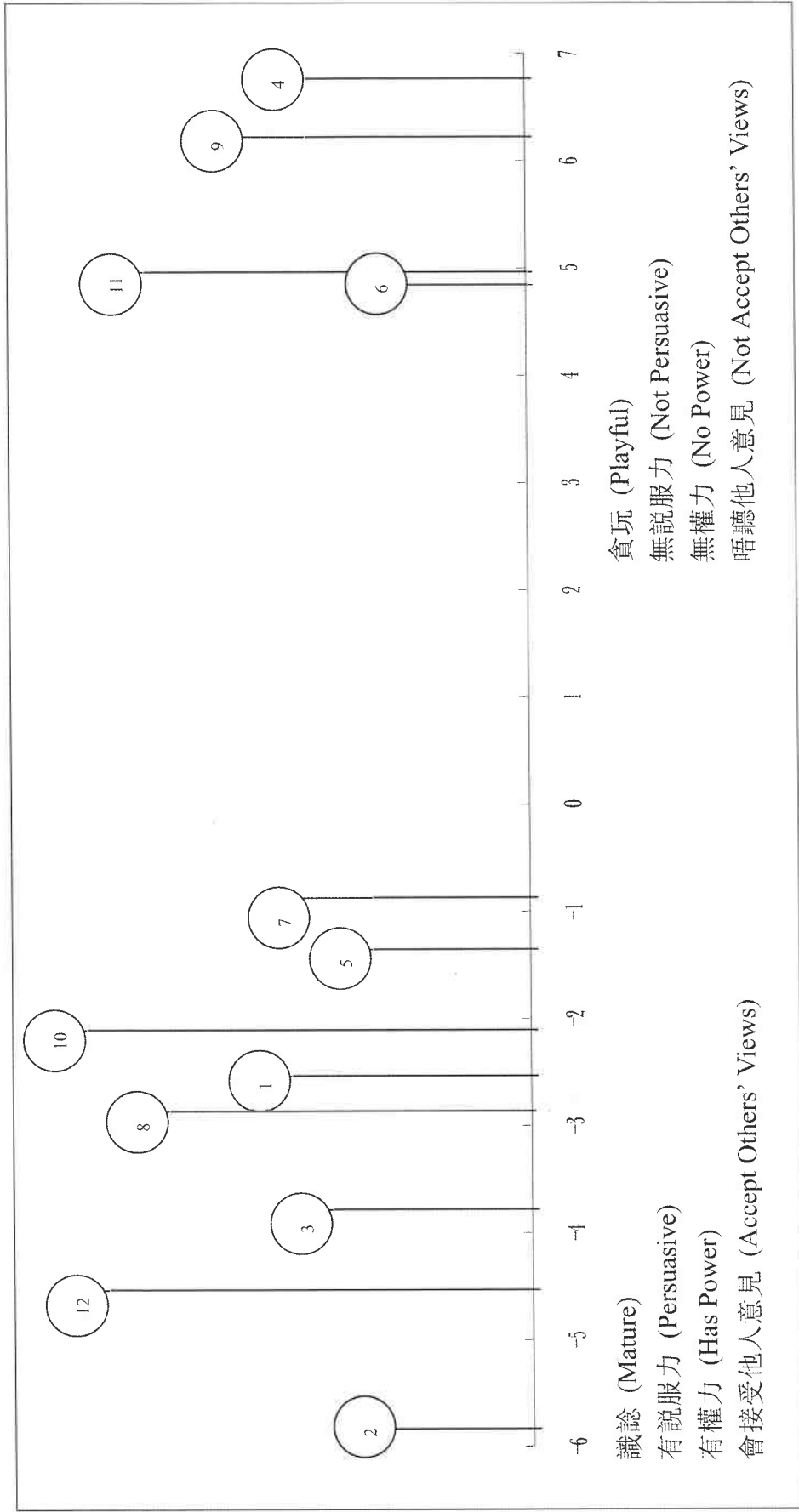Table 6.2 Changes in the self-identity system of Informant No. 23 and Informant No. 26

Informant 23:

Pair of Elements	Distance Between Elements
Self Before Joining the Program (E4) and Ideal Self (E2)	1.888
Self After Joining the Program (E5) and Ideal Self (E2)	0.733
Self Before Joining the Program (E4) and A Drug Addicted Person (E9)	0.604
Self After Joining the Program (E5) and A Drug Addicted Person (E9)	1.208
Self Before Joining the Program (E4) and A Successful Person (E10)	1.319
Self After Joining the Program (E5) and A Successful Person (E10)	0.293
Self Before Joining the Program (E4) and An Unsuccessful Person (E11)	0.415
Self After Joining the Program (E5) and An Unsuccessful Person (E11)	0.961

Informant 26:

Pair of Elements	Distance Between Elements
Self Before Joining the Program (E4) and Ideal Self (E2)	1.307
Self After Joining the Program (E5) and Ideal Self (E2)	0.185
Self Before Joining the Program (E4) and A Drug Addicted Person (E9)	0.585
Self After Joining the Program (E5) and A Drug Addicted Person (E9)	1.558
Self Before Joining the Program (E4) and A Successful Person (E10)	1.307
Self After Joining the Program (E5) and A Successful Person (E10)	0.185
Self Before Joining the Program (E4) and An Unsuccessful Person (E11)	0.585
Self After Joining the Program (E5) and An Unsuccessful Person (E11)	1.558

Figure 6.5 Representation of self and others in the psychological space in terms of the first principal component (Informant No. 23)

識諗 (Mature)
有說服力 (Persuasive)
有權力 (Has Power)
會接受他人意見 (Accept Others' Views)

貪玩 (Playful)
無說服力 (Not Persuasive)
無權力 (No Power)
唔聽他人意見 (Not Accept Others' Views)

1. Present Self	4. Self Before Joining the Program	7. Mother	10. A Successful Person
2. Ideal Self	5. Self After Joining the Program	8. Good Friend	11. An Unsuccessful Person
3. Future Self	6. Father	9. A Drug Addicted Person	12. Form Teacher

Table 6.3 Raw grid data of Informant No. 26

Construct Pole	1	2	3	4	5	6	7	8	9	10	11	12	Contrast Pole
有成長 (Has growth)	1	1	1	4	1	1	1	1	6	1	6	4	困死的 (Not Growing)
有溝通的 (Communicates)	1	1	2	3	1	1	1	1	6	1	6	6	難溝通 (Difficult to Communicate)
上進 (Excels)	1	1	1	3	1	1	1	4	6	1	6	6	放棄 (Giving Up)
少發脾氣 (Few temper tantrum)	3	1	1	6	1	1	1	3	6	1	6	6	較大脾氣 (Much temper tantrum)
獨立 (Independent)	1	1	1	6	1	1	1	5	6	1	6	6	依賴父母(Dependent on Parents)
有自信 (Has Self-Confidence)	1	1	1	6	1	1	1	2	6	1	6	5	沒有自信 (No Self-Confidence)
放棄學業 (Gives Up Study)	6	6	6	4	4	6	6	3	1	6	6	6	俾心機讀書 (Motivated to Study)
獨立 (Independent)	1	1	1	6	1	1	1	2	6	1	6	6	依賴父母 (Dependent on Parents)
有目標 (Has goals)	1	1	1	6	1	1	1	3	6	1	6	1	有目標 (No goals)
有想前途 (Thinks About Future)	1	1	1	6	1	1	1	1	6	1	6	1	無想前途 (Does not Think About Future)
讚好書 (Studies Well)	1	1	1	3	1	1	1	2	6	1	6	1	失敗 (Failure)
沉默 (Silent)	1	1	1	6	1	1	1	2	6	1	6	3	活潑不認真 (Active But Not Serious)

Figure 6.6 Representation of self and others in the psychological space in terms of the first principal component (Informant No. 26)
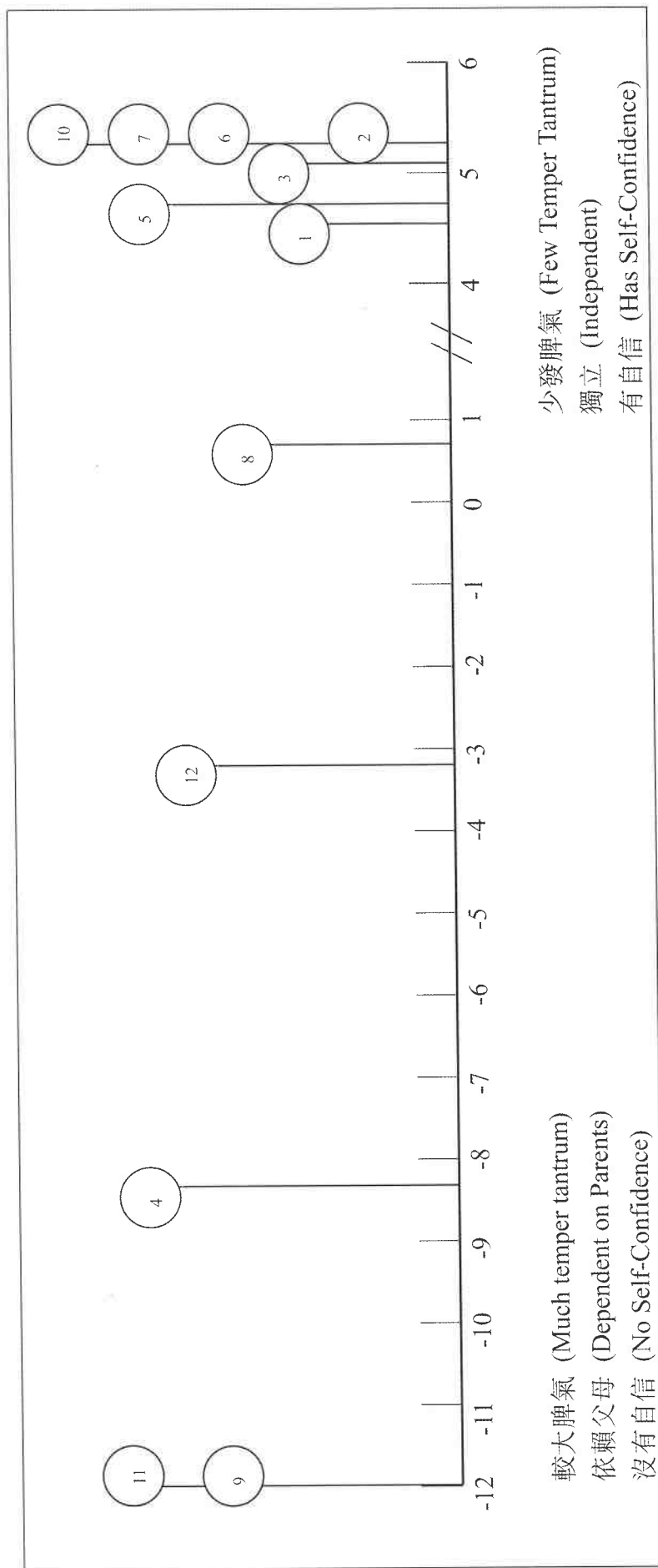

較大脾氣 (Much temper tantrum)　　少發脾氣 (Few Temper Tantrum)
依賴父母 (Dependent on Parents)　　獨立 (Independent)
沒有自信 (No Self-Confidence)　　有自信 (Has Self-Confidence)

1. Present Self
2. Ideal Self
3. Future Self

4. Self Before Joining the Program
5. Self After Joining the Program
6. Father

7. Mother
8. Good Friend
9. A Drug Addicted Person

10. A Successful Person
11. An Unsucessful Person
12. Form Teacher

Chapter 7
Discussion and Conclusions

Research Design of the Evaluation Study

A research design with the following elements was adopted in the present evaluation study: evaluation data based on four approaches were collected; an experimental design (a non-equivalent group design) was used; longitudinal data were collected for the objective outcome indicators; quantitative and qualitative data were utilized. The inclusion of different evaluation strategies permits triangulation of data collected by different methods. For Evaluation Area 1, objective outcome evaluation based on longitudinal data collected from an experimental group (N=356) and a control group (N=414) was conducted. For Evaluation Area 2, subjective outcome evaluation based on the responses of the workers (N=34) and participants (N=281) was carried out. For Evaluation Area 3, qualitative evaluation based on in-depth interview data collected from 15 workers and 30 participants was attempted. For Evaluation Area 4, evaluation utilizing repertory grid data based on 30 informants was conducted.

Two comments can be made regarding the design of the evaluation study. First, this is a pioneering evaluation study that utilizes a wide range of strategies in evaluating an indigenously developed drug prevention program. A review of the existing literature shows that this is t*he first known scientific study* that attempts to vigorously evaluate a drug prevention program from different angles in a Chinese context. In view of the severe lack of evaluation studies in different Chinese contexts (Shek, in press; Shek, Lam & Tsoi, in press), this study constitutes a significant contribution to the academic literature. The project also generates a practical tool for helping professionals working in the drug prevention field.

Second, the inclusion of data collected by different methods permits triangulation of data. This feature is important for there are evaluators arguing that evaluation should be conducted from different angles and evaluation findings from different sources should be triangulated (e.g., Caracelli & Riggin, 1994; Patton, 1997, 2002).

Major Findings of Evaluation Area 1: Objective Outcome Evaluation

For Evaluation Area 1 (i.e., objective outcome indicators), the findings are basically positive and encouraging. Several aspects of the findings deserve attention. First, using different time points as reference points, there is evidence showing that the experimental group performed better than the control group in the domains of social skills, drug knowledge, sex knowledge, as well as drug and sex-related measures (including measures of attitudes, behavioral intention, refusal skills and drug usage). Second, these positive findings can be regarded as particularly encouraging because the experimental group was found to be worse than the control group in terms of drug-related measures at pretest. Third, although some "negative" findings were observed with reference to the pretest-posttest 1 dataset, such differences disappeared when the pretest-posttest 1-posttest 2 data were used as the bases of

analyses. Fourth, the number of positive findings in different samples is much higher than the number of negative findings.

However, three other aspects of the findings should be noted. First, the better performance of the experimental group relative to the control group varied across samples. This finding suggests that the positive effects of the program might be different for participants with different characteristics. Second, there are some indicators over which the control group performed better than the experimental group. One possibility for such negative findings is that the subjects recruited in the experimental group were initially worse in terms of delinquency and drug-related behavior than those in the control group. Third, because of the small number of participants at posttest 3, the statistical analyses performed might lack statistical power that contributed to the non-significant differences between the experimental group and control group (Allison, Gorman & Primavera, 1993).

There are two limitations of this study. First, although non-equivalent group design has been commonly used to evaluate drug prevention programs, its limitations should be recognized. If resources permit, randomized controlled trials should be carried out to evaluate the effectiveness of the Astro program further. Second, the present attempt is only able to evaluate the medium-term effects of the program. It would be exciting to examine the effectiveness of the program over a longer period of time. Because several overseas studies have pointed to the importance of conducting long-term evaluation studies to examine the effectiveness of structured drug prevention program (Lynam et al., 1999; Rosenbaum & Hanson, 1998), long-term evaluation studies are indispensable. In addition, because popularity of some of the drug prevention programs, such as the Drug Abuse Resistance Education (DARE) and Here's Looking at You 2000 (HLAY 2000), has not been matched with demonstrated effectiveness (Eisen, Zellman, Massett & Murray, 2002), long-term and vigorous evaluation studies are indispensable to provide useful information for evidence-based practice and policy formulation in the field of substance abuse prevention (Gorman, 2002).

Despite these limitations, the present findings suggest that participants of the Astro program have changed in a positive direction after joining the program. With reference to the comment made by Hanlon, Bateman, Simon, O'Grady and Carswell (2002) that "in spite of the proliferation of drug abuse prevention strategies under investigation prior to the 1990s, there was little examination of conceptually based models under experimental and quasi-experimental conditions" (p.459), the objective outcome evaluation findings constitute important additions to the limited literature on substance abuse prevention programs in a cross-cultural context.

Major Findings of Evaluation Area 2: Subjective Outcome Evaluation

The evaluation data based on subjective outcome assessment are generally positive. Based on the perspectives of the workers and participants, the client satisfaction survey data suggest that the workers and participants were basically satisfied with the program and most of them felt that the program was helpful to adolescents. Although it is common to get high satisfaction rates in client satisfaction survey (e.g., Lebow, 1982), three points should be noted. First, two perspectives were used in the client satisfaction survey. Besides the participants' view, the workers' view was also collected. In terms of triangulation, this practice

enables triangulation by data sources. While it is common to explain high client satisfaction rates in the participants in terms of demand characteristics, high satisfaction rates amongst the workers would be less likely to be explained by this factor. Therefore, the use of two perspectives to look at the client satisfaction data represents a more robust approach to assess subjective outcome measures. Second, because the identity of the workers and participants was concealed in the data collection process and there was no direct relationship between the researchers (including the research assistants) and the participants, the possibility of the operation of demand characteristics in this situation was not high. Finally, inter-rater reliability checking has been carried out for the analyses of the open-ended questions.

While the subjective outcome data are very encouraging, there are two limitations of the present findings. First, although the evaluation instruments have been used in the Western context, validation work in the Chinese context is needed. As pointed out by Royse (2004), most of the available measures of subjective outcome assessment are "homemade". As a further step, validation of the related scales in the Chinese culture is necessary. This point is important because validated measures of subjective outcome measures of drug prevention are not currently available in Hong Kong. Second, besides using structured questions, more open-ended questions can be added so that we can gain a more in-depth understanding of the experiences of the workers and participants. In particular, workers and participants can be asked to keep diaries and write journals about the program content and related experiences.

Major Findings of Evaluation Area 3: Qualitative Evaluation

While the evaluation data in Area 1 and Area 2 can give us some idea about the "profiles" of the respondents on the objective and subjective outcome measures, there is a need to understand the subjective experiences and viewpoints of the workers and participants. As such, qualitative evaluation was carried out via in-depth interviews. There are several aspects of the evaluation findings based on the workers that deserve our attention. First, the workers were generally positive about the program and they perceived positive changes in the participants after they joined the program. Second, it appeared that it was not common for the workers to carry out systematic evaluation in drug prevention programs and they were not familiar with structured drug prevention programs. Third, most of the workers felt that the evaluation mechanism adopted in the present study was too long and time-consuming. For the qualitative evaluation findings based on the participants, the findings basically showed that the participants were positive about the program and they perceived positive changes in themselves after they joined the program. In short, perceptions of the workers and participants were quite consistent regarding the unique features of the program and its positive impact on the participants.

There are three features of the qualitative evaluation findings that make them credible. First, as the perspectives of the workers and the program participants were collected, this can enable us to have triangulation by data sources. Second, quite a substantial number of workers (N=15) and participants (N=30) were recruited to participate in the in-depth interviews. Although the participants were not randomly selected, the diversity of the informants recruited would generate a fairly comprehensive picture about the informants' perceptions of the program and its effectiveness. Third, inter-rater reliability checking has

been carried out, particularly with respect to those questions that are concerned with the benefits of the program and changes in the participants after joining the program.

Major Findings of Evaluation Area 4: Evaluation Based on Repertory Grid Data

The evaluation findings based on the repertory grid method clearly revealed the beneficial effects of the program. Using data based on 30 informants, group analyses showed that the informants identified more with the "ideal self" and "a successful person" but less with "a drug addicted person" and "an unsuccessful person" after joining the program. Individual analyses using two exemplar cases also illustrate the perceived positive changes in the informants after joining the program. The use of the repertory grid data provides an additional perspective to understand the program effects. Because the repertory grid technique is a 'disguised' form of assessment in which the informants would find it difficult to figure out the purposes of the assessment, the chance of having demand characteristics in the assessment process was not high. As such, the positive findings point to the beneficial effects of the program. In particular, the increasing distance between the "present self" and the "drug addicted person" suggests that the informants are less motivated to take drugs. Because the repertory grid techniques have been rarely used in the evaluation of drug prevention programs, the present attempt is a pioneering effort in the literature. If resources permit, it is recommended that this method should be used to assess the perceived self-identity systems of all program participants.

Integration and Triangulation of the Four Sources of Evaluation Findings

Borrowing concepts from navigation and military disciplines, Denzin (1978) used the term "triangulation" to argue for the utilization of different types of data based on different methodologies to examine the same phenomenon. The basic belief underlying the concept of triangulation is that there are biases in any one type of investigation and such biases and errors would be revealed and cancelled out when different methods, data sources and/or investigators are involved (Jick, 1979). In other words, triangulation refers to the process of seeking convergence of results based on different methods, researchers and settings on the same phenomenon under observation. Evaluators generally suggest that triangulation is an important principle that should be utilized to check the quality of evaluation data (Greene, Caracelli & Graham, 1989; Mathison, 1988).

Denzin (1978) identified four types of triangulation: triangulation by data sources (i.e., data collected by different persons, times, places etc), triangulation by different methods (i.e., different research methods such as observations, interviews, documents), triangulation by researchers (data collected by different researchers), and triangulation by theory. Miles and Huberman (1994) added another type of triangulation - triangulation by data types. In this study, triangulation by data sources (workers and participants' views in subjective outcome evaluation and qualitative evaluation), triangulation by different methods (objective outcome evaluation, subjective outcome evaluation, qualitative evaluation, evaluation based on repertory grid method), triangulation by researchers (inter-rater reliability checking) and triangulation by data types (quantitative data and qualitative data) were carried out. Within each type of triangulation, the findings clearly suggest that the participants have changed in

the positive direction after joining the program and the program is effective.

There are several contributions of the present evaluation study. First, because no known evaluation study of drug prevention program utilizing different evaluation approaches has been carried out in different Chinese contexts, this is a groundbreaking attempt and the present findings contribute to the limited literature on substance abuse prevention. Second, the present study provides additional evidence suggesting that a structured approach on drug prevention focusing on risk and protective factors is a promising direction for drug prevention. Third, the present study serves as an example on how programs in the social services context can be vigorously evaluated. Finally, the manuals developed and the experiences gained from this project are valuable to drug prevention workers in different Chinese contexts.

Nevertheless, there are also several limitations of the present study. First, because the span of the longitudinal study was relatively short, we need to further examine the long-term effectiveness of the program. Second, a non-equivalent group design was adopted in this study. While this design is commonly used, its limitations should be duly acknowledged. It would be desirable if a randomized controlled trial could be implemented in future. Third, if resources permit, more participants should be recruited to participate in the qualitative evaluation and evaluation based on the repertory grid method.

Conclusions

An integration of the evaluation findings from four different approaches clearly point to the effectiveness of the Astro program:

- Evaluation Area 1: The objective outcome evaluation findings showed that the program participants performed better than the control subjects in different domains, including social skills as well as drug and sex-related measures (knowledge, attitudes, behavioral intention and refusal skills), in different samples. While the present findings are very encouraging, there is a need to further collect more longitudinal data based on randomized controlled trials.

- Evaluation Area 2: The subjective outcome evaluation findings suggest that the workers and participants were satisfied with the program and they perceived that the program was helpful to the participants to distance themselves from drugs.

- Evaluation Area 3: The qualitative evaluation findings revealed that based on narratives freely narrated by the workers and program participants, the subjective experiences of the participants were generally positive and they perceived that there were many positive benefits of the program.

- Evaluation Area 4: The evaluation findings based on the repertory grid method clearly revealed that the participants perceived themselves to be psychologically closer to their ideal selves but farther away from a drug addicted person after joining the program.

Despite the limitations of the evaluation study, an integration and triangulation of the four sources of evaluation data clearly suggest that the Astro program is effective in changing adolescents' knowledge, attitude, behavioral intention, and refusal skills related to drug and sex in a positive direction. The positive evaluation findings suggest that the program can successfully be used in school and community contexts in Hong Kong and in other Chinese speaking communities.

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<div align="center">

飛躍成長路訓練計劃
組員開組前測試 / 組員開組後測試

</div>

性別： ☐ 男 ☐ 女

出生日期： ＿＿＿＿＿月＿＿＿＿＿日 (不用填寫年份)

這份問卷分為 12 個部分。有關的問題一般是沒有絕對錯或對，在填寫此問卷時，請細心閱讀各題，並選擇最能夠反映你意見的答案。這份問卷只作學術研究之用，<u>個人資料將會絕對保密，請放心回答。</u>你的寶貴意見有助我們加深了解香港的青少年及其家庭的狀況，請你盡量回答所有問題。

第一部份

請你評估自己做以下事情時有多少把握。請在以下每個項目中，<u>圈出</u>你認為最適合的
<u>數字答案</u>:

　　　　"1"代表十分不能夠
　　　　"2"代表不能夠
　　　　"3"代表能夠
　　　　"4"代表十分能夠

你認為自己做以下的事情時有多少把握:

		十分不能夠	不能夠	能夠	十分能夠
1.	與一個你不相識的人展開對話。	1	2	3	4
2.	表達與某人不同的意見。	1	2	3	4
3.	與一個和你同年齡的異性交談。	1	2	3	4
4.	拒絕一個你認為不公平的要求。	1	2	3	4
5.	要從精神緊張的情況下冷靜下來。	1	2	3	4
6.	與一群你剛剛相識的人交談。	1	2	3	4

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第二部份

這部份的問題沒有對或錯。我們只想知道你的意見。閱讀問題後，請根據你對以下句子的同意程度，圈出你認為最能反映你意見的數字答案。

		你的同意程度是			
		十分不同意	不同意	同意	十分同意
1.	和我同齡的青少年吸煙是可以接受的。	1	2	3	4
2.	吸煙可給我更多樂趣。	1	2	3	4
3.	吸煙可令我減低緊張的情緒。	1	2	3	4
4.	吸煙的青少年更受異性歡迎。	1	2	3	4
5.	吸煙可幫助我更融入身處的環境當中。	1	2	3	4
6.	吸煙是愚蠢的。	1	2	3	4
7.	飲酒的青少年容易在學校惹上麻煩。	1	2	3	4
8.	飲酒可給我更多樂趣。	1	2	3	4
9.	飲酒的青少年有更多朋友。	1	2	3	4
10.	和我同齡的青少年飲酒是一件愚蠢的事。	1	2	3	4
11.	飲酒的青少年更受異性歡迎。	1	2	3	4
12.	酒精可令人感覺更好。	1	2	3	4
13.	酒精可幫助我鬆弛下來。	1	2	3	4
14.	和我同齡的青少年飲酒是可以接受的。	1	2	3	4
15.	吸食大麻是愚蠢的。	1	2	3	4
16.	吸食大麻的青少年有更多朋友。	1	2	3	4
17.	吸食大麻的青少年更受異性歡迎。	1	2	3	4
18.	青少年吸食大麻可以證明他們是堅強的。	1	2	3	4

第二部份（續）

		你的同意程度是			
		十分不同意	不同意	同意	十分同意
19.	吸食大麻給我更多樂趣。	1	2	3	4
20.	吸食大麻是可以接受的。	1	2	3	4
21.	和我同齡的青少年吸食白粉（海洛英）是可以接受的。	1	2	3	4
22.	吸食白粉可給我更多樂趣。	1	2	3	4
23.	吸食白粉是愚蠢的。	1	2	3	4
24.	吸食白粉的青少年容易惹上麻煩。	1	2	3	4
25.	吸食白粉的青少年更受異性歡迎。	1	2	3	4
26.	吸食白粉可令我減低緊張的情緒。	1	2	3	4
27.	吸食白粉可幫助我更融入身處的環境當中。	1	2	3	4
28.	食 Fing 頭丸(亞甲二氧基甲基安非他明)的青少年更受異性歡迎。	1	2	3	4
29.	食 Fing 頭丸的青少年有更多朋友。	1	2	3	4
30.	和我同齡的青少年食 Fing 頭丸是一件愚蠢的事。	1	2	3	4
31.	食 Fing 頭丸可令我感覺更好。	1	2	3	4
32.	食 Fing 頭丸的青少年更受異性歡迎。	1	2	3	4
33.	食 Fing 頭丸可令我更融入身處的環境之中。	1	2	3	4
34.	和我同齡的青少年食 K 仔（氯胺酮）是可以接受的。	1	2	3	4
35.	食 K 仔是愚蠢的。	1	2	3	4
36.	食 K 仔的青少年有更多朋友。	1	2	3	4
37.	食 K 仔的青少年更受異性歡迎。	1	2	3	4
38.	食 K 仔可令我感覺更舒服。	1	2	3	4

第二部份（續）

第二部份 （續）

		你的同意程度是			
		十分不同意	不同意	同意	十分同意
39.	青少年食 K 仔可以證明他們是堅強的。	1	2	3	4
40.	食 K 仔的青少年容易惹上麻煩。	1	2	3	4
41.	和我同齡的青少年吸食冰（甲基安非他明）是可以接受的。	1	2	3	4
42.	吸食冰可給我更多樂趣。	1	2	3	4
43.	吸食冰是愚蠢的。	1	2	3	4
44.	吸食冰的青少年容易惹上麻煩。	1	2	3	4
45.	吸食冰的青少年更受異性歡迎。	1	2	3	4
46.	吸食冰可令我減低緊張的情緒。	1	2	3	4
47.	吸食冰可幫助我更融入身處的環境當中。	1	2	3	4
48.	性接觸（性交）能令我覺得自己更成熟。	1	2	3	4
49.	有性行為的青少年擁有更多朋友。	1	2	3	4
50.	和我同齡的青少年有性行為是一件愚蠢的事情。	1	2	3	4
51.	性行為可幫助保持男朋友/女朋友對我的興趣。	1	2	3	4

第三部份

請選出最能代表你在以下情境中的處理方法，並圈出你認為最適合的數字答案。

---

1. 如果現在你的朋友給你以下物件，你會有多難去拒絕呢？

（請圈出你認為最適合的數字答案）

	非常難拒絕	頗難拒絕	不知道	頗容易拒絕	非常容易拒絕
A. 酒精	1	2	3	4	5
B. 煙草	1	2	3	4	5
C. 大麻	1	2	3	4	5
D. 白粉（海洛英）	1	2	3	4	5
E. Fing 頭丸（亞甲二氧基甲基安非他明）	1	2	3	4	5
F. K 仔（氯胺酮）	1	2	3	4	5
G. 冰（甲基安非他明）	1	2	3	4	5

---

2. 如果現在你的朋友給你以下物件，你會怎樣做？

（請圈出你認為最適合的數字答案）

	肯定會拒絕	可能拒絕	不知道	可能接受	肯定會接受
A. 酒精	1	2	3	4	5
B. 煙草	1	2	3	4	5
C. 大麻	1	2	3	4	5
D. 白粉（海洛英）	1	2	3	4	5
E. Fing 頭丸（亞甲二氧基甲基安非他明）	1	2	3	4	5
F. K 仔（氯胺酮）	1	2	3	4	5
G. 冰（甲基安非他明）	1	2	3	4	5

3. 如果現在你的男或女朋友想你與他／她進行性行為（性交）的話，你會怎樣做呢？

（請圈出你認為最適合的數字答案）

肯定會拒絕	可能拒絕	不知道	可能接受	肯定會接受
1	2	3	4	5

第四部份

此部份的問題是了解個人濫藥的行為。請細心閱讀各題,選出答案,然後**圈出你**認為最適合的**數字答案**

1. 在過去的 **7 日中**,你有多少次:	過去的 7 日中			
	從來沒有	試過 1-2 次	試過 3-5 次	試過 5 次以上
a. 飲用含酒精的飲品(不包括領聖餐的葡萄酒)	1	2	3	4
b. 喝醉	1	2	3	4
c. 吸煙	1	2	3	4
d. 吸食大麻	1	2	3	4
e. 吸食白粉(海洛英)	1	2	3	4
f. 服食 Fing 頭丸(亞甲二氧基甲基安非他明)	1	2	3	4
g. 服食 K 仔(氯胺酮)	1	2	3	4
h. 服食冰(甲基安非他明)	1	2	3	4
i. 進行性行為	1	2	3	4

2. 在過去的 **30 日中**,你有多少次:	過去的 30 日中						
	從來沒有	間中有			經常有		
		試過 1-2 次	試過 3-5 次	試過 5 次以上	1 個月有一次	1 星期有數次	每天都有
a. 飲用含酒精的飲品(不包括領聖餐的葡萄酒)	1	2	3	4	5	6	7
b. 喝醉	1	2	3	4	5	6	7
c. 吸煙	1	2	3	4	5	6	7
d. 吸食大麻	1	2	3	4	5	6	7
e. 吸食白粉(海洛英)	1	2	3	4	5	6	7
f. 服食 Fing 頭丸(亞甲二氧基甲基安非他明)	1	2	3	4	5	6	7
g. 服食 K 仔(氯胺酮)	1	2	3	4	5	6	7
h. 服食冰(甲基安非他明)	1	2	3	4	5	6	7
i. 進行性行為	1	2	3	4	5	6	7

第四部份 (續)

3. 在過去的 **3 個月**，你有多少次：

| | 過去的 3 個月中 | | | | | | |
| | 從來沒有 | 間中有 | | | 經常有 | | |
		試過 1-2 次	試過 3-5 次	試過 5 次以上	1 個月有一次	1 星期有數次	每天都有
a. 飲用含酒精的飲品（不包括領聖餐的葡萄酒）	1	2	3	4	5	6	7
b. 喝醉	1	2	3	4	5	6	7
c. 吸煙	1	2	3	4	5	6	7
d. 吸食大麻	1	2	3	4	5	6	7
e. 吸食白粉（海洛英）	1	2	3	4	5	6	7
f. 服食 Fing 頭丸（亞甲二氧基甲基安非他明）	1	2	3	4	5	6	7
g. 服食 K 仔（氯胺酮）	1	2	3	4	5	6	7
h. 服食冰（甲基安非他明）	1	2	3	4	5	6	7
i. 進行性行為	1	2	3	4	5	6	7

4. 在你以往的日子裡，你有多少次：

| | 在你以往的日子裡 | | | | | | |
| | 從來沒有 | 間中有 | | | 經常有 | | |
		試過 1-2 次	試過 3-5 次	試過 5 次以上	1 個月有一次	1 星期有數次	每天都有
a. 飲用含酒精的飲品（不包括領聖餐的葡萄酒）	1	2	3	4	5	6	7
b. 喝醉	1	2	3	4	5	6	7
c. 吸煙	1	2	3	4	5	6	7
d. 吸食大麻	1	2	3	4	5	6	7
e. 吸食白粉（海洛英）	1	2	3	4	5	6	7
f. 服食 Fing 頭丸（亞甲二氧基甲基安非他明）	1	2	3	4	5	6	7
g. 服食 K 仔（氯胺酮）	1	2	3	4	5	6	7
h. 服食冰（甲基安非他明）	1	2	3	4	5	6	7
i. 進行性行為	1	2	3	4	5	6	7

第五部份

我們想知道在<u>未來的兩年內</u>你會不會做以下的事情。請在下列每條題目中<u>圈出</u>你的<u>數字答案</u>。

		絕對會	可能會	可能不會	絕對不會
1.	從現在開始，你會不會在未來的兩年內飲用含酒精的飲品呢？	1	2	3	4
2.	從現在開始，你會不會在未來的兩年內吸煙呢？	1	2	3	4
3.	從現在開始，你會不會在未來的兩年內吸食大麻呢？	1	2	3	4
4.	從現在開始，你會不會在未來的兩年內吸食白粉（海洛英）呢？	1	2	3	4
5.	從現在開始，你會不會在未來的兩年內服用 Fing 頭丸（亞甲二氧基甲基安非他明）呢？	1	2	3	4
6.	從現在開始，你會不會在未來的兩年內服 K 仔（氯胺酮）呢？	1	2	3	4
7.	從現在開始，你會不會在未來的兩年內吸食冰（甲基安非他明）呢？	1	2	3	4
8.	從現在開始，你會不會在未來的兩年內進行性行為呢？	1	2	3	4

第六部份

請仔細閱讀各題，並決定它是對還是錯，然後圈出你的**數字答案**。

	對	錯
1. 急速喝下大量酒精會引致酒精中毒，最嚴重可引致死亡。	1	2
2. 吸食大麻可改善記憶。	1	2
3. 海洛英是香港現時最多人濫用的藥物。	1	2
4. 酒精和煙被稱為 "入門藥物"。	1	2
5. 濫用軟性毒品對身體並沒有害處。	1	2
6. 煙草內的一氧化碳，使血壓升高，容易引致心臟病。	1	2
7. 自慰會導致不育。	1	2
8. 在香港販賣或製造危險藥物最高可被判終身監禁及罰款五百萬。	1	2
9. 服用 K 仔(氯胺酮)使人頭腦清醒。	1	2
10. 大麻使人判斷力下降，容易引致意外發生。	1	2
11. 與未滿十六歲的少女進行性行為，不論她是否同意，均屬違法。	1	2
12. 濫用多種藥物可避免上癮。	1	2
13. 性交是處理性衝動的唯一方法。	1	2
14. 與未開始月經的女孩進行性行為是不會懷孕的。	1	2
15. 煙草內的焦油已被證實是引致肺癌的其中一種物質。	1	2
16. 性交時使用安全套可以完全避免懷孕。	1	2
17. 服用搖頭丸不會對身體造成任何長遠影響。	1	2
18. 濫用搖頭丸會令人脫水。	1	2
19. 陰莖大小會影響性能力。	1	2

第六部份

第六部份（續）

	對	錯
20. 性接觸是傳染愛滋病的<u>唯一</u>途徑。	1	2
21. 藏有危險藥物的人仕，經法庭定罪可判罰款一萬元及入獄三年。	1	2
22. 性衝動是可以控制的。	1	2
23. 長期濫用白粉的人患肺癌的機會比平常人高出十倍。	1	2
24. 長期服用冰會引致幻覺、精神崩潰及誘發精神病病徵，如：自殺及自毀行為、妄想被逼害等。	1	2
25. 只收藏少量白粉不是犯法。	1	2
26. 濫用K仔(氯胺酮)會破壞中樞神經系統。	1	2

Note: Only those sections related to substance abuse are given in Appendix 1

飛躍成長路訓練計劃 – 飛躍少年組

組員整體回應表

1. 請回想一下『飛躍少年組』的所有細節，並在下表中圈出你對以下事物的滿意程度及它們的質素。

	你對它的滿意程度是				你認為它的質素是			
	非常不滿意	不滿意	滿意	非常滿意	十分差	差	好	十分好
資訊的提供 (如藥物的影響)	1	2	3	4	1	2	3	4
日營的安排	1	2	3	4	1	2	3	4
物資的提供	1	2	3	4	1	2	3	4
小組工作人員的表現	1	2	3	4	1	2	3	4
茶點	1	2	3	4	1	2	3	4
小組活動的安排 (如遊戲、地點、時間…)	1	2	3	4	1	2	3	4
其他活動	1	2	3	4	1	2	3	4

2. 請在下表中圈出你認為「飛躍少年組」對你以下各方面的幫助有多大。

	幫助程度			
	沒有幫助	幫助不大	有點幫助	幫助很大
在抗拒使用藥物的態度	1	2	3	4
改善拒絕使用藥物的技巧	1	2	3	4
抗拒使用藥物的行為	1	2	3	4
改善社交技巧	1	2	3	4
增加藥物知識	1	2	3	4

3. 請寫下你從『飛躍少年組』計劃中所學到最重要的東西。

_____

_____

_____

_____

4. 你認為『飛躍少年組』有那些可以改善的地方？

_____

_____

_____

5. 你會否推介『飛躍少年組』這個活動給你的朋友呢?

_____

_____

_____

6. 你認為『飛躍少年組』能幫助你遠離吸煙?

　　　　　完全沒有幫助　　　沒甚幫助　　　有些幫助　　　幫助很大
　　　　　　　□　　　　　　　□　　　　　　□　　　　　　□

7. 你認為『飛躍少年組』能幫助你遠離其他藥物（如大麻、白粉、K 仔、Fing 頭丸及冰）嗎?

　　　　　完全沒有幫助　　　沒甚幫助　　　有些幫助　　　幫助很大
　　　　　　　□　　　　　　　□　　　　　　□　　　　　　□

8. 你認為『飛躍少年組』能幫助你抗拒過早與他人發生性行為嗎?

　　　　　完全沒有幫助　　　沒甚幫助　　　有些幫助　　　幫助很大
　　　　　　　□　　　　　　　□　　　　　　□　　　　　　□

飛躍成長路訓練計劃 – 飛躍青年組

組員整體回應表

1. 請回想一下『飛躍青年組』的所有細節，並在下表中圈出你對以下事物的滿意程度及它們的質素。

	你對它的滿意程度是				你認為它的質素是			
	非常不滿意	不滿意	滿意	非常滿意	十分差	差	好	十分好
資訊的提供 (如藥物的影響)	1	2	3	4	1	2	3	4
日營的安排	1	2	3	4	1	2	3	4
物資的提供	1	2	3	4	1	2	3	4
小組工作人員的表現	1	2	3	4	1	2	3	4
茶點	1	2	3	4	1	2	3	4
小組活動的安排 (如遊戲、地點、時間…)	1	2	3	4	1	2	3	4
其他活動	1	2	3	4	1	2	3	4

2. 請在下表中圈出你認為「飛躍青年組」對你以下各方面的幫助有多大。

	幫助程度			
	沒有幫助	幫助不大	有點幫助	幫助很大
在抗拒使用藥物的態度	1	2	3	4
改善拒絕使用藥物的技巧	1	2	3	4
抗拒使用藥物的行為	1	2	3	4
改善社交技巧	1	2	3	4
增加藥物知識	1	2	3	4

3. 請寫下你從『飛躍青年組』計劃中所學到最重要的東西。

_____
_____
_____
_____

4. 你認為『飛躍青年組』有那些可以改善的地方？

_____
_____

5. 你會否推介『飛躍青年組』這個活動給你的朋友呢?

_____
_____

6. 你認為『飛躍青年組』能幫助你遠離吸煙嗎?

完全沒有幫助	沒甚幫助	有些幫助	幫助很大
☐	☐	☐	☐

7. 你認為『飛躍青年組』能幫助你遠離酒精嗎?

完全沒有幫助	沒甚幫助	有些幫助	幫助很大
☐	☐	☐	☐

8. 你認為『飛躍青年組』能幫助你遠離其他藥物（如大麻、白粉、K 仔、Fing 頭丸及冰）嗎?

完全沒有幫助	沒甚幫助	有些幫助	幫助很大
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9. 你認為『飛躍青年組』能幫助你抗拒過早與他人發生性行為嗎?

完全沒有幫助	沒甚幫助	有些幫助	幫助很大
☐	☐	☐	☐

飛躍成長路訓練計劃 – 飛躍少年組

工作人員整體回應表

1. 請回想一下『飛躍少年組』的所有細節，並在下表中圈出你對以下事物的滿意程度及它們的質素。

	你對它的滿意程度是				你認為它的質素是			
	非常不滿意	不滿意	滿意	非常滿意	十分差	差	好	十分好
資訊的提供 (如藥物的影響)	1	2	3	4	1	2	3	4
日營的安排	1	2	3	4	1	2	3	4
物資的提供	1	2	3	4	1	2	3	4
你的表現	1	2	3	4	1	2	3	4
茶點	1	2	3	4	1	2	3	4
小組活動的安排 (如遊戲、地點、時間…)	1	2	3	4	1	2	3	4
其他活動	1	2	3	4	1	2	3	4

2. 請在下表中圈出你認為「飛躍少年組」對組員在以下各方面的幫助有多大。

	幫助程度			
	沒有幫助	幫助不大	有點幫助	幫助很大
在抗拒使用藥物的態度	1	2	3	4
改善拒絕使用藥物的技巧	1	2	3	4
抗拒使用藥物的行為	1	2	3	4
改善社交技巧	1	2	3	4
增加藥物知識	1	2	3	4

3.　請寫下你從『飛躍少年組』計劃中，組員所學到最重要的東西。

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4.　你認為『飛躍少年組』有那些可以改善的地方？

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5.　你會否推介『飛躍少年組』這個活動給其他的工作人員呢？

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6.　你認為『飛躍少年組』能幫助組員遠離吸煙嗎?

完全沒有幫助　　　沒甚幫助　　　有些幫助　　　幫助很大
　　□　　　　　　　□　　　　　　□　　　　　　□

7.　你認為『飛躍少年組』能幫助組員遠離其他藥物（如大麻、白粉、K 仔、Fing 頭丸及冰）嗎？

完全沒有幫助　　　沒甚幫助　　　有些幫助　　　幫助很大
　　□　　　　　　　□　　　　　　□　　　　　　□

8.　你認為『飛躍少年組』能幫助組員抗拒過早與他人發生性行為嗎?

完全沒有幫助　　　沒甚幫助　　　有些幫助　　　幫助很大
　　□　　　　　　　□　　　　　　□　　　　　　□

飛躍成長路訓練計劃 － 飛躍青年組

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3. 請寫下你從『飛躍青年組』計劃中，組員所學到最重要的東西。

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☐   ☐   ☐   ☐

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☐   ☐   ☐   ☐

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☐   ☐   ☐   ☐

9. 你認為『飛躍青年組』能幫助組員拒過早與他人發生性行為嗎?

<u>完全沒有幫助</u>   <u>沒甚幫助</u>   <u>有些幫助</u>   <u>幫助很大</u>

☐   ☐   ☐   ☐

工作員的感受和看法(CIPP Model)

情景分析 (Context Evaluation)

1. 你們以往有沒有提供預防濫藥服務？如有，有多少次？
2. 以往的訓練方法或服務手法為何？
3. 以往的訓練有沒有評估成效？如何進行？
4. 你覺得以往的預防工作的成效如何？
5. 在西方有很多結構性預防濫用藥物計劃 (structured drug prevention education programs)。你對它們有些什麼了解？

輸入分析 (Input Evaluation)

1. 你帶了多少個組？
2. 你有否參與選擇組員／學生？(如有: 怎樣選擇組員?)
3. 在選擇實驗組和控制組組員時有沒有困難？
4. 帶領這個小組是否影響你的工作？
5. 在活動籌劃／推行上，你是否有足夠的資源與支援？
6. 學校／機構／研究隊／社區的配合情況是怎樣？

過程分析 (Process Evaluation)

1. 你對「飛躍成長路」計劃的印象如何？
2. 「飛躍成長路」計劃有什麼特色？
3. 你覺得「飛躍成長路」的應用性怎樣？
4. 對於帶領小組，你有什麼特別的經歷？
5. 對於帶領小組，你有沒有遇到些什麼困難？
6. 你對於小組的內容有些什麼看法？有些什麼節數特別難忘？
7. 你覺得組員對「飛躍成長路」計劃的反應是怎樣？
8. 你對於評估機制有些什麼意見？
9. 你對於合作流程有些什麼意見？

成果分析 (Product Evaluation)

1. 你認為「飛躍成長路」計劃與貴機構以往參與的禁毒計劃有些什麼不同？
2. 你覺得青少年參加「飛躍成長路」計劃後有什麼改變？ (Free elicitation followed by probing)
   i. 對藥物的認識、態度、行為
   ii. 對性的認識、態度、行為
   iii. 對青年人其他方面的改變

3. 如有改變，你認為在參加了小組後，有些什麼因素或經驗令組員改變？
4. 如果沒有改變，你認為是什麼原因令組員沒有改變？
5. 你認為這個小組對於年青人有沒有幫助？
6. 你認為這個小組有些什麼地方需要改善？
7. 你對於小組的成效有沒有其他看法？

參加者的感受和看法

1. 總括來說，你對這個小組有些什麼感覺和看法？
2. 你覺得這個小組有些什麼特別的地方？
3. 你是否喜歡小組形式？為什麼？
4. 你對於小組的內容有些什麼看法？
5. 有些什麼節數特別難忘？
6. 你在小組裡有些什麼最難忘的經歷或最深刻的印象？
7. 你與組員相處時有些什麼體驗和感受？
8. 你與導師相處時有些什麼體驗和感受？
9. 最初參加時，你的期望和感受是怎樣？
10. 當小組完成後，你的感受是怎樣？
11. 在參加這個組後，你覺得自己有些什麼改變？ (Free elicitation followed by probing)
    - 對藥物的認識？
    - 對藥物的態度？
    - 對藥物的行為（是否會去嘗試）？
    - 對性的認識？
    - 對性的態度？
    - 對性的行為（是否會去嘗試）？
    - 自己心境上的改變？
    - 與人交往上的改變？
    - 與家人關係上的改變？
12. 如有改變，你認為在參加了小組後，有些什麼因素或經驗令你改變？
13. 如果你沒有改變，你認為是什麼原因令你沒有改變？
14. 你認為這個小組對於年青人有沒有幫助？
15. 你認為這個小組有些什麼地方需要改善？
16. 如果有機會，你是否會再參加這個組？為什麼？
17. 你對這個小組是否滿意？有些什麼地方令你滿意/不滿意？
18. 你有沒有其他意見／感受？

Elements Used in the Repertory Grid Tests

1. 現在的我
2. 理想的我
3. 將來的我 （3年後）
4. 參加「飛躍成長路」之前的我
5. 參加完「飛躍成長路」之後的我
6. 父
7. 母
8. 好朋友
9. 濫用藥物者 （啪丸）
10. 成功的人
11. 失敗的人
12. 班主任