

Research Report on
Effective Ways to Dispel Misunderstandings about
Psychotropic Substances in Youth at Risk for Drug
Abuse Problems

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Executive Summary

This is a research study to examine a social work service approach, known as cognitive-behavioral integrated therapy (CBIT), in at-risk youth's misunderstandings about drug abuse. The research objectives are to

- 1 Identify at-risk youth's misunderstandings about psychotropic substances that are relevant to the youth's psychotropic substance abuse; and
- 2 Investigate the effectiveness of ways to dispel at-risk youth's misunderstandings and thereby reduce the youth's psychotropic substance abuse.

The research proceeded firstly with an exploration phase, secondly with a training phase and thirdly with a service evaluation phase. First, an exploration phase tapped misunderstandings about psychotropic substance abuse using in-depth personal interviews with eight at-risk youth selected from various services and eight social workers of the Hong Kong Christian Service. Second, the training phase involved random selection of 13 social workers associated with the service agency(s) for training to dispel misunderstandings mainly using cognitive-behavioral therapy. Third, the service evaluation phase provides services to 222 at-risk youth served by the Hong Kong Christian Service and the Hong Kong Children and Youth Services. Half of them received services from the 13 social workers trained for dispelling misunderstandings (E-group), and another half of them received services from social workers not trained for dispelling misunderstandings (C-group).

Results of the first, exploration phase unfolded misunderstandings in terms of playfulness, perceived benefits of drug abuse to the body, spirit, interpersonal relationships, mood, and the perceived appropriateness of drug abuse or myth about drug abuse. They primarily reflected three types of misunderstanding, pertaining to needs for drug abuse, benefits of drug abuse, and controllability over drug abuse.

The second, training phase, involved the provision of CBIT training, consisting of a 5-day workshop and some follow-up guidance or supervision. Its themes primarily included the principles of CBIT, related techniques, components, treatment phases, and working with families and social network members.

In the service evaluation phase, the foremost findings were about the integrity of services provided to the E-group young service users, in according to the CBIT training. That is, social workers in the E-group, who had received the CBIT training, practiced more CBIT interventions during their encounters with their young service users, as compared with social workers in the C-group. The findings indicated that the CBIT training was effective in promoting social workers' application of CBIT and the E-group operated as planned to render CBIT interventions.

Furthermore, the service evaluation phase generated the following key findings:

- CBIT interventions received by the youth tended to reduce the youth's pro-drug misunderstanding, which combined playfulness, perceived benefits of drug abuse, and the perceived appropriateness of drug abuse or myths.
 - The reduction happened in both the E-group and C-group.
 - The reduction particularly happened in the youth who had abused drugs once in 8 or more days before, that is, with a moderate level of drug abuse.
- Cognitive intervention of CBIT provided to the youth tended to reduce the youth's pro-drug misunderstanding, especially when the youth had abused drugs once in 8 or more days before, that is with a moderate level of drug abuse.
 - The reduction especially happened in the perceived benefit of drug abuse to social relationships.

- Some CBIT interventions received by and provided to the youth tended to increase the youth's drug-free days.
 - The increase particularly happened in the youth of the E-group.
 - The increase particularly happened in the youth who had abused drugs once in 8 or more days before, that is with a moderate level of drug abuse.
- The youth in the E-group had a lower pro-drug understanding than the youth in the C-group, under the conditions of
 - Presence of the mother
 - Not having had residential drug treatment
- The youth in the E-group had longer drug-free days or a shorter drug abusing history than the youth in the C-group, under the conditions of
 - Having halted drug abuse
 - As required by social services
 - Having had received social services for a longer time after abusing drugs
 - Not having had received correctional services after abusing drugs
- The youth's pre-intervention pro-drug misunderstanding did not increase drug abuse.
- However, the youth's post-intervention pro-drug misunderstanding tended to precipitate drug abuse, specifically that before the recent month.

Hence, use of CBIT in the service tended to reduce the youth's pro-drug misunderstanding. This misunderstanding then tended to foment drug abuse within a short time. CBIT also appeared to be particularly effective in dispelling the pro-drug misunderstanding of youth of a moderate level of drug abuse. In all, the effectiveness of CBIT intervention provided by the social worker illustrates the dosage-effect relationship. Accordingly, the more the social worker provides the young service user with CBIT intervention, the better the user's outcome, in terms of less misunderstanding and drug abuse. The effectiveness of CBIT was distinctive, as it did not emanate from other approaches investigated in the study.

The study, overall, offers the following implications for practice and policy tackling youth drug abuse, in order to make the application of CBIT in treating at-risk youth best effective.

- Implementation of the therapy in terms of its cognitive, behavioral, and motivational components in the service encounter
- Reduction in misunderstanding, which reduces drug abuse within a short time
- Targeting particularly youth abusing drugs once in 8 or more days, that is, at of moderate level of drug abuse
- Targeting youth who have mothers, or more reasonably soliciting mothers' support for the therapy
- Targeting youth who have halted drug abuse before
- Targeting youth who have received social services for a longer time after abusing drugs
- Not targeting youth who have received residential drug treatment or correctional services

行政撮要

這研究檢視名為認知－行為綜合治療 (CBIT) 的社工服務，對受風險青少年的吸毒誤解的作用。研究目的是

- 1 辨識受風險青少年對吸服危害精神的藥品的誤解，以及
- 2 查究消除受風險青少年對吸服危害精神藥品的誤解的有效方法。

這研究的推展，首先是探索期，第二階段是訓練期，以及第三階段的服務評估期。首先，探索期利用深入個人訪問八位受風險和香港基督教服務處的八位社工，測度有關吸服危害精神的藥品的誤解。第二，訓練期涉及該服務機構及隨機抽樣的 13 位社工，接受主要利用認知－行為綜合治療去消除誤解的訓練。第三，服務評估期向香港基督教服務處及香港青少年服務的 222 位受風險青少年提供服務。他們作為實驗組的半數，是接受那 13 位受過訓練的社工的服務。作為對照組的另一半則接受其他社工的服務。

首期或探索期的結果展示出的誤解是有關貪玩，吸毒對身體、精神，人際關係和心情的好處，以及吸毒的適切性或有關吸毒的迷思的。它們主要反映對吸毒的需要、好處及控制的三種誤解。

第二階段的訓練期涉及認知－行為綜合治療的訓練，包括五天的工作坊和一些跟進指導和督導。它的主題主要包括認知－行為綜合治療的原理、相關技巧、組件、治療期、及與家庭和社會網絡成員的協作。

在服務評估期，最重要的發現是有關實驗組所提供服務，切合認知－行為綜合治療訓練的完整性。即是說，實驗組中接受過認知－行為綜合治療訓練的社工，在與青少年服務使用者的接觸時，比對照組的社工使用較多認知－行為綜合治療的介入。這發現顯示出，認知－行為綜合治療訓練有效推動社工應用認知－行為綜合治療，以及實驗組如計劃般運作，以提供認知－行為綜合治療的介入。

此外，服務評估期還整理出以下關鍵性發現。

- 青少年接受的認知－行為綜合治療介入傾向於降低青少年對有助吸毒的誤解，即綜合貪玩、吸毒的好處及吸毒的適切性和迷思。
 - 這降低在實驗組和介入組均出現。
 - 這降低特別出現於八天或更長時間吸一次毒，即中度吸毒的青少年。
- 認知－行為綜合治療給予青少年的認知介入，傾向於降低八天或更長時間吸一次毒，即中度吸毒的青少年，對有助吸毒的誤解。
 - 這降低尤其出現於吸毒對社交關係所感受的好處。
- 一些青少年所接受到或被提供的認知－行為綜合治療的介入，傾向於增加青少年的無吸毒日數。
 - 這增加特別出現於實驗組的青少年。
 - 這增加特別出現於八天或更長時間吸一次毒，即中度吸毒的青少年。
- 實驗組的青少年，比相對組的青少年，在以下情況下有較低的有助吸毒誤解
 - 有母親
 - 沒有接受留宿的吸毒治療
- 實驗組的青少年，比相對組的青少年，在以下情況下，有較長的無吸毒日數或較短的吸毒歷史。
 - 有停止吸毒
 - 由於社會服務的需要
 - 有在吸毒之後較長時間接受社會服務

- 沒有在吸毒之後接受懲教服務
- 青少年的介入前有助吸毒誤解並沒有增加吸毒。
- 然而，青少年的介入後有助吸毒誤解，卻傾向於促使吸毒，尤其是在最近一個月之前的。

因此，使用認知－行為綜合治療傾向於降低青少年的有助吸毒誤解。這誤解隨之傾向於在短時間內釀成吸毒。認知－行為綜合治療亦顯得，特別有效地清除中度吸毒青少年的有助吸毒誤解。總之，社工提供認知－行為綜合治療的有效性，顯示出劑量與效應的關係。即是說，社工越多提供認知－行為綜合治療的介入予青少年服務使用者，使用者的結果越好，即對吸毒的誤解越少。這認知－行為綜合治療的成效是獨特的，因為本研究涉及的其他手法並未顯示這成效。

這研究整體地對處理青少年吸毒的實務和政策，並最有效地應用認知－行為綜合手法處理具風險的青少年，提出以下啓示。

- 在服務接觸中實施認知－行為綜合治療，包括其認知、行為及動機組件
- 降低誤解，從而在短時間內降低吸毒
- 特別針對八天或更長時間吸一次毒，即中度吸毒的青少年
- 針對那些有母親的青少年，或有理由地要求母親對治療的支持
- 針對之前曾經停止吸毒的青少年
- 針對在吸毒之後接受社會服務較長時間的青少年
- 不針對在吸毒之後接受留宿吸毒治療或懲教服務的青少年

Introduction

This is a research study to address the issue concerning an in-depth study of at-risk youth's misunderstandings about psychotropic substances, and particularly effective ways to dispel the misunderstandings. The research has its concern on youth who are aged between 13 and 21 and at risk for psychotropic substance abuse. The research involves the following coherent set of objectives:

- 3 Identifying at-risk youth's misunderstandings about psychotropic substances that are relevant to the youth's psychotropic substance abuse; and
- 4 Investigating the effectiveness of ways to dispel at-risk youth's misunderstandings and thereby reduce the youth's psychotropic substance abuse.

To achieve the objectives, the proposed research combines qualitative and quantitative approaches to explore and substantiate evidence. Whereas the qualitative approach involves a series of in-depth interviews with at-risk youth and social workers, the quantitative approach relies on an experimental design. The experimental design involves social workers' use of various ways to dispel at-risk youth's misunderstandings about psychotropic substance abuse and reduce the youth's risk for the abuse. Before the implementation of the experiment, the research project has provided training for social workers to consolidate their skills in implementing the concerned ways to dispel misunderstandings and reduce the risk. Besides, the research has ensured the integrity of the implementation of the experiment or the concerned ways. Both qualitative and quantitative analytic approaches employ rigorous analytic techniques to refine evidence for the research objectives.

Theoretical Framework

At-risk youth's misunderstandings about psychotropic substances have been a concern in the cognitive-behavioral approach to understanding and treating substance abuse. Whereas research findings and practices concerning the misunderstandings are available, knowledge about relevant misunderstandings to psychotropic substance abuse among at-risk youth in Hong Kong have not been transparent. Accordingly, researchers and practitioners are unclear about which misunderstandings are responsible for psychotropic substance abuse and therefore in need of dispelling and treatment. Without doubt, some previous studies have done a very good job in locating some misunderstandings among youth about substance abuse (Cheung et al. 2003; Shek et al. 2004). These studies, nevertheless, have not offered evidence about the relationship between the misunderstandings and psychoactive substance abuse and effective ways to dispel the misunderstandings. Hence, the proposed research would represent follow-up work to elaborate findings of previous studies to make them more pertinent to the current objectives.

Misunderstandings about psychotropic substances generally refer to beliefs, cognitions, expectations concerned that are incorrect or inappropriate. On the one hand, they contradict or distort existing knowledge, and on the other hands, they deviate from social norms against psychotropic substance abuse. The latter point is important because the philosophy of science or epistemology suggests that social norms are an essential basis of knowledge (Fuchs 1993). Accordingly, what is true depends on what the majority in society believe or what the social norm or convention states. Besides, misunderstandings concern something that is irrational, and irrationality means something that is harmful, impeding goal achievement, provoking conflict, and creating negative emotion, apart from contradiction to the fact (Ellis et al. 1988). Misunderstandings thereby cover misconceptions, irrational or illogical thinking, beliefs, or

cognitions, cognitive distortions, errors, or bias, over- and under-statements of costs and benefits, misattributions, and so on.

In the tradition of cognitive-behavioral research and therapy, misunderstandings stem from cognitive processes of minimization, rationalization, all-or-nothing thinking or dichotomizing, overgeneralization, mental filtering, converting positives into negatives, jumping to negative conclusions, catastrophizing, mistaking feelings for facts, personalizing or blaming, self-putting down, and “should” assertion or absolutizing (Graham 2004; Jarvis et al. 1995; van Wormer and Davis 2003). Moreover, misunderstandings tend to be automatic, rigid, inflexible, and often practiced but non-conscious, and therefore require research exploration (Ellis et al. 1988). Misunderstandings about psychotropic substance abuse would cover those about its usage, consequences, costs, benefits, and values. Accordingly, they would concern who, how, how many people or how much, what, and why about usage and other concerns about psychotropic substance. At the core of the misunderstandings would be their irrational features, in terms of denial, the overestimation of benefits, underestimation of frustration tolerance, self-defined needs, stimulation, discomfort, anxiety, avoidance of negative emotions, difficulty, and self-blame (Ellis et al. 1988). Whereas these misunderstandings have the central concern with psychotropic substance, they inevitably relate to more general or fundamental irrational beliefs of demandingness or perfectionism, awfulizing, low tolerance for frustration, concern about self- or others’ ratings, and overgeneralization (Ellis et al. 1988). Accordingly, misunderstandings would concern setting too high a goal, worry, intolerance, evaluation, and estimation in life generally. Two particularly fundamental general misunderstandings would be the overvaluation of risk taking and undervaluation of rational thinking and therefore underuse of and under-sensitivity to rational thinking or cost-benefit analysis.

Misunderstandings about the overvaluation of risk taking and undervaluation of rational thinking are two under-researched premises underlying cognitive-behavioral theory and therapy about psychotropic substance abuse. Essentially, the success of reducing substance abuse by dispelling misunderstandings critically depends on the devaluation of risk taking and valorization of rational thinking. Rational thinking, involving cognitive will (i.e., motivation) and skill (i.e., ability), is clearly a decisive factor of the effectiveness of treatment for drug abuse (Czuchry and Dansereau 2004). Conversely, cognitive or rational therapy fails simply because young abusers are not rational enough, and hence they are fond of risk taking and susceptible to the influences of impulse, peer seduction, and other irrational stimuli (Ennett et al. 1999; Robbins and Bryan 2004). In this connection, cognitive ability may not be the sole determinant, because cognitive motivation such as need for cognition can be a determinant independent of cognitive ability. The essential cognitive ability required would be the thought or calculation of costs and benefits of psychotropic substance abuse with reference to some values. Such ability, represent some formal operation level of cognitive development, does not appear to be too sophisticated. Hence, inducing youth’s cognitive motivation, as well as boosting youth’s cognitive ability, would be a more fundamental concern than cognitive therapy.

Cognitive-behavioral integrated therapy (CBIT) used to dispel misunderstandings and promote rational thinking are therefore essential cognitive-motivational interventions to safeguard the prevention of substance abuse by dispelling the misunderstandings. To facilitate such interventions, CBIT incoroproates a network therapeutic approach would be necessary to supplement the individualized approach to cognitive intervention (Galanter 1993). Network therapy encompasses that involving the family, friends, and other significant others to facilitate the effectiveness of individualized treatment. The therapy has the merit of increasing the treatment effectiveness through the operation of cohesiveness, conflict resolution, cognitive restructuring, open communication, coercion, and security (Galanter

1993). In sum, the increase in people involved in the treatment would enhance interaction and enforcement for the treatment and its effectiveness. The treatment, nevertheless, needs to involve people who are not substance abusers in order to set a model for successful rehabilitation.

Conceptualization

Rigorous research on misunderstandings about psychotropic substances and evaluation of ways to dispel the misunderstandings eventually depend on the measurement of the misunderstanding and psychotropic substance or its reduction. Whereas much of the measurement framework can emerge from in-depth interviews with youth at risk for psychotropic substance abuse, it can also build on existing works. According to one such study (Shek et al. 2004), misunderstandings can involve underestimations of the harm, destruction, and chance of addiction; overestimations of self-control, fun, hobby functions, commonness or popularity, attractiveness, trouble reduction, stress reduction, help to make friends and other performance; and overvaluation of risk taking regarding psychotropic substance use. Similarly, another local study (Fok and Tsang 2005) has identified such misunderstandings as the underestimation of the harm of substance abuse and the overestimation of the benefit of the abuse, such as stress relief. Other works additionally suggest misunderstandings in terms of overvaluations of hedonism (Verhagen et al. 2000), sensation seeking or immediate gratification (Wood and Cochran 1995), impulsivity (Robbins and Bryan 2004), deprivation (Stiles and Liu 2000), learning from deviant peers (Akers 1998; Akers and Lee 1999), and risk taking (Krebs and Steffey 2005). Meanwhile they indicate misunderstandings in terms of undervaluations of the future (Robbins and Bryan 2004), self-efficacy (Cheung et al. 2003), cognitive skill (Okwunnabua and Duryea 1998), conventional social bonding, and receiving treatment (Magura and Rosenblum 1993).

Nevertheless, some of the misunderstandings may be too general to influence psychotropic substance abuse. It is therefore necessary to explore misunderstandings exactly related to the abuse. For instance, at-risk youth may well understand the harm of psychotropic substance abuse to its health, but they may underestimate the severity and acuteness of harm with a trial use of a psychotropic substance. Moreover, even though they realize the harm of the abuse to their health, they may underestimate social costs, financial costs (such as by reduced productivity), psychological costs, and long-term or delayed harm to their health associated with the abuse. Similarly, at-risk youth may overestimate benefits such as relaxation and stress reduction, because they overlook the temporary nature of the benefits. Essentially, many of the relevant misunderstandings may deal with a faulty valuation of cost and benefit. For instance, at-risk youth may overvalue association with deviant peers and neglect the fact that such peers are unhelpful and harmful to them. Likewise, at-risk youth may overvalue fun, impulsivity, temporary relief, and risk taking and undervalue moral and conventional concerns and legitimate and acceptable social norms. More fundamentally, at-risk youth may overstate the importance of perfection, achievement, and dichotomous thinking (i.e., all or nothing) or one-sidedness. As such, they do not realize alternative values and benefits available from something other than psychotropic substance abuse. In all, misunderstandings would be more than ignorance about the harm and lack of benefit from psychotropic substance abuse generally. They involve specific conditions leading to harm and limitation in benefit, such as the time and situation of psychotropic substance abuse.

In addition, overvaluation of risk taking and relationships with problematic peers and underestimation of rational thinking are two misunderstandings of particular concern. Whereas the overvaluation reflects the tendency to take risk (Stewart 1996) and susceptibility

to problematic peer influence (Akers and Lee 1999), the underestimation refers to cognitive motivation or need for cognition (Czuchry and Dansereau 2004). Moreover, the latter would partly explain the former (Lawrence 1998) and is therefore particularly important for dispelling.

Psychotropic substance abuse is the focal concern for research and evaluation, as it is the supposed ultimate outcome of dispelling misunderstandings. Moreover, in order to demonstrate service effectiveness without displacing the abuse from psychotropic substances to non-psychotropic substances, abuse of non-psychotropic substance will also be a concern for measurement. The measurement will cover the amounts of abuse of various psychotropic substances over a month. Each amount will be the product of the frequency of abuse and the amount of abuse at each time. The measurement will also differentiate the modes of abuse, such as injection, sniffing, and mixing with alcohol and other substances, because they can determine the harm of the abuse (Hendry et al. 1993; Lovell 2002). Similarly, conditions of abuse such as during stress, illness, dancing, driving, exercising, and doing other kinds of work will also be concerns for measurement, because of their impacts on the harm (Allen et al. 1992; Schuckit 2006).

Exposure to various ways to dispel misunderstandings about psychotropic substances is the major input variable for measurement. Such exposure will involve the amount of time in contact with social workers and people networked to help the at-risk youth. The contact will include that in formal service encounters and informal and haphazard meetings. Formal service encounters will include cognitive-behavioral therapy, rational thinking training conducted by social workers, and network therapy involving significant others arranged by social workers. These approaches will focus on dispelling at-risk youth's misunderstandings concerning psychotropic substances, including overvaluations of risk taking and association with deviant peers and the undervaluation of rational thinking. Notably, the at-risk youth may overvalue association with peers even though they are addicted to substance and harmful to the youth. This overvaluation would enhance the youth's risk for psychotropic substance abuse. To dispel the overvaluation, cognitive-behavioral intervention would challenge the rational basis, rational thinking training such as motivational interviewing would encourage self-determination in a rational way, and network therapy would involve inputs from people who are not substance abusers. The intervention would discount the value of association with deviant peers, sustain rational thinking based on the discounted value, and accentuate the value of association with non-abusers. As such, the intervention would defuse influences of deviant peers, as well as the youth's own misunderstandings on psychotropic substance abuse.

Cognitive-behavioral therapy encompasses the cognitive component of challenging misunderstandings by Socratic questioning, advantage-disadvantage analysis, decatastrophizing, blaming the event, recalling good things, relabeling, and self-encouragement (Graham 2004; Jarvis et al. 1995; van Wormer and Davis 2003). It also includes the behavioral components of behavioral experiment to query the truthfulness of misunderstandings, teaching specific skills for controlling and self-managing substance abuse, and developing social support for an alternative lifestyle (Graham 2004).

Training based on the integrated approach of cognitive-behavioral therapy emphasizes the promotion of cognitive motivation and ability through behavioral, cognitive, and motivational approaches. The behavioral approach will rely on repetition, conditioning, desensitization, and reinforcement by reward and punishment, (Ellis et al. 1988; Graham 2004). Meanwhile, the cognitive approach will apply questioning, discussion, and other reasoning and learning activities. Furthermore, the motivational approach will employ that in motivational interviewing to induce change talk through reflective listening, reframing,

affirmation, summarizing, empathy, developing discrepancy, and open-ended questioning (Jarvis et al. 1995).

The training also introduces network therapy, which involves volunteers/mentors recruited from the community and key people associated with institutions of education, training and labor market other than the social workers. These other individuals and groups should not be drug abusers, and superiors or subordinates of at-risk youth (Galanter 1993). Important strategies in network therapy will involve the promotion of cohesiveness, conflict resolution, cognitive restructuring, open communication, security, and unfamiliar feelings. The promotion of unfamiliar feelings in at-risk youth would enhance the youth's response to network help, which serves to provide an explanation for the feelings.

Procedure

The research proceeded firstly with an exploration phase, secondly with a training phase and thirdly with a service evaluation phase (see Figure 1). First, an exploration phase tapped misunderstandings about psychotropic substance abuse using in-depth personal interviews with eight at-risk youth selected from various services and eight social workers of the Hong Kong Christian Service (and possibly other agencies). Second, the training phase involved random selection of 13 social workers associated with the service agency(s) for training to dispel misunderstandings using cognitive-behavioral therapy, rational thinking training, and network therapy. Third, the service evaluation phase provides services to 222 at-risk youth served by the Hong Kong Christian Service and the Hong Kong Children and Youth Services. Half of them received services from the 13 social workers trained for dispelling misunderstandings (E-group), and another half of them received services from social workers not trained for dispelling misunderstandings (C-group). At-risk youth came from various services, such as school, outreaching, and counseling services for psychotropic substance abusers, and community-based youth services like outreaching social work and school social work. To be at risk for psychotropic substance abuse, they need not have used psychotropic substances. Apart from having used psychotropic substances, stress, social isolation, having addicted friends, going to dance parties, and other adverse conditions can be criteria to identify youth at risk for psychotropic substance abuse (Akers and Lee 1999; Cheung et al. 2003; Ngai et al. 2006; Verhagen et al. 2000; Whitbeck and Hoyt 1999).

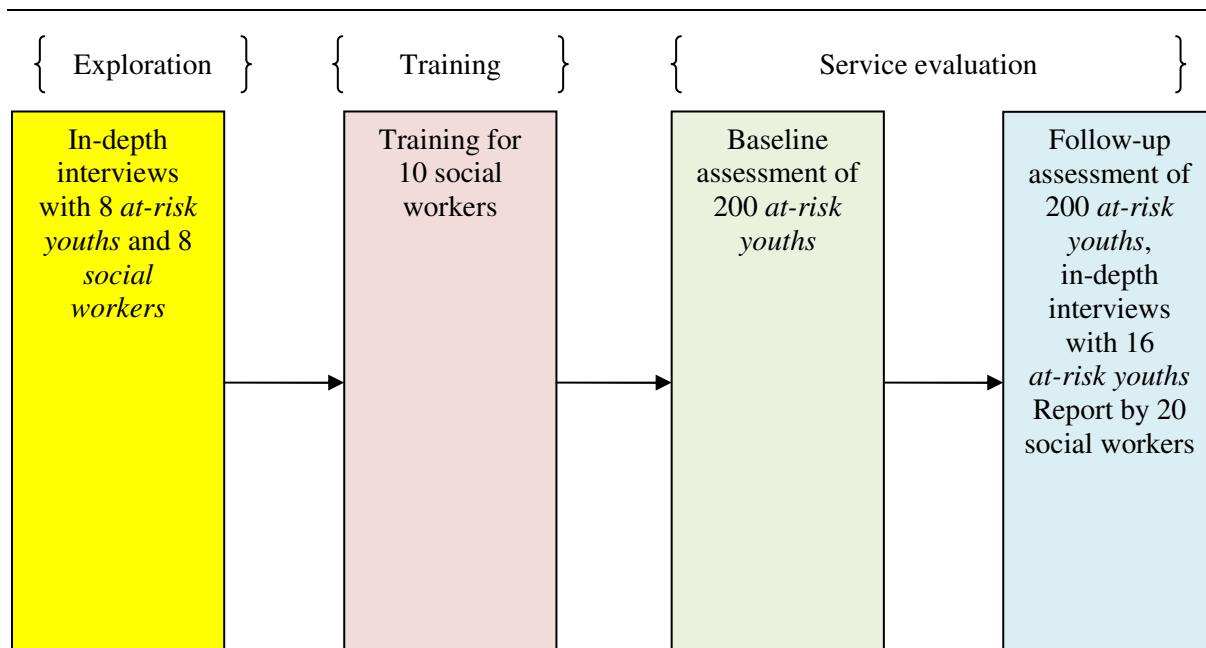


Figure 1: Research procedure

The gist of the exploration phase was to clarify misunderstandings likely to affect psychotropic substance abuse and its treatment. Rather than repeating some excellent studies, the approach emphasized the possible relationship between misunderstandings and psychotropic substance abuse and its treatment. One entry point of the phase was the exploration of hot feelings just before psychotropic substance abuse (Jarvis et al. 1995). These feelings were cravings, urges, and some other beliefs and perceptions that appear to prompt psychotropic substance abuse. To tap the variety of relevant misunderstandings, exploratory interviews targeted youth and social workers with different levels of risk from various services (see Appendix A). The different levels will range from (1) nonuse, (2) moderate use. Once in 8 days or more, (3) heavy use, at least once in a week. Two at-risk youths and their responsible social workers from each of the four levels were interviewees. The social workers worked in settings corresponding to the three levels, including school social work, outreaching, and drug counseling services. Criteria of selection of interviewees included knowledge and ability to articulate the knowledge and other ideas. For clarity, the eight at-risk youth and eight social workers represented the following three levels of substance abuse risk.

Risk level	Possible service setting	Interviewees
Nonuse	School	2 youths, 2 social workers
Moderate but non-problematic use	Outreaching & drug counseling	2 youths, 2 social workers
Heavy but non-problematic use	Ditto	2 youths, 2 social workers

The design of the content of training heavily depended on findings derived from the exploration phase. Nevertheless, the training, as arranged by the research team, proceeded with seven three-hour sessions to consolidate selected social workers' skills for dispelling misunderstandings. It covered motivational interviewing, cognitive-behavioral therapy, other training for rational thinking, and network therapy. The training relied very much on

role-playing to enhance social workers' practical skills (Gundry and Kickul 1996; Johnson 1993). Besides, the training applied behavioral, cognitive, and motivational techniques to deepen learning.

Services involved in the experimental design of the research had two groups of service providers, one having received training in the second phase and another not having received the training. Just as the training involved a randomly selected group of social workers, the services represented a random sample of services tackling psychotropic substance abuse. The contexts of the services varied, as they could be school, outreaching, or another type. Nevertheless, services provided by the group of CBIT-trained social workers maintained dispelling at-risk youth's misunderstandings as the paramount work goal and approach. These E-group social workers then actively applied cognitive-behavioral integrated therapy to dispel the misunderstandings.

During the service phase, the research team offered support to safeguard the adequate implementation of the intervention based on the training. The support will include monthly reviews of the service to clarify and resolve any problems concerning the service. These reviews will involve all the CBIT-trained social workers in a conference setting.

Evaluation of service effectiveness required a baseline assessment of at-risk youths and a follow-up assessment of at-risk youths and in-depth personal interviews with 14 at-risk youths about five to six months after (see Appendix B). Whereas the surveyed at-risk youths represented all youths served by social workers trained and non-trained with CBIT for dispelling misunderstandings, the in-depth interviewees were composed of following:

Risk level at the baseline	Served by CBIT-trained workers	Served by non-CBIT trained workers
Nonuse	2 youths	2 youths
Moderate but non-problematic use	3 youths	3 youths
Heavy but non-problematic use	2 youths	2 youths

Criteria of selection of interviewees included knowledge and ability to articulate the knowledge and other ideas. The assessments provided quantitative data for statistical examination, whereas the interviews will offer information supplementing, complementing, and substantiating findings from statistical analysis. Besides, social workers completed a checklist for each service encounter with at-risk youths. Such a checklist furnished information on service implementation and integrity and enable the validation of data obtained from at-risk youths.

To ensure the integrity of services provided based on the CBIT training, two experts (Dr. Timothy Leung and Ms. Man-Sze Cheung) who were not research team members crosschecked the integrity based on the recordings of service encounters in the intervention. The two experts had expertise and ample experience in counseling and social work, particularly that concerning CBIT.

Analysis Approaches

Data gathered at the exploration phase and service evaluation phase fed into analysis based on the following approaches.

Analysis of qualitative data gleaned from the exploration phase will aim to reveal at-risk youth's misunderstandings that would lead to the youth's psychotropic substance abuse.

Qualitative analysis will identify or interpret the reason or logic relating misunderstandings and psychotropic substance abuse. Based on such interpretation, the major outcome of the analysis will be clarifying the misunderstandings for the formulation of ways to dispel the misunderstandings at the training phase.

Analysis of quantitative data assessed in the service evaluation phase built on the panel design to reveal service effectiveness for dispelling at-risk youth's misunderstanding and preventing or reducing the youth's abuse of either psychotropic or non-psychotropic substances. The analysis emphasized the examination of:

- Change at the individual level over time
- Change due to involvement in the service provided by social workers trained or not trained for dispelling misunderstandings (E-group)
 - Change due to the reception of each component of services, such as cognitive-behavioral therapy and network therapy
 - ◆ Change due to the reception of various combinations of service components
 - Change due to the provision of each component of services, such as cognitive-behavioral therapy and network therapy
 - ◆ Change due to the provision of various combinations of service components
- Controlling for background characteristics, risk level or severity in drug abuse, and others, which may affect service grouping, provision, and reception

The above analysis applied to youth at various levels of risk, as well as to all youth. Such analysis ensured the internal validity by eliminating the threats of (Bernfeld et al. 2001; MacPhee et al. 1994):

- Maturation, due to the comparison of two service groups
- Selection, due to random assignment and controlling for background characteristics
- Instrumentation, due to the use of the same questionnaire for all youths
- Contamination, due to the examination of the effects of services, in addition to those of service groups
- Non-integrity, due to the examination of the effects of services provided, in addition to those of services received

Besides, the analysis explored interactions among various services, risk level, and other background characteristics.

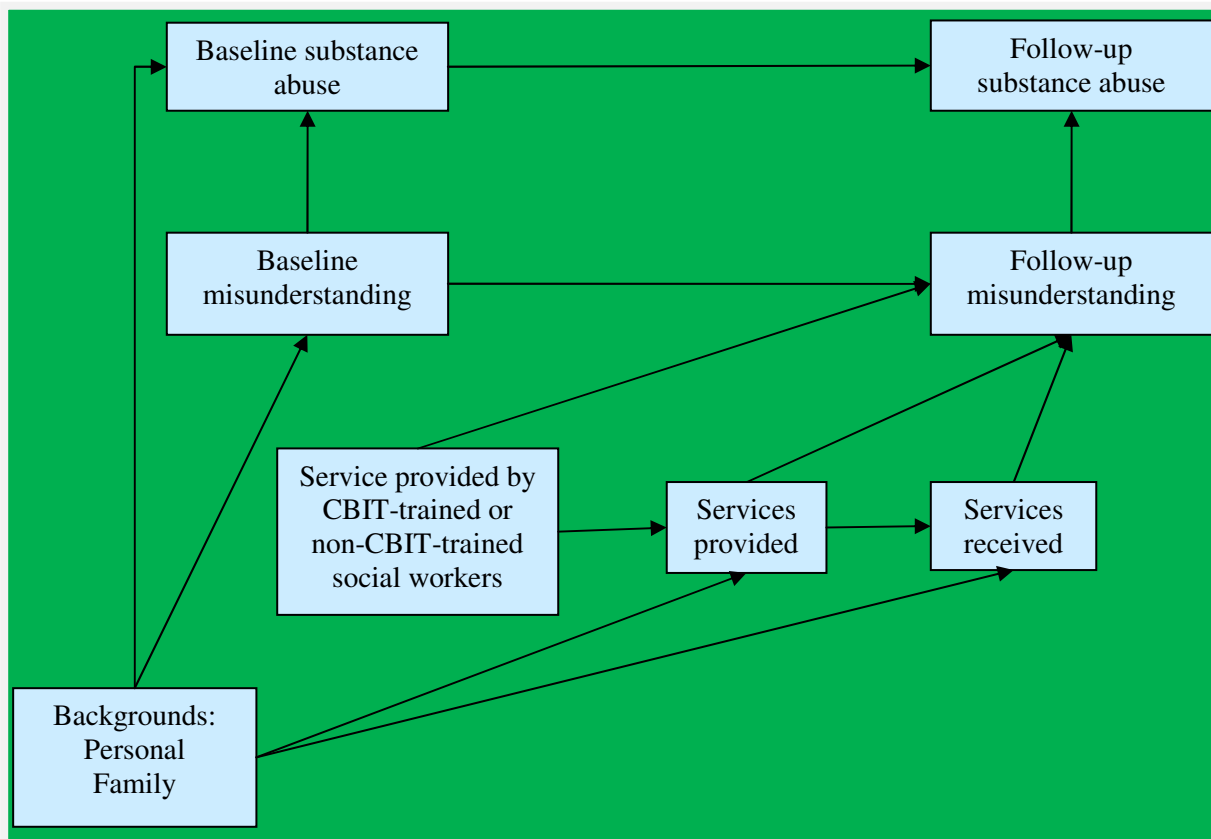


Figure 2: Essential expected causal paths

Results

Results firstly showed misunderstandings and other thoughts found in the exploratory phase. They then outlined the training phases about cognitive-behavioral integrated therapy (CBIT) to tackle the misunderstandings. Most importantly, results manifested the details of the third phase of investigation, that about service evaluation. They showed services provided to youth, especially those based on the CBIT training. Furthermore, they illustrated in what ways the services dispelled the youth's misunderstandings, and prevented, eliminated, or reduced the youth's drug abuse.

Identifying Thoughts from Youths and Social Workers

Thoughts identified from youths and social workers unfolded youth's misunderstandings in terms of playfulness, perceived benefits of drug abuse to the body, spirit, interpersonal relationships, mood, and the perceived appropriateness of drug abuse or myth about drug abuse. They primarily reflected three types of misunderstanding, pertaining to needs for drug abuse, benefits of drug abuse, and controllability over drug abuse. These misunderstandings would approve drug abuse by its consistency with the youth's personality or need, calculation about benefits to the youth, and realization of the youth's capability. That is, the sense of playfulness reflected a dispositional belief, perceived benefits and harm reflected a calculative belief, and the sense of the perceived appropriateness of drug abuse reflected a legitimatizing belief, which concerned the capability and norm of drug abuse. The influence of the beliefs was therefore threefold. First, the dispositional belief raises the motivational effect for the youth to take drugs to fit his or her disposition, need, value, or identity. Second, the calculative belief represents an evaluative effect for the youth to find taking drugs beneficial, gainful, or good. Third, the legitimatizing belief exercised a defensive effect for the youth to resist, endure, or trivialize any harm from taking drugs.

Playfulness

The youths cited the following sample thoughts about their mentalities or mindsets about their lives or lifestyles.

- A life as a human, a life as a thing, it must try everything
- Trying to see what is the response
- Liking to play everything, try everything, do whatever that is playful
- A mentality for seeking excitement
- Taking advantage of youth to try

The social workers cited the following concerning youths' sample thoughts about the youths' mentalities or mindsets about lives or lifestyles.

- Need to stand out, to demonstrate courage
- Seeking to do others down
- Flaunting one's superiority
- Being impulsive, risk-taking
- Playing
- Being a bad person if unable to be good person
- Having a personality of dependency
- Living a day, having a day

- Having no alternative

They became the following items adapted in the survey questionnaire:

- Being a dependent
- Seeking excitement
- Living just for today
- Doing something just for fun
- Having a reason to take drugs because all friends do it
- Trying everything

Drug abuse benefit to the body

The youths cited the following sample thoughts about benefits of drug abuse to the body.

- Having more strength in fighting

The social workers cited the following concerning the youths' sample thoughts about benefits of drug abuse to the body.

- Having better functioning in the body
- Slimming quickly
- Increasing strength
- Killing pain, reducing pain

They became the following items adapted in the survey questionnaire:

- Reducing weight
- Increasing body strength
- Killing pain

Drug abuse benefit to spirit

The youths cited the following sample thoughts about benefits of drug abuse to spirit.

- Making people have no need to sleep
- Making people concentrate spirit to do things
- Making people's spirit relaxed
- Having more stamina to play
- Raising spirit
- Feeling full of spirit, not easy to get tired

The social workers cited the following concerning the youths' sample thoughts about benefits of drug abuse to spirit.

- Raising spirit
- Helping thinking
- Having a feeling of relaxation
- Having a function of relaxation
- Making spirit concentrated
- Tranquillizing
- Thinking becoming swifter

They became the following items adapted in the survey questionnaire:

- Forgetting things
- Being high
- Being buoyant

Drug abuse benefit to relationships

The youths cited the following sample thoughts about benefits of drug abuse to interpersonal relationships.

- Able to open windows in our minds
- Able to vent grievances to friends
- Able to make friends get along
- Having more topics to talk with friends who use drugs
- Getting more familiar with friends who use drugs
- Being a way to socialize with friends
- Advancing friendships
- Advancing affection with addicted friends

The social workers cited the following concerning the youths' sample thoughts about benefits of drug abuse to interpersonal relationships.

- Able to chat with friends without constraint
- Having confidence to disclose feelings to friends
- Being more harmonious with friends
- Advancing friendships
- Increasing friends' recognition
- Maintaining friendships
- Having sex behavior more easily
- Entering a social sphere
- Becoming talkative
- Strengthening social competence
- Sharing an interest with friends
- Increasing confidence to court opposite-sex persons
- Making people easier to make friends
- Making friendships more intimate
- Easier to contact friends
- Having more friends
- Giving a face to friends
- Socializing with friends

They became the following items adapted in the survey questionnaire:

- Socializing with friends
- Narrowing distance from others
- Making it easy to converse with others

Drug abuse benefit to mood

The youths cited the following sample thoughts about benefits of drug abuse to mood.

- Making people forget things
- Making people have more courage to court opposite-sex persons
- Relieving boredom
- Killing time

- Like being on a holiday, making people feeling relaxed
- Feeling stylish
- Very happy during use and happier after use
- Entering my own world
- Feeling comfortable
- Feeling excited
- Becoming active, restless

The youths cited the following concerning the youths' sample thoughts about benefits of drug abuse to mood.

- Having more confidence
- Showing superiority
- Feeling excited
- Coping with unhappiness
- Speeding up time
- Increasing the sense of safety
- Being superior
- Reducing stress
- Becoming happier
- Relieving emotional problems
- Easy to live
- Maintaining peace in emotion
- Having no worry
- Feeling like being with friends
- Having no need to concentrate
- Relieving boredom
- Feeling like riding a roller-coaster
- Feeling stylish
- Having delight

They became the following items adapted in the survey questionnaire:

- Having self-confidence
- Speeding up the time
- Averting pressure
- Feeling relaxed
- Being happy
- Having no need to think

Drug abuse harm to the body

The youths cited the following sample thoughts about the harm of drug abuse to the body.

- Difficult in defecation
- Having a running nose
- Having weak limbs
- Making people tired
- Making people lose appetite
- Making people vomit
- Making the nose painful

- Insomnia
- Incontinence
- Worsening of skin
- Being weak in the whole body
- Uriethritis
- Frequent urination
- Getting thin
- Sweating
- Stomachache
- Blurred vision
- Impairment to the brain
- Impairing functions of organs
- Headache
- Dizziness

The social workers cited the following sample concerning the youths thoughts about the harm of drug abuse to the body.

- Worsening body
- Frequent urination
- Impairing appearance
- Having a running nose
- Having a festered mouth
- Having a sore
- Getting tired
- Stomachache
- Impaired functioning in organs
- Painful urination
- Bad impacts on the respiratory system
- Accelerated heartbeat
- Dizziness
- Bone pain
- Uriethritis
- Bad sleeping
- Impaired organs
- Having much phlegm
- Getting thin
- Decayed tooth
- Bad breath
- Cystitis

They became the following items adapted in the survey questionnaire:

- Stomachache
- Urethritis
- Having a running nose

Drug abuse harm to spirit

The youths cited the following sample thoughts about the harm of drug abuse to spirit.

- Making people lose memory
- Making people have illusion
- Making an empty mind
- Having no spirit to study
- Sleepy
- Making people dull
- Having an unclear mind

The social workers cited the following concerning the youths' sample thoughts about the harm of drug abuse to spirit.

- Impairing responsiveness
- Having illusion in hearing
- Decayed memory
- Reduced concentration
- Worsened ability to identify people

They became the following items adapted in the survey questionnaire:

- Being slow in reaction
- Being tired
- Having declining memory

Drug abuse harm to mood

The youths cited the following sample thoughts about the harm of drug abuse to mood.

- Feeling unhappy
- Making people do things rashly
- Making people upset
- Making people irritable
- Losing temper
- Doubting friends
- Feeling bored

The social workers cited the following concerning the youths' sample thoughts about the harm of drug abuse to mood.

- Being irritable
- Becoming unhappy
- Having a depressed mood
- Worrying about arrest

They became the following items adapted in the survey questionnaire:

- Feeling guilty
- Increasing vexation
- Having an empty mind

Drug abuse harm to behavior

The youths cited the following sample thoughts about the harm of drug abuse to behavior.

- Talking unclearly

- Not knowing what have done
- Making people's behaving madly
- Like being sick
- Making people neglect schoolwork
- Making people lose persistence in doing things
- Making drug abusers behave disorderly
- Delaying sleeping and impairing work
- Going to steal
- Quarreling and fighting with others
- Becoming impulsive, easy to do something wrong

The social workers cited the following concerning the youths' sample thoughts about the harm of drug abuse to behavior.

- Unwilling to work
- Changing the lifestyle
- Worsening job performance
- Making mistakes
- Unable to work
- Being late

They became the following items adapted in the survey questionnaire:

- Having no vigor in doing things
- Being impulsive
- Doing something wrongly

Drug abuse harm to relationships

The youths cited the following sample thoughts about the harm of drug abuse to interpersonal relationships.

- Making neighbors hate me
- Having little contact with parents
- Being alienated by non-addicted friends
- Worsening relationship with parents

The social workers cited the following concerning the youths' sample thoughts about the harm of drug abuse to interpersonal relationships.

- Impairing relationships with family
- Having conflict with parents
- Complicating heterosexual relationships
- Alienation from non-addicted friends
- Disappointing social workers
- Becoming more lonely
- Fighting with friends easily
- Quarrelling with friends

They became the following items adapted in the survey questionnaire:

- Undermining relationships with parents
- Hiding oneself

- Being distanced by non-addicted friends

Perceived appropriateness of drug abuse

The youths cited the following sample thoughts or myths about the perceived appropriateness of drug abuse.

- Not making people addicted
- Not thinking that I am addicted
- Able to find one's own world
- Having nothing to do with being a good person
- Having no impact
- Being a habit
- Being a trend
- Being my choice
- No such thing as addiction
- Never see others' becoming addicted
- Play being play, having no harm
- Having confidence in my own ability to control

The social workers cited the following sample concerning the youths' thoughts or myths about the appropriateness of drug abuse.

- Not an serious matter
- Playing drugs, not abusing drugs
- Using just a small amount
- Being very safe
- For the purpose of socializing
- Just for fun
- Narcotizing oneself
- Being a voluntary act
- Unable to lose a face
- Only injection counting as drug abuse
- Everybody using drugs
- Only using heroin counting as drug abuse
- Having no addiction
- Drinking water able to dilute drug effects
- Having no risk to oneself
- Being able to control drugs
- Having no harm in trying once or twice
- Not being easy to be harmful
- Regarding drugs as sweet
- Having the ability to manage harm
- Having no way to let go
- Having psychological addiction only
- Being a socializing activity
- Having deep psychological addiction
- Having no help from treatment
- Drugs not being poisons
- Having no impact on schooling

- Being something next to the boyfriend

They become the following items adapted in the survey questionnaire:

- Having neutralizing effects by acidic materials
- Having no addiction in the body
- Taking drugs by everyone
- Not going wrong in one or two trials
- Being the only way to integrate in friends' sphere
- Not going wrong in many taking drugs for a long time
- Having a high ability of self-control
- Not going wrong in oneself

Training on the Cognitive-behavioral Integrated Treatment Model (CBIT)

The training package had a 5-day workshop and some follow-up guidance or supervision. The contents of the 5-day workshop were as follows:

1. Overview, assessment, and engagement

1.1. Aims

- 1.1.1. To provide guidelines for the treatment of problematic drug use
- 1.1.2. Designed for use in settings that provide some assertive outreach
- 1.1.3. To help clients negotiate and maintain behavior changes related to their problematic drug use
- 1.1.4. To develop healthy alternatives to drug misuse to encourage clients' behavioral change
- 1.1.5. To recognize the relation between substance use and mental well-being
- 1.1.6. To identify, challenge, and undermine unrealistic beliefs in a collaborative way about drugs that maintain problematic use, and replace them with more adaptive beliefs that will lead to and strengthen behavioral change
- 1.1.7. To teach specific skills for controlling and self-managing substance use and the early warning signs of psychosis, and for developing social support for an alternative lifestyle

1.2. Principles

1.2.1. Harm reduction

- 1.2.1.1. Defining drug use and other addictive behaviors as maladaptive coping responses, rather than as indicators of either physical illness or personal immorality
- 1.2.1.2. Being a public health alternative to the moral/criminal and disease models of drug use and addiction with the emphasis shifting from drug use itself to the consequences of effects of addictive behavior
- 1.2.1.3. Accepting, for better and for worse, that illicit drug use is part of our world and chooses to minimize its harmful effects rather than simply ignore or condemn them
- 1.2.1.4. Ensuring that drug users and those with a history of drug use routinely have a real voice in the creation of programs and policies designed to serve them, and both affirms and seeks to strengthen the capacity of people who use drugs to reduce the various forms of harm associated with their drug use
- 1.2.1.5. Understanding drug use as a complex, multifaceted phenomenon that

- encompasses as a continuum of behavioral patterns from severe abuse to total abstinence, and acknowledging that some ways of using drugs are safer than others
 - 1.2.1.6. Encouraging individuals in a gradual, stepping down approach to take it one step at a time to reduce the harmful consequences of their behavior
 - 1.2.1.7. Establishes the quality of individual and community life and well-being as the criterion for successful intervention and policies
 - 1.2.1.8. Calling for non-judgmental, non-coercive provision of services and resources to people who use drugs and the communities in which they live in order to assist them in reducing attendant harm
 - 1.2.1.9. Recognizing that the realities of poverty, class, racism, social isolation, past trauma, sex-based discrimination, and other social inequalities affect people's vulnerability to and capacity for effectively dealing with drug-related harm
 - 1.2.1.10. Not attempting to minimize or ignore the many forms of real and tragic harm and danger associated with licit and illicit drug use
 - 1.2.2. Integration of treatment
 - 1.2.3. Assertive outreach
 - 1.2.4. Collaborative relationship with the client
 - 1.2.5. Stage-wise approach to treatment
 - 1.2.6. Comprehensive services
 - 1.2.7. Optimism about the long-term effects of treatment
 - 1.3. Techniques
 - 1.3.1. Identifying thoughts/beliefs
 - 1.3.2. Modifying and re-evaluating thoughts/beliefs
 - 1.3.2.1. Identifying cognitive distortions
 - 1.3.2.2. Three-question technique
 - 1.3.2.2.1. What is the evidence for the belief?
 - 1.3.2.2.2. Are there times when that is not the case?
 - 1.3.2.2.3. If there are times when that is not the case, what are the implications?
 - 1.3.2.3. Evidence for and against in thought diaries
 - 1.3.2.4. Behavioral experiments
 - 1.4. Core components
 - 1.4.1. Screening and assessment
 - 1.4.2. Engagement and building motivation to change
 - 1.4.2.1. Assertive outreach
 - 1.4.2.2. Motivational and attitudinal approaches
 - 1.4.3. Dealing with resistance
 - 1.4.4. Identifying social networks supportive of change
2. Treatment phases
 - 2.1. Building motivation to change
 - 2.1.1. Ways helping clients increase social support for change
 - 2.1.2. Drawing a social network map
 - 2.1.3. Harnessing motivation for change
 - 2.2. Negotiating some behavior change
 - 2.2.1. Identifying long-term goals
 - 2.2.2. Identifying harm-reduction steps
 - 2.2.3. Identifying obstacles
 - 2.2.4. Strategies to tackle common reasons given by clients for not wanting to

- change drug use
- 2.2.5. Identifying activities of interest
 - 2.2.5.1. Activities that non-drug-using friends engage in
 - 2.2.5.2. Listing of leisure, social, training, and occupational activities available in your locality/team
 - 2.2.5.3. Occupational therapy assessment of interest
 - 2.2.5.4. Engaging the clients' interest in the activity
- 2.2.6. Strategies in engaging a network member to support the client
- 2.2.7. Steps to build new networks
- 2.2.8. Strategies to increase awareness of problematic links between health and drug use
- 2.2.9. Strategies in achieving/negotiating change
- 2.3. Early relapse prevention
 - 2.3.1. Formulating problems
 - 2.3.1.1. Activating stimuli/triggers/high-risk stimulus
 - 2.3.1.2. Drug-related beliefs activated
 - 2.3.1.3. Automatic thoughts
 - 2.3.1.4. Urges and cravings
 - 2.3.2. Facilitating beliefs/permission
 - 2.3.3. Focusing on action
- 3. Treatment phases
 - 3.1. Relapse prevention
 - 3.1.1. Helping your clients manage their substance use
 - 3.1.2. Including social network members
 - 3.1.3. Explanations given to network members
 - 3.1.4. Identifying new beliefs
 - 3.1.5. Coping with cravings and the abstinence-violation effects
 - 3.1.5.1. Provision of psychoeducational information about cravings
 - 3.1.5.2. Practical behavioral and cognitive strategies to coping with cravings
 - 3.1.5.3. Listing of modified thoughts
 - 3.2. Relapse prevention / relapse management specific skills
 - 3.2.1. Skill building
 - 3.2.2. Relapse drill
- 4. Skill building
 - 4.1. Coping with different moods
 - 4.2. Communication: social skills and assertiveness
- 5. Working with families and social network members
 - 5.1. Provision of psychoeducation
 - 5.2. Best support
 - 5.3. Practical coping strategies and skills
 - 5.4. Early warning signs
 - 5.5. Implementation issues

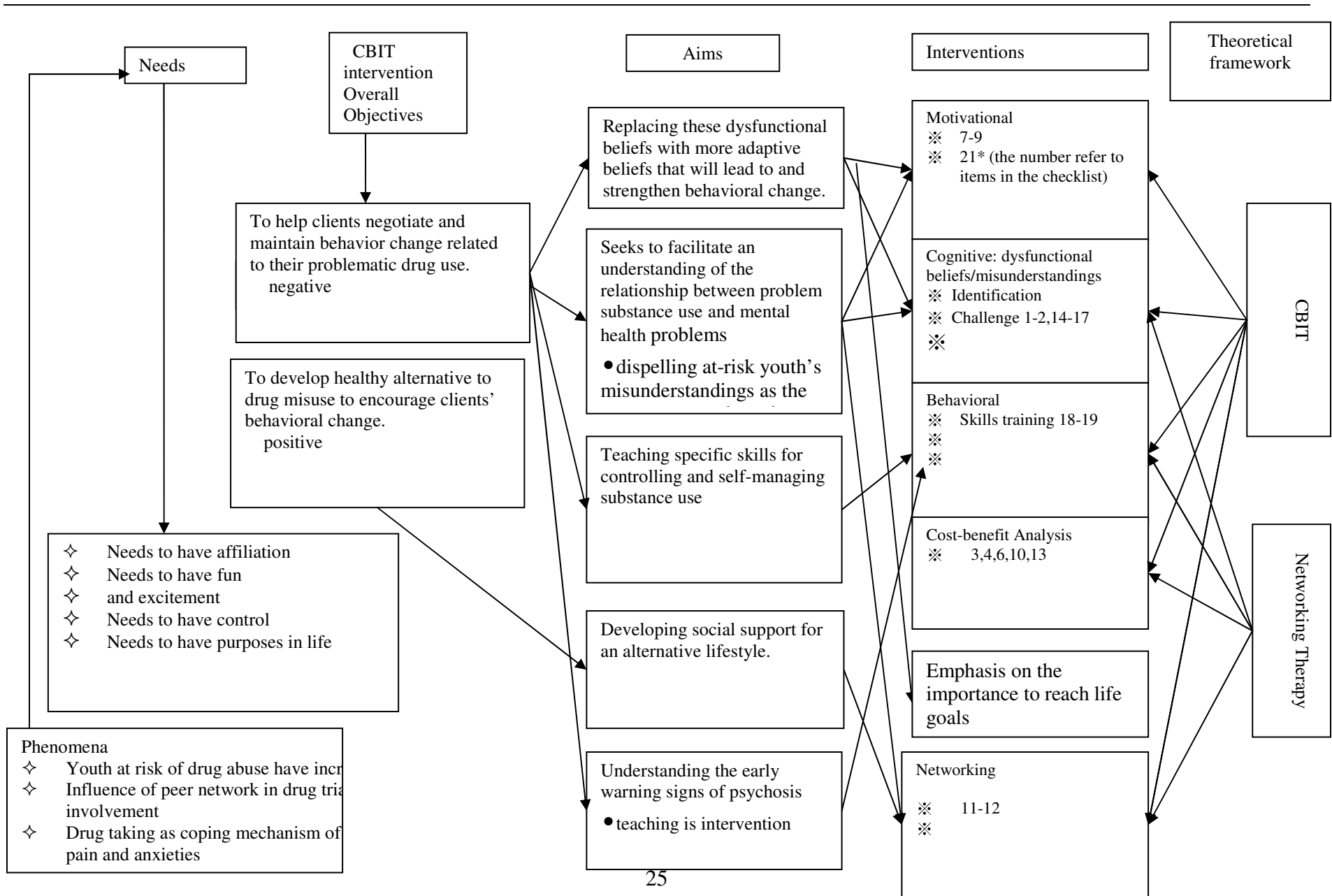


Figure 3: Cognitive-behavioral integrated therapy

Services Provided by Social Workers

There were 971 service encounters between social workers and young service users from Mar 2, 2009 to Jan 13, 2010. These social workers were composed of 13 workers in the E-group and another 13 workers in the C-group. The services provided by the E-group would importantly illustrate the integrity of CBIT intervention.

During the service encounter, the social worker in the E-group provided significantly more behavioral intervention, motivational intervention, cognitive intervention than did the social worker in the C-group. In contrast, the social worker in the E-group provided significantly less cultivation and non-CBIT intervention than did the social worker in the C-group. For the E-group, the service was significantly more likely to be that of a drug abuse counseling center, night outreaching team, or an individual mode. Meanwhile, the service encounter was significantly less likely to be a district youth outreaching team, or non-family group.

The social worker in the E-group provided more interventions than others in the following descending order: using a neutral attitude to develop a partnership ($M = 27.9$), inducing awareness about the impact of social networks on the continuation of drug abuse ($M = 21.2$), using the interest/habit detection method to help develop interesting activities ($M = 15.7$), using cost-benefit analysis and network diagramming to help develop decisions to change ($M = 15.3$), and using time lines and drug abuse illustrations to induce understanding about personal problems ($M = 14.9$). They were typically CBIT interventions, with motivational intervention used the most.

The social worker in the C-group provided more interventions than others in the following descending order: showing care about recent living conditions ($M = 45.3$), awakening consciousness about the importance of reaching life goals ($M = 31.3$), Encouraging for healthy activity ($M = 24.8$), Talking about interesting things ($M = 24.6$), helping develop a balanced lifestyle ($M = 24.1$), encouraging for acting bravely ($M = 17.4$), and Reminding the harm of drug abuse ($M = 17.2$). They were mostly non-CBIT interventions.

The E-group social worker exhibited significantly higher CBIT skill ($M = 46.7$ vs. 7.8) and social worker skill ($M = 53.6$ vs. 36.7) in the service encounter than did the C-group worker, as rated by experts. Accordingly, two experts of counseling and social work services rated a sample of 17 service encounters based on their audiotapes. Although the experts did not know whether the social workers belonged to the E-group or C-group, they correctly identified the group identity of all the social workers. These social workers were composed 10 workers in the E-group and 7 workers in the C-group. The interrater reliability was .618 and .462 for CBIT skill and social work skill respectively.

The data on services provided, given by social workers and rated by experts, importantly illustrated the integrity of the services according to the CBIT training. Firstly, the data indicated the success of the training to raise the social worker's skill and performance in CBIT. Secondly, the data demonstrated the application of CBIT in service delivery. These findings enhanced the credibility of the analysis of the impact of the service, in view of the integrity of the process or implementation of CBIT.

Table 1: Means of service characteristics reported by social workers

Variable	Scoring	C-group	E-group	All
Number of cases		448	523	971
Behavioral intervention	0-100	3.8	6.7***	5.4
Teaching about the use of shower bath or other	0-100	0.2	1.5*	0.9

Variable	Scoring	C-group	E-group	All
ways of distraction				
Helping develop a balanced lifestyle	0-100	24.1	13.8***	18.5
Helping develop realistic strategies to avert high-risk situations	0-100	1.8	12.4***	7.5
Using the interest/habit detection method to help develop interesting activities	0-100	5.6	15.7***	11.0
Teaching ways to handle cravings	0-100	0.0	2.3**	1.2
Using the change contract to consolidate goals and plans	0-100	4.0	7.5*	5.9
Using the assignment methods to strengthen the sense of self-efficacy against relapse	0-100	0.7	1.3	1.0
Practicing rehearsals for preventing relapse	0-100	1.1	3.8**	2.6
Exploring customized ways to handle cravings	0-100	0.9	6.1***	3.7
Encouraging carrying cards for preventing relapse	0-100	0.0	2.9***	1.5
Motivational intervention	0-100	2.5	12.4***	7.8
Using a neutral attitude to develop a partnership	0-100	9.8	27.9***	19.6
Using time lines and drug abuse illustrations to induce understanding about personal problems	0-100	3.8	14.9***	9.8
Using Socratic questioning to raise motivation for change	0-100	0.0	8.4***	4.5
Using rolling, transferring, and the like to reduce resistance to change	0-100	0.7	5.7***	3.4
Using cost-benefit analysis and network diagramming to help develop decisions to change	0-100	0.5	15.3***	8.4
Using principles of harm reduction to determine intervention strategies and plans	0-100	0.5	10.3***	5.8
Setting feasible goals based on change motives	0-100	4.5	10.1**	7.5
Using the diagram for relapse prevention to formulate the plan for preventing relapse	0-100	0.0	6.5***	3.5
Cognitive intervention	0-100	5.2	8.9***	7.2
Using drug abuse diagramming tools to help understanding the vicious circle of personal drug abuse	0-100	0.2	11.1***	6.1
Awakening consciousness about the importance of reaching life goals	0-100	31.3***	10.9	20.3
Using drug abuse diary tools to help identify modes of high risk situations and craving leading to drug abuse	0-100	0.0	1.7**	0.9
Applying network therapy strategies and techniques to help seek suitable support	0-100	0.9	6.1***	3.7
Inducing awareness about the impermanence of a success and the approaching of success in a failure	0-100	0.7	3.6**	2.3
Inducing awareness about the impact of social networks on the continuation of drug abuse	0-100	3.1	21.2***	12.9
Applying the triple questioning technique to induce the detection and change of misunderstanding about drug abuse	0-100	0.0	7.3***	3.9

Variable	Scoring	C-group	E-group	All
Cultivation intervention	0-100	9.5***	1.6	5.3
Encouraging for acting bravely	0-100	17.4***	3.3	9.8
Teaching about morality	0-100	1.6**	0.0	0.7
Other non-CBIT intervention	0-100	10.4***	5.1	7.5
Teaching skills to distance from addicted friends	0-100	4.2	4.0	4.1
Encouraging for healthy activity	0-100	24.8***	15.7	19.9
Exhorting for distancing from addicted friends	0-100	5.8	6.3	6.1
Confronting or pointing out consequences of violating the pledge for stopping drug abuse	0-100	0.4	0.2	0.3
Applying the principle of group disintegration to determine intervention strategies and plans	0-100	0.2	0.0	0.1
Exhorting against attempts of drug abuse	0-100	8.5***	1.3	4.6
Identifying benefits of stopping drug abuse	0-100	3.4	2.7	3.0
Using storytelling inducing thinking about consequences of drug abuse	0-100	4.7*	1.9	3.2
Talking about interesting things	0-100	24.6***	7.7	15.5
Applying the group restructuring principle to determine intervention strategies and plans	0-100	0.4	0.0	0.2
Using oblique ways to induce thinking about the harm of drug abuse	0-100	4.0	4.4	4.2
Showing care about recent living conditions	0-100	45.3***	21.0	32.2
Testing coordination between hands and eyes	0-100	2.0	1.3	1.7
Reminding the harm of drug abuse	0-100	17.2***	4.8	10.5
CBIT skill	0-100	7.8	46.7***	31.9
Social work skill	0-100	36.7	53.6***	47.2
Service type: Drug abuse counseling center	0, 100	16.0	27.0***	21.9
District youth outreaching team	0, 100	74.4***	42.8	57.5
Night outreaching team	0, 100	9.7	30.2***	20.6
School social work	0, 100	0.0	0.0	0.0
Service mode: Individual	0, 100	68.3	80.1***	74.7
Family	0, 100	2.7	1.7	2.2
Non-family group with addicts only	0, 100	5.1*	9.0	7.2
Non-family group with non-addicts only	0, 100	15.2***	1.9	8.0
Non-family group with addicts and non-addicts	0, 100	16.7***	5.7	10.8
Reporting date	0-100	2009.6	2009.6	2009.6

* $p < .05$. ** $p < .01$. *** $p < .001$.

The social worker's provision of CBIT interventions, including cognitive, behavioral, and motivation ones was significantly higher when the social worker had received CBIT training, as assigned to the E-group. Particularly, the E-group worker provided significantly more behavioral interventions with time, but provided fewer motivational interventions with time. In general, a social worker from either the E-group or C-group also provided significantly more behavioral and cognitive interventions with time, but provided fewer motivational interventions with time.

Table 2: Standardized effects on CBIT interventions provided

Predictor	Behavioral	Motivational	Cognitive
E-group	.207***	.475***	.146***
Time	.110**	-.161***	.102**

Predictor	Behavioral	Motivational	Cognitive
Drug abuse counseling center	.212***	-.082**	-
Individual service	.170***	-	.266***
Non-family group with non-addicts only	.125**	-	-
District youth outreaching team	.124**	-	-
Non-family group with addicts only	.084*	-	.198***
Non-family group with addicts and non-addicts	-	-.062*	-
E-group × Time	.092*	-.071*	-.032

* $p < .05$. ** $p < .01$. *** $p < .001$.

In contrast, the social worker of the E-group provided significantly fewer cultivating and other non-CBIT interventions than did the social worker of the C-group. Moreover, the E-group social worker showed significantly higher CBIT and social work skills, as assessed by experts, than did the C-group worker. The edge in the skills was high, demonstrating the strong contribution of the CBIT training.

Table 3: Standardized effects on other interventions provided and skills

Predictor	Cultivating	Other non-CBIT	CBIT skill	Social work skill
E-group	-.301***	-.346***	.714***	.549***
Time	.041	.001	-.101***	-.074**
Drug abuse counseling center	-	-	-	.367***
Individual service	.153***	-	-.178***	-.377***
Non-family group with non-addicts only	-	.182***	-.303***	-.163***
Non-family group with addicts only	.136***	.133***	-.098**	-.231***
Non-family group with addicts and non-addicts	-	-.124***	-.075*	-.172***
Night outreaching team	-	.094**	-	-
Family	-	-	-.048*	-.058*
E-group × Time	-.022	-.077	.040	.088**

* $p < .05$. ** $p < .01$. *** $p < .001$.

Youth Conditions

In the pre-intervention survey in early 2009, 110 youths of the E-group and 112 youths in the C-group responded. With an average of five months later, the post-intervention survey in late 2009 engaged 87 youths of the E-group and 82 youths of the C-group. The rates of retention were 79.1% for the E-group youths and 73.2% for the C-group youths. Among the youths dropping out from the study, most were unable to maintain contact, some became institutionalized, and a few became hidden.

Significant differences between the youth in the E-group and the youth in the C-group were the following, that is, the youth in the E-group was:

Finding	Implication
Higher in cognitive-experimental intervention experienced after	Effective training
Higher in cognitive-reflection intervention experienced after	Effective training

Finding	Implication
Higher in behavioral intervention experienced after intervention	Effective training
Higher in trained cognitive intervention after intervention	Effective training
Higher in trained behavioral intervention after intervention	Effective training
Higher in trained motivational intervention after intervention	Effective training
Higher in concern about behavior in the baseline before intervention	
Higher in perceived harm of drug abuse to spirit after intervention	Effective intervention
Higher in appropriateness or myth about drug abuse after intervention	
Higher in wisdom both before and after the intervention	
Higher in courage after intervention	
Lower in abstinence from drug abuse after intervention	
Higher in abusing ketamine before and after intervention	
Higher in sniffing drugs before and after intervention	
Higher in mixing drugs with other illicit substances in drug abuse before intervention	
Higher in mixing drugs with alcohol in drug abuse after intervention	
Higher in halting drug abuse voluntarily before intervention	
Higher in cohabitation or marriage before intervention	
Higher in arrest before intervention	Effective intervention
Higher in quarrels inside the family before intervention	Effective intervention
Higher in receiving social services not concerning drugs both before and after intervention	
Lower in receiving CSSA after intervention	Effective intervention
Lower in receiving no service before and after intervention	
Higher in receiving drug counseling before and after intervention	
Less likely female before and after intervention	
Lower in self-administration after intervention	
Higher in social worker interviewing after intervention	

Table 4: Means of youth conditions, pre- and post-intervention

Item	Scoring	Pre-		Post	
		C-gp	E-gp	C-gp	E-gp
Number of cases		112	110	82	87
Concern about spirit	0-100	43.8	42.7	39.9	42.7
Exciting oneself	0-100	43.8	42.7	39.9	42.7
Concern about relationships	0-100	55.6	61.9	51.5	57.4
Not worrying family	0-100	54.4	62.7*	53.0	56.4
Relating with peers	0-100	56.9	61.1	50.3	58.4
Concern about mood	0-100	59.9	66.8	55.5	59.0
Expelling boredom	0-100	59.9	66.8	55.5	59.0
Concern about the body	0-100	60.3	63.2	64.8	67.0
Maintaining body health	0-100	60.3	63.2	64.8	67.0
Concern about behavior	0-100	53.9	59.5*	53.0	58.5
Seeking development directions	0-100	59.6	65.0	60.3	68.9
Reaping without sowing	0-100	40.8	42.7	34.6	36.3
Being useful	0-100	61.3	70.7*	63.0	70.0
Playfulness	0-100	44.0	45.6	35.0	40.0
Being a dependent	0-100	41.5	43.6	39.5	40.7
Seeking excitement	0-100	50.2	49.8	40.2	44.2

Item	Scoring	Pre-		Post	
		C-gp	E-gp	C-gp	E-gp
Living just for today	0-100	45.6	46.4	38.6	45.9
Doing something just for fun	0-100	50.7	55.0	46.1	49.1
Having a reason to take drugs because all friends do it	0-100	28.7	31.8	16.0	19.2
Trying everything	0-100	47.0	47.0	29.8	41.2*
Drug abuse benefit to the body	0-100	33.9	34.7	28.6	35.2
Reducing weight	0-100	37.6	40.8	32.8	37.8
Increasing body strength	0-100	22.0	19.8	16.6	19.8
Killing pain	0-100	42.2	43.4	36.4	48.0*
Drug abuse benefit to spirit	0-100	51.8	52.9	49.6	53.3
Forgetting things	0-100	53.2	53.0	54.2	57.0
Being high	0-100	41.7	40.5	38.0	40.4
Being buoyant	0-100	60.6	65.2	56.6	62.5
Drug abuse benefit to relationships	0-100	42.8	41.4	38.4	42.7
Socializing with friends	0-100	44.7	47.7	42.8	46.8
Narrowing distance from others	0-100	39.0	38.2	34.8	39.2
Making it easy to converse with others	0-100	44.7	38.4	37.7	42.2
Drug abuse benefit to mood	0-100	47.8	45.4	47.0	50.9
Having self-confidence	0-100	32.8	26.6	29.8	30.2
Speeding up the time	0-100	55.5	56.6	54.8	64.4
Averting pressure	0-100	55.0	53.0	56.3	58.7
Drug abuse harm to the body	0-100	45.3	51.4	50.5	57.6
Stomachache	0-100	38.3	46.6	40.7	52.3*
Urethritis	0-100	41.3	46.1	50.6	53.2
Having a running nose	0-100	56.2	61.6	59.6	66.9
Drug abuse harm to spirit	0-100	60.2	65.8	61.6	70.3*
Being slow in reaction	0-100	56.0	61.4	63.3	69.8
Being tired	0-100	62.6	66.6	62.0	70.3
Having declining memory	0-100	61.6	69.5	59.6	70.6
Drug abuse harm to mood	0-100	41.7	41.9	43.9	49.4
Feeling guilty	0-100	39.2	42.5	42.5	49.1
Increasing vexation	0-100	43.1	41.4	43.4	50.6
Having an empty mind	0-100	42.9	41.8	45.8	48.5
Drug abuse harm to behavior	0-100	51.2	54.1	52.9	61.0
Having no vigor in doing things	0-100	56.2	55.5	51.8	62.8*
Being impulsive	0-100	45.9	49.8	50.6	58.7
Doing something wrongly	0-100	51.6	57.0	56.0	61.6
Drug abuse harm to relationships	0-100	43.7	43.3	45.3	49.3
Undermining relationships with parents	0-100	49.3	53.0	48.8	55.8
Hiding oneself	0-100	39.4	37.5	44.3	46.5
Being distanced by non-addicted friends	0-100	42.4	39.5	42.8	45.6
Drug abuse appropriateness	0-100	36.0	34.2	31.6	37.2*
Having neutralizing effects by acidic materials	0-100	27.5	33.4	27.4	35.5
Having no addiction in the body	0-100	40.4	37.6	35.7	42.7
Taking drugs by everyone	0-100	43.3	35.7	34.0	37.5
Not going wrong in one or two trials	0-100	43.3	40.2	34.5	46.8*

Item	Scoring	Pre-		Post	
		C-gp	E-gp	C-gp	E-gp
Being the only way to integrate in friends' sphere	0-100	26.6	23.4	24.1	25.0
Not going wrong in many taking drugs for a long time	0-100	35.8	36.8	30.4	40.1*
Having a high ability of self-control	0-100	28.7	30.0	29.0	27.0
Not going wrong in oneself	0-100	42.4	36.6	38.0	42.7
Benevolence	0-100	58.7	62.3	59.3	63.3
Helping others proactively	0-100	55.7	60.2	60.5	64.8
Caring for others	0-100	65.6	68.0	61.7	66.6
Exploring others' good character	0-100	50.0	49.8	55.2	50.3
Forgiving others	0-100	55.7	58.0	52.7	60.6*
Presenting gratitude to others	0-100	58.9	69.5**	60.1	68.9*
Amusing others	0-100	66.1	68.4	65.5	68.3
Wisdom	0-100	51.4	59.1**	54.2	60.0*
Using reasons to support viewpoints	0-100	56.0	60.2	55.1	66.3**
Providing reasonable explanations	0-100	50.2	59.1*	55.1	61.5
Reflecting on things	0-100	52.1	63.9**	55.7	63.1
Enhancing wisdom	0-100	45.6	52.5	53.3	52.3
Weighing benefits and costs	0-100	51.8	59.5	50.6	59.1*
Pondering problems logically	0-100	52.5	59.5	55.6	58.1
Courage	0-100	55.9	58.9	53.9	60.9**
Standing out for justice	0-100	45.6	53.0	42.9	51.7*
Persisting despite opposition	0-100	58.0	57.5	51.8	61.6*
Acting according to rational analysis	0-100	52.8	60.2*	53.7	60.8
Acting to correct mistakes	0-100	50.9	54.3	51.5	57.6
Doing something boldly despite difficulty	0-100	62.2	58.2	53.9	63.4*
Doing something whenever it is deemed right	0-100	66.1	70.0	69.8	70.6
Social desirability	0-100	53.0	52.0	57.3	55.4
Admitting faults	0-100	53.9	62.3*	55.1	63.7*
Obedying parents	0-100	47.0	50.5	59.0	57.0
Not gossiping about others	0-100	59.4	55.5	59.8	54.7
Not swearing at others	0-100	55.7	53.9	58.7	56.7
Not lying	0-100	54.1	47.0	59.3	52.6
Not getting angry	0-100	47.7	43.2	52.1	47.4
Social worker cognitive-experimental approach	0-100	54.2	57.9	54.7	63.5*
Distancing from the daily situation	0-100	51.8	51.4	52.4	55.5
Leaving the drug abuse sphere	0-100	61.5	65.8	60.2	67.4
Comparing conditions before and after taking drugs	0-100	50.2	56.9	55.7	66.6*
Building intimate relationships with non-addicts	0-100	52.1	57.6	50.3	64.5**
Social worker cognitive-reflection approach	0-100	53.7	55.5	52.1	65.7**
Examining side effects of drug taking	0-100	60.1	63.7	59.3	72.7**
Verifying the help of drug taking	0-100	43.0	42.0	46.4	57.6*

Item	Scoring	Pre-		Post	
		C-gp	E-gp	C-gp	E-gp
Seeking paths outside drug taking	0-100	56.3	60.9	50.6	66.9***
Stoical worker behavioral approach	0-100	55.4	57.5	54.8	65.3**
Developing potential based on interest	0-100	60.0	70.0*	59.3	75.0***
Sporting	0-100	52.3	50.5	52.4	59.6
Practicing how to reject drugs	0-100	53.9	52.1	52.7	61.3
Social worker trained cognitive approach				52.8	64.2**
Recognizing the importance of life goals				55.1	70.3**
Discerning and changing misconceptions about drug abuse				54.9	60.0
Recognizing impacts of social networks on continuation of drug abuse				48.5	62.4**
Social worker trained behavioral approach				50.8	62.5**
Distracting attention				47.0	59.1**
Building balanced life styles				54.5	65.8*
Social worker trained motivational approach				52.7	66.9***
Setting decisions on change				56.3	67.9**
Making plans preventing relapse				43.4	56.8***
Setting feasible goals				58.4	75.9***
Drug abuse: Never	0, 100	15.6	11.8	25.3**	8.1
Earlier than one month before	0, 100	45.0	40.9	41.0	53.5
Recent month	0, 100	40.4	45.5	24.1	37.2
Drug abuse months	months	18.5	22.9	19.0	26.3
Days abusing drugs before	days	12.0	8.1	12.0	13.0
Drug abuse timing: Irregular	0, 100	43.1	61.8**	37.3	39.5
Regularity in day	0, 100	1.8	2.7	2.4	1.2
Regularity in time	0, 100	7.3	3.6	2.4	0.0
During certain activities	0, 100	5.5	8.2	6.0	10.5
Major drugs abused: heroin	0-100	1.4	0.0	2.4	0.3
Marijuana	0-100	5.9	12.3*	8.5	9.2
Solvent	0-100	0.0	0.9	0.3	0.6
Pill (tranquillizer)	0-100	8.7	11.7	8.2	3.4
Ice (stimulant)	0-100	7.6	8.3	5.9	5.4
Ecstasy (hallucinogen)	0-100	20.5	15.6	10.6	13.0
Coke (cocaine)	0-100	8.5	6.7	3.3	8.8
Ketamine	0-100	59.8	78.8**	46.4	72.5***
Others	0-100	0.9	1.7	2.4	5.2
Drug abuse ways: Swallowing	0-100	30.0	27.0	23.5	20.3
Sniffing	0-100	62.8	76.4*	46.4	72.1***
Smoking	0-100	16.1	23.4	11.6	19.2
Injection	0-100	1.0	0.5	0.3	0.5
Drug abuse mix: None	0-100	25.2	30.9	25.5	36.2
Other illicit substances	0-100	1.8	6.4*	0.6	2.6
Alcohol	0-100	16.5	25.5	14.3	25.9*
Ordinary beverage	0-100	33.5	34.8	19.1	18.3
Medicine	0-100	5.3	3.2	3.4	4.2

Item	Scoring	Pre-		Post	
		C-gp	E-gp	C-gp	E-gp
Acid	0-100	10.0	13.8	14.2	8.9
Halting drug abuse over 1 month: None	0, 100	10.1	11.8	7.2	5.8
Receiving services	0, 100	12.8	7.3	9.6	19.8
Voluntary	0, 100	56.9	72.7*	65.1	76.7
Experiences after drug abuse:					
Cohabitation or marriage	0, 100	2.8	10.0*	7.2	2.3
Staying in hospital to treat physical illness	0, 100	6.4	10.0	7.2	8.1
Staying in hospital to treat mental illness other than drug abuse	0, 100	0.0	1.8	0.0	1.2
Traveling outside	0, 100	9.2	13.6	9.6	10.5
Being arrested	0, 100	11.9	24.5*	12.0	11.6
Quarrel inside the family	0, 100	22.9	42.7**	25.3	34.9
Fighting inside the family	0, 100	6.4	11.8	3.6	9.3
Runaway	0, 100	10.1	14.5	7.2	3.5
Receiving social services concerning drugs	0, 100	8.3	16.4	7.2	15.1
Receiving social services not concerning drugs	0, 100	11.0	28.2**	2.4	19.8***
Receiving CSSA	0, 100	4.6	3.6	10.8**	1.2
None of the above	0, 100	30.3	21.8	31.3	32.6
Services received: None	0, 100	11.9**	2.7	9.6*	1.2
Outreaching social work	0, 100	78.9	81.8	80.7	80.2
Drug counseling	0, 100	10.1	20.0*	6.0	18.6*
Residential drug treatment	0, 100	1.8	1.8	2.4	0.0
School social work	0, 100	24.8	27.3	13.3	18.6
Youth center	0, 100	10.1	8.2	10.8	8.1
Correctional/probation	0, 100	9.2	14.5	7.2	11.6
Family center	0, 100	8.3	4.5	4.8	2.3
Services received in the recent 6 months	months	4.7	5.0	6.2	5.9
Co-resident people: None	0, 100	0.9	1.8	1.2	1.2
Father	0, 100	73.4	70.0	72.3	68.6
Mother	0, 100	84.4	79.1	83.1	80.2
Elder sibling	0, 100	50.5	54.5	45.8	54.7
Young sibling	0, 100	34.9	31.8	39.8	34.9
Spouse or mate	0, 100	5.5	5.5	4.8	1.2
Another relative	0, 100	11.9	14.5	14.5	17.4
Friend	0, 100	0.0	1.8	1.2	1.2
Domestic helper	0, 100	2.8	3.6	3.6	4.7
Father's major occupation: Employee	0, 100	57.5	57.7	60.0	53.7
Employer	0, 100	5.7	8.7	7.5	9.8
Self-employed	0, 100	8.5	14.4	6.3	15.9
Not employed	0, 100	19.8	13.5	17.5	15.9
Absent	0, 100	8.5	5.8	8.8	4.9
Mother's major occupation: Employee	0, 100	52.4	56.1	46.8	54.2
Employer	0, 100	5.7	1.9	5.1	2.4
Self-employed	0, 100	5.7	8.4	6.3	9.6
Not employed	0, 100	35.2	29.9	41.8	30.1

Item	Scoring	Pre-		Post	
		C-gp	E-gp	C-gp	E-gp
Absent	0, 100	1.0	3.7	0.0	3.6
Age	years	15.7	16.3*	15.7	16.3
Residency in Hong Kong	years	14.3	14.8	14.4	14.6
Monthly income	HK\$	3801.0	3118.8	2632.5	3413.4
Female	0, 100	37.4*	24.5	41.3*	26.7
Survey time	year	2009.4	2009.4	2009.9	2009.9
Drug abuse: Never (reported by the social worker)	0, 100	17.4	10.0	19.3**	5.8
Earlier than one month before	0, 100	37.6	33.6	37.3	45.3
Recent month	0, 100	39.4	35.5	18.1	30.2
Drug abuse months (reported by the social worker)	months	22.5	19.9	18.4	26.4
Days abusing drugs before (reported by the social worker)	days	10.6	9.0	9.9	11.3*
Drug abuse timing: Irregular (reported by the social worker)	0, 100	36.7	50.9*	25.3	34.9
Regularity in day	0, 100	2.8	2.7	3.6	0.0
Regularity in time	0, 100	5.5	3.6	2.4	0.0
During certain activities	0, 100	6.4	9.1	8.4	10.5
Major drugs abused: heroin (reported by the social worker)	0-100	0.0	0.2	0.6	0.3
Marijuana	0-100	4.1	11.5**	3.4	9.4
Solvent	0-100	0.0	0.9	0.3	0.6
Pill (tranquillizer)	0-100	4.1	10.1*	3.4	2.8
Ice (stimulant)	0-100	4.7	9.4	4.3	6.3
Ecstasy (hallucinogen)	0-100	17.9	16.0	14.5	13.9
Coke (cocaine)	0-100	4.2	6.5	2.4	9.1*
Ketamine	0-100	63.3	77.6*	47.6	73.6 ***
Others	0-100	1.8	3.8	1.8	5.8
Drug abuse ways: Swallowing (reported by the social worker)	0-100	20.9	25.0	19.0	21.5
Sniffing	0-100	63.1	75.9*	45.8	75.6***
Smoking	0-100	7.6	24.5***	10.8	19.5
Injection	0-100	1.8	2.0	0.3	1.3
Drug abuse mix: None (reported by the social worker)	0-100	32.1	31.6	21.9	42.7**
Other illicit substances	0-100	2.1	5.0	2.3	1.2
Alcohol	0-100	8.5	24.9***	11.3	29.9**
Ordinary beverage	0-100	21.6	31.3	11.0	16.6
Medicine	0-100	0.0	4.1	2.2	2.8
Acid	0-100	5.3	10.7	8.8	7.4
Halting drug abuse over 1 month: None (reported by the social worker)	0, 100	17.4	17.3	7.2	7.0
Receiving services	0, 100	14.7	12.7	9.6	27.9**
Voluntary	0, 100	39.4	58.2**	62.7	73.3
Experiences after drug abuse: Cohabitation or marriage (reported by the social worker)	0, 100	3.7	8.2	4.8	2.3

Item	Scoring	Pre-		Post	
		C-gp	E-gp	C-gp	E-gp
Staying in hospital to treat physical illness	0, 100	3.7	13.6**	6.0	8.1
Staying in hospital to treat mental illness other than drug abuse	0, 100	0.0	0.0	0.0	1.2
Traveling outside	0, 100	4.6	11.8	7.2	10.5
Being arrested	0, 100	10.1	27.3**	10.8	12.8
Quarrel inside the family	0, 100	19.3	47.3***	24.1	33.7
Fighting inside the family	0, 100	2.8	10.9*	2.4	9.3
Runaway	0, 100	8.3	12.7	6.0	5.8
Receiving social services concerning drugs	0, 100	11.0	18.2	9.6	19.8
Receiving social services not concerning drugs	0, 100	11.9	28.2**	7.2	19.8*
Receiving CSSA	0, 100	0.9	3.6	9.6*	2.3
None of the above	0, 100	20.2	18.2	24.1	30.2
Credibility	0-100	86.5	85.6	87.7	87.3
Survey date (reported by the social worker)	years	2009.4	2009.4	2009.9	2009.9
Survey procedure: Self-administration	0, 100	67.9	59.1	74.7**	54.7
Social worker interviewing	0, 100	53.2	65.5	44.6	67.4**
Other interviewing	0, 100	0.0	0.0	0.0	0.0
Having another hearing or talking	0, 100	3.7	4.5	2.4	7.0
Education	1-4			2.0	2.0
School years	years			9.0	9.3

Significance difference between the E-group and C-group group: * $p < .05$. ** $p < .01$. *** $p < .001$.

Reports about drug abuse were mostly consistent between the youth and social worker, showing interrater reliability. Exceptions were the report about the abuse of heroin and regularity of drug abuse in time. Despite the consistency, the youth reported significantly higher drug abuse and its halt than did the social worker.

Table 5: Correlations and differences between youth and social worker reports during the baseline

Pair	<i>r</i>	<i>M</i>
Drug abuse: Never	.846	0.0
Earlier than one month before	.708	7.2**
Recent month	.621	5.9*
Drug abuse months	.489	-1.5
Days abusing drugs before	.942	-0.7
Drug abuse timing: Irregular	.679	8.6**
Regularity in day	.911	-0.5
Regularity in time	.332	0.9
During certain activities	.800	-0.9
Major drugs abused: heroin	-.006	0.6
Marijuana	.709	1.3
Solvent	.999	0.0
Pill (tranquillizer)	.735	3.0**

Pair	<i>r</i>	<i>M</i>
Ice (stimulant)	.926	0.8
Ecstasy (hallucinogen)	.881	1.1
Coke (cocaine)	.792	2.2*
Ketamine	.799	-1.1
Others	.654	-1.5
Drug abuse ways: Swallowing	.694	5.5**
Sniffing	.856	0.1
Smoking	.668	3.6*
Injection	.433	-1.2
Drug abuse mix: None	.619	-3.5
Other illicit substances	.636	0.6
Alcohol	.871	4.2**
Ordinary beverage	.700	7.6**
Medicine	.483	2.2
Acid	.726	3.8**
Halting drug abuse over 1 month: None	.728	-6.3***
Receiving services	.530	-3.6
Voluntary	.684	15.8***
Experiences after drug abuse: Cohabitation or marriage	.882	0.5
Staying in hospital to treat physical illness	.735	-0.5
Staying in hospital to treat mental illness other than drug abuse	.	0.9
Traveling outside	.740	3.2*
Being arrested	.834	-0.5
Quarrel inside the family	.744	-0.5
Fighting inside the family	.793	2.3
Runaway	.733	1.8
Receiving social services concerning drugs	.789	-2.3
Receiving social services not concerning drugs	.757	-0.5
Receiving CSSA	.431	1.8
None of the above	.622	6.8**

Significance difference between the youth and social worker: * $p < .05$. ** $p < .01$. *** $p < .001$.

The youth's reports, those involving composites of multiple indicators, were mostly reliable or internally consistent. Only concerns about social relationships and behavior were low in reliability.

Table 6: Internal consistency reliability

Composite	Number of items	α
Concern about relationships	2	.282
Concern about behavior	3	.330
Playfulness	6	.708
Drug abuse benefit to the body	3	.477
Drug abuse benefit to spirit	3	.518
Drug abuse benefit to relationships	3	.625
Drug abuse benefit to mood	3	.501
Drug abuse harm to the body	3	.610
Drug abuse harm to spirit	3	.780

Composite	Number of items	α
Drug abuse harm to mood	3	.666
Drug abuse harm to behavior	3	.714
Drug abuse harm to relationships	3	.577
Drug abuse appropriateness	8	.709
Misunderstanding about drug abuse (composite of playfulness, perceived benefits, and appropriateness)	6	.834
Benevolence	6	.756
Wisdom	6	.804
Courage	6	.672
Social desirability	6	.568
Social worker cognitive-experimental approach	4	.729
Social worker cognitive-reflection approach	3	.744
Social worker behavioral approach	3	.620
Social worker trained cognitive approach	3	.779
Social worker trained behavioral approach	2	.765
Social worker trained motivational approach	3	.793

Misunderstandings and other thoughts were not highly stable across the time before and after intervention, although the correlations across time were statistically significant.

Table 7: Correlations between misunderstandings before and after intervention

Predictor	All	E-group	C-group
Pro-drug misunderstanding	.395***	.555***	.266**
General misunderstanding	.358***	.425***	.288**
Cost-benefit misunderstanding	.393***	.414***	.361**
Playfulness	.431***	.537***	.306**
Benefit to the body	.275***	.494***	.070
Benefit to spirit	.325***	.354***	.302**
Benefit to relationship	.303***	.440***	.158
Benefit to mood	.295***	.336***	.269**
Harm to the body	.386***	.405***	.351**
Harm to spirit	.434***	.410***	.436***
Harm to relationship	.411***	.449***	.359**
Harm to mood	.573***	.621***	.532***
Harm to behavior	.484***	.425***	.530***
Appropriateness	.329***	.374***	.298**
Benevolence	.504***	.597***	.408***
Wisdom	.420***	.486***	.331**
Courage	.316***	.474***	.146
Concern for spirit	.216**	.226*	.204
Concern for relationships	.347***	.326**	.353**
Concern for mood	.068	.039	.080
Concern for the body	.119	.087	.153
Concern for behavior	.322***	.324*	.301**

* $p < .05$. ** $p < .01$. *** $p < .001$.

Service Effectiveness

Services concerned essentially included CBIT or its cognitive, behavioral, and motivational components. They included indicators of the services experienced by the client and those provided by the social worker, according to the client's report and social worker's report respectively. In addition, time and skill in the service represented inputs that were more general. Specifically, time in receiving services provided in the E-group would be important to indicate the effectiveness of CBIT. In all, the examination focused on the effect due to the dosage of service input.

Cognitive-behavioral approaches experienced showed consistently significant negative effects on pro-drug misunderstanding. This finding generally held for both the E-group and C-group. Apparently, cognitive and behavioral approaches experienced were equally effective in reducing the youth's pro-drug misunderstanding. However, attending the E-group, time in service, and approaches provided did not show significant effects.

In contrast, the provision of cultivating or other non-CBIT approaches did not manifest a significant effect on post-intervention pro-drug misunderstanding. This finding highlights the unique contributions of CBIT approaches experiences to reduction in the misunderstanding.

Table 8: Standardized effects on post-intervention pro-drug misunderstanding

Predictor	All	E-group	C-group
E-group social worker	.006		
Time in service	-.064	-.071	-.013
Cognitive-experimental approach experienced	-.303***	-.163	-.180
Cognitive-reflection approach experienced	-.319***	-.145	-.315***
Behavioral approach experienced	-.329***	-.176*	-.273***
Trained cognitive approach experienced	-.327***	-.214*	-.205*
Trained behavioral approach experienced	-.291***	-.220**	-.194*
Trained motivational approach experienced	-.304***	-.177*	-.245**
Behavioral approach provided	-.005	-.104	-.039
Motivational approach provided	.027	.016	.004
Cognitive approach provided	-.016	-.075	.070
Cultivating approach provided	.065	-.004	.067
Other non-CBIT approach provided	.014	.090	.023
CBIT skill	-.002	-.006	.024
Social work skill	.010	.020	.014
E-group × Service time	.037		

Note: Regression analysis controlled for all significant background characteristics.

Pro-drug misunderstanding was a composite of playfulness, compulsiveness, and perceived benefits of drugs to the body, spirit, mind, and relationships.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Interventions appeared to reduce the youth's pro-drug misunderstanding when baseline drug abuse was at Level 1, that is, abusing drugs once in 8 or more days. In contrast, interventions had no significant effect on the youth who did not abuse drugs in the baseline.

Table 9: Standardized effects on post-intervention pro-drug misunderstanding by baseline drug abuse level

Predictor	Level 0	Level 1	Level 2
Number at pre-intervention	29	111	82

Predictor	Level 0	Level 1	Level 2
E-group social worker	-.045	-.062	.037
Time in service	.041	-.054	-.046
Cognitive-experimental approach experienced	-.019	-.296***	-.085
Cognitive-reflection approach experienced	.084	-.309***	-.101
Behavioral approach experienced	.181	-.226**	-.173**
Trained cognitive approach experienced	.093	-.257***	-.133
Trained behavioral approach experienced	.258	-.234**	-.142
Trained motivational approach experienced	.094	-.207**	-.112
Behavioral approach provided	.058	.062	-.046
Motivational approach provided	-.028	-.107	.025
Cognitive approach provided	.221	-.144*	.057
Cultivating approach provided	-.074	-.023	.032
Other non-CBIT approach provided	.016	.017	-.019
CBIT skill	-.042	-.063	-.014
Social work skill	-.085	-.092	-.005

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Pro-drug misunderstanding was a composite of playfulness, compulsiveness, and perceived benefits of drugs to the body, spirit, mind, and relationships.

Some approaches experienced showed significant negative effects on post-intervention playfulness. The apparent reduction was desirable.

Significant negative effects of interventions occurred only in the E-group, but not in the C-group. That is, various interventions in the E-group tended to reduce the youth's playfulness.

Table 10: Standardized effects on post-intervention playfulness

Predictor	All	E-group	C-group
E-group social worker	.031		
Time in service	.088	.070	-.033
Cognitive-experimental approach experienced	-.170**	-.214*	.008
Cognitive-reflection approach experienced	-.201**	-.272**	-.012
Behavioral approach experienced	-.188**	-.138	-.081
Trained cognitive approach experienced	-.235***	-.337**	-.001
Trained behavioral approach experienced	-.164*	-.163	-.084
Trained motivational approach experienced	-.162*	-.216*	-.061
Behavioral approach provided	.054	.005	.001
Motivational approach provided	.049	.131	-.040
Cognitive approach provided	-.012	.069	.141*
Cultivating approach provided	.006	-.102	-.011
Other non-CBIT approach provided	-.015	-.114	.077
CBIT skill	-.062	-.040	.011
Social work skill	-.013	-.007	.055
E-group \times Service time	.000		

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

For the youth with Level 2 drug abuse in the baseline, some interventions showed significant negative effects on post-intervention playfulness. The significant interventions

employed the cognitive-experimental approach and behavioral approach, as experienced by the youth. These interventions did not show a significant negative effect on playfulness when the youth's drug abuse was at a lower level in the baseline. Hence, the interventions appeared to be more effective in reducing playfulness in the youth with more frequent drug abuse.

Table 11: Standardized effects on post-intervention playfulness by baseline drug abuse level

Predictor	Level 0	Level 1	Level 2
E-group social worker	.127	-.012	.073
Time in service	.128	.061	-.005
Cognitive-experimental approach experienced	.275	-.156	-.238**
Cognitive-reflection approach experienced	.041	-.166	-.130
Behavioral approach experienced	-.091	-.093	-.200*
Trained cognitive approach experienced	.050	-.102	-.133
Trained behavioral approach experienced	-.084	-.089	-.105
Trained motivational approach experienced	-.061	-.072	-.157
Behavioral approach provided	-.053	.071	.009
Motivational approach provided	.098	.036	.027
Cognitive approach provided	-.195	-.032	.002
Cultivating approach provided	-.107	-.026	.001
Other non-CBIT approach provided	.031	.003	-.039
CBIT skill	.190	.028	.075
Social work skill	.124	-.009	.076

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Some approaches experienced showed significant negative effects on drug abuse benefit to the body perceived at post-intervention. The apparent reduction was desirable.

Table 12: Standardized effects on post-intervention drug abuse benefit to the body

Predictor	All	E-group	C-group
E-group social worker	.046		
Time in service	-.054	.001	-.031
Cognitive-experimental approach experienced	-.134	-.027	-.037
Cognitive-reflection approach experienced	-.118	.082	-.141
Behavioral approach experienced	-.281***	-.029	-.276
Trained cognitive approach experienced	-.228**	-.093	-.178**
Trained behavioral approach experienced	-.223**	.006	-.319
Trained motivational approach experienced	-.190**	-.009	-.189**
Behavioral approach provided	.028	.051	-.154*
Motivational approach provided	.072	.053	.083*
Cognitive approach provided	-.062	.018	-.028
Cultivating approach provided	.024	.013	-.054
Other non-CBIT approach provided	.005	.079	-.013
CBIT skill	.039	.098	-.031
Social work skill	.024	.076	.024
E-group \times Service time	.046		

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Some approaches experienced showed significant negative effects on drug abuse benefit to the body perceived at post-intervention. The apparent reduction was desirable.

Table 13: Standardized effects on post-intervention drug abuse benefit to the body by baseline drug abuse level

Predictor	Level 0	Level 1	Level 2
E-group social worker	.064	.045	-.058
Time in service	.115	-.053	.053
Cognitive-experimental approach experienced	.173	-.016	-.033
Cognitive-reflection approach experienced	.130	.019	-.064
Behavioral approach experienced	.178	-.084	-.149
Trained cognitive approach experienced	.094	-.076	-.081
Trained behavioral approach experienced	.140	-.061	-.116
Trained motivational approach experienced	.146	-.053	-.061
Behavioral approach provided	-.069	.099*	-.131*
Motivational approach provided	.165	.025	-.115
Cognitive approach provided	.252*	-.086	-.077
Cultivating approach provided	-.210	-.061	.103
Other non-CBIT approach provided	-.134	-.009	.099
CBIT skill	-.011	.118	-.117
Social work skill	.008	.116	-.102

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Some approaches experienced showed significant negative effects on drug abuse benefit to spirit perceived at post-intervention. The apparent reduction was desirable.

Table 14: Standardized effects on post-intervention drug abuse benefit to spirit

Predictor	All	E-group	C-group
E-group social worker	-.029		
Time in service	-.022	-.064	.015
Cognitive-experimental approach experienced	-.257***	-.166	-.235*
Cognitive-reflection approach experienced	-.225**	-.115	-.272*
Behavioral approach experienced	-.118	-.069	.034
Trained cognitive approach experienced	-.183*	-.013	-.078
Trained behavioral approach experienced	-.090	-.155	.008
Trained motivational approach experienced	-.173*	-.132	-.076
Behavioral approach provided	-.020	-.024	-.048
Motivational approach provided	.014	.141	.010
Cognitive approach provided	-.069	.129	-.067
Cultivating approach provided	.028	.049	-.095
Other non-CBIT approach provided	.053	.038	.058
CBIT skill	-.071	.075	-.083
Social work skill	-.074	.016	-.093
E-group \times Service time	-.065		

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Some approaches experienced showed significant negative effects on drug abuse benefit to spirit perceived at post-intervention. Whereas the cognitive-reflection intervention

experienced was significantly effective in the youth of Level 1 drug abuse, trained cognitive intervention experienced was significantly effective in the youth of Level 2 drug abuse. The apparent reduction was desirable.

Table 15: Standardized effects on post-intervention drug abuse benefit to spirit by baseline drug abuse level

Predictor	Level 0	Level 1	Level 2
E-group social worker	-.068	.016	-.035
Time in service	-.209	.072	-.130
Cognitive-experimental approach experienced	-.086	-.161	-.166
Cognitive-reflection approach experienced	.244	-.283**	-.202
Behavioral approach experienced	-.218	-.087	.042
Trained cognitive approach experienced	-.065	-.085	-.234*
Trained behavioral approach experienced	-.180	-.097	-.159
Trained motivational approach experienced	-.108	-.122	-.049
Behavioral approach provided	.020	-.028	-.060
Motivational approach provided	-.045	.062	.090
Cognitive approach provided	-.116	-.009	-.204*
Cultivating approach provided	.017	.073	.138
Other non-CBIT approach provided	.178	.034	.040
CBIT skill	-.033	.049	-.051
Social work skill	.141	.051	-.100

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Some approaches experienced showed significant negative effects on drug abuse benefit to relationships perceived at post-intervention. The apparent reduction was desirable.

Table 16: Standardized effects on post-intervention drug abuse benefit to relationships

Predictor	All	E-group	C-group
E-group social worker	-.018		
Time in service	-.013	-.020	.029
Cognitive-experimental approach experienced	-.092	.158	-.192
Cognitive-reflection approach experienced	-.180*	.085	-.448***
Behavioral approach experienced	-.123	.080	-.282*
Trained cognitive approach experienced	-.195**	.045	-.368**
Trained behavioral approach experienced	-.057	-.075	-.135
Trained motivational approach experienced	-.159*	-.045	-.417***
Behavioral approach provided	.036	.034	.084
Motivational approach provided	.008	.020	.006
Cognitive approach provided	-.044	-.167*	.126
Cultivating approach provided	.083	.024	.039
Other non-CBIT approach provided	.052	.033	.145
CBIT skill	.074	.060	-.084
Social work skill	-.003	.069	-.018
E-group \times Service time	-.021		

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

The cognitive-experimental intervention experienced and the cognitive approach provided showed significant negative effect on the perceived benefit of drug abuse to social relationships when the youth's baseline drug abuse had been at Level 1.

Table 17: Standardized effects on post-intervention drug abuse benefit to relationships by baseline drug abuse level

Predictor	Level 0	Level 1	Level 2
E-group social worker	.150	-.089	.044
Time in service	.210	-.027	.018
Cognitive-experimental approach experienced	.095	-.207*	.003
Cognitive-reflection approach experienced	-.175	-.180	-.043
Behavioral approach experienced	-.397	-.113	-.019
Trained cognitive approach experienced	-.228	-.154	-.031
Trained behavioral approach experienced	.264	-.163	.228**
Trained motivational approach experienced	-.580	-.074	.071
Behavioral approach provided	.249	-.031	-.012
Motivational approach provided	.146	.007	.006
Cognitive approach provided	.025	-.167*	.055
Cultivating approach provided	-.016	.093	-.013
Other non-CBIT approach provided	.218	-.012	-.021
CBIT skill	.115	.072	.044
Social work skill	.114	.064	.017

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Some approaches experienced showed significant negative effects on drug abuse benefit to mood perceived at post-intervention. The apparent reduction was desirable.

Table 18: Standardized effects on post-intervention drug abuse benefit to mood

Predictor	All	E-group	C-group
E-group social worker	-.057		
Time in service	-.023	.036	.021
Cognitive-experimental approach experienced	-.218**	.015	-.207*
Cognitive-reflection approach experienced	-.175**	-.024	-.190*
Behavioral approach experienced	-.196**	-.016	-.159
Trained cognitive approach experienced	-.133	-.020	-.059
Trained behavioral approach experienced	-.209**	-.178*	-.144
Trained motivational approach experienced	-.233**	-.050	-.112
Behavioral approach provided	-.048	-.139	-.059
Motivational approach provided	-.012	-.026	-.074
Cognitive approach provided	-.015	-.114	.203*
Cultivating approach provided	.071	-.137	-.023
Other non-CBIT approach provided	.016	.016	-.035
CBIT skill	-.072	-.040	.035
Social work skill	.020	-.011	.075
E-group \times Service time	.070		

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

When the youth's drug abuse in the baseline had been at Level 1, a number of interventions experienced by the youth showed significant negative effects on the perceived drug abuse benefit to the mood. The interventions appeared to be particularly effective in reducing the perceived benefit in the youth of Level 1 drug abuse.

Table 19: Standardized effects on post-intervention drug abuse benefit to mood by baseline drug abuse level

Predictor	Level 0	Level 1	Level 2
E-group social worker	-.070	-.057	-.040
Time in service	-.011	-.056	.073
Cognitive-experimental approach experienced	-.430	-.274**	-.123
Cognitive-reflection approach experienced	-.075	-.309**	-.160
Behavioral approach experienced	.034	-.259*	-.077
Trained cognitive approach experienced	-.043	-.213*	-.060
Trained behavioral approach experienced	.237	-.247**	-.208
Trained motivational approach experienced	-.110	-.192*	-.234
Behavioral approach provided	.019	.061	-.056
Motivational approach provided	.031	.025	-.047
Cognitive approach provided	.269	-.025	-.021
Cultivating approach provided	-.250	.045	.080
Other non-CBIT approach provided	.150	.050	.138
CBIT skill	-.101	-.067	-.164
Social work skill	-.194	-.031	-.108

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Some approaches experienced showed significant negative effects on the perceived appropriateness of drug abuse or mythic belief at post-intervention. The apparent reduction was desirable.

Table 20: Standardized effects on post-intervention drug abuse appropriateness

Predictor	All	E-group	C-group
E-group social worker	.048		
Time in service	.008	.097	.113
Cognitive-experimental approach experienced	-.145	.164	-.139
Cognitive-reflection approach experienced	-.218**	-.042	-.250**
Behavioral approach experienced	-.154*	-.030	-.178*
Trained cognitive approach experienced	-.252**	-.080	-.176
Trained behavioral approach experienced	-.145*	-.061	-.083
Trained motivational approach experienced	-.209**	-.072	-.180
Behavioral approach provided	-.005	-.010	.005
Motivational approach provided	-.026	-.070	.115
Cognitive approach provided	-.040	.042	.048
Cultivating approach provided	.023	.046	.044
Other non-CBIT approach provided	.023	.240*	-.005
CBIT skill	.040	-.120	.013
Social work skill	-.026	-.090	.048
E-group × Service time	.066		

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Interventions tended to reduce the perception of drug abuse appropriateness in the youth. Notably, the behavioral intervention provided and social work skill appeared to be effective when the youth's had not abused drugs in the baseline. Trained cognitive and motivational interventions appeared to be effective when the youth had abused drugs once in 8 or more days. The behavioral intervention provided appeared to be effective when the youth had abuse drugs once in a week.

Table 21: Standardized effects on post-intervention drug abuse appropriateness by baseline drug abuse level

Predictor	Level 0	Level 1	Level 2
E-group social worker	-.178	.018	.020
Time in service	.075	.000	-
Cognitive-experimental approach experienced	-.249	-.167	-.043
Cognitive-reflection approach experienced	-.107	-.285	-.031
Behavioral approach experienced	-.042	-.017	-.010
Trained cognitive approach experienced	-.162	-.211*	-.032
Trained behavioral approach experienced	-.188	-.176	-.007
Trained motivational approach experienced	-.009	-.189*	-.053
Behavioral approach provided	-.273*	.015	-.117*
Motivational approach provided	-.028	-.145	.045
Cognitive approach provided	.167	.012	-.004
Cultivating approach provided	-.328	.056	.030
Other non-CBIT approach provided	-.277	.096	.041
CBIT skill	-.240	.016	-.063
Social work skill	-.368**	-.072	-.046

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

The trained motivational approach experienced and behavioral approach provided showed significant positive effects on drug-free days at post-intervention. These apparent increases were desirable. In contrast, the other non-CBIT approach provided indicated a significant negative effect on drug-free days. This apparent reduction was expected.

Table 22: Standardized effects on post-intervention days since the latest drug abuse

Predictor	All	E-group	C-group
E-group social worker	.007		
Time in service	.040	.045	-.035
Cognitive-experimental approach experienced	.006	.051	-.040
Cognitive-reflection approach experienced	.035	.016	-.001
Behavioral approach experienced	-.009	.034	-.083
Trained cognitive approach experienced	.121	.109	.029
Trained behavioral approach experienced	.105	.175*	.002
Trained motivational approach experienced	.143*	.077	.069
Behavioral approach provided	.190**	.157	.073
Motivational approach provided	-.063	-.156	-.118
Cognitive approach provided	.018	.120	.004
Cultivating approach provided	-.120	.048	.036
Other non-CBIT approach provided	-.145*	.016	.019
CBIT skill	.094	-.086	-.036

Social work skill	.076	-.161	-.045
E-group × Service time	.004		

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

For the youth abusing drugs once in a week during the baseline, time in service, the cognitive intervention provided, and the social worker's social work skill tended to increase the youth's drug-free time. In contrast, for the youth abusing drugs once in a period above one week, the trained behavioral intervention experienced and behavioral intervention provided tended to increase the youth's drug-free time. These interventions appeared to be effective.

Table 23: Standardized effects on post-intervention days since the latest drug abuse by baseline drug abuse level

Predictor	Level 0	Level 1	Level 2
E-group social worker	.036	.033	.078
Time in service	-.229	-.041	.149*
Cognitive-experimental approach experienced	-.293	.074	-.027
Cognitive-reflection approach experienced	-.341*	.089	-.108
Behavioral approach experienced	-.178	.087	-.117
Trained cognitive approach experienced	-.205	.154	-.010
Trained behavioral approach experienced	-.174	.197*	-.005
Trained motivational approach experienced	-.206	.171	-.025
Behavioral approach provided	-.078	.233*	.053
Motivational approach provided	.054	-.056	-.025
Cognitive approach provided	.031	.008	.169*
Cultivating approach provided	.147	.028	-.111
Other non-CBIT approach provided	-.102	-.124	-.125
CBIT skill	-.079	.035	.131
Social work skill	-.161	-.069	.198*

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Moderators of the Effectiveness of CBIT

Significant pre-intervention moderators that increased the effectiveness of the use of CBIT in the E-group in reducing pro-drug misunderstanding, and its components of playfulness, and drug abuse appropriateness were as follows:

- Drug abuse before
- Abusing tranquilizer
- Arrest after drug abuse
- Hospitalization after drug abuse
- Concern for mind (i.e., psychological condition)
- Halting drug abuse voluntarily

Significant pre-intervention moderators that attenuated the effectiveness of the use of CBIT in the E-group in reducing pro-drug misunderstanding, and its components of playfulness, and drug abuse appropriateness were as follows:

- Mixing drugs with ordinary beverages in drug abuse

- Drug abuse in regular time
- Perceived benefit of drug abuse to mind
- Concern for the body
- Receiving residential drug treatment

Table 24: Significant moderating effects of CBIT on post-intervention misunderstanding

Baseline moderator	Pro-drug	Playfulness	Appropriateness
Abuse before the recent month	-	-.126*	-
Abuse mixing with ordinary beverages	-	-	.161**
Abuse regularity in time	-	.126*	-
Abusing tranquilizer	-	-.112*	-
Arrested after abuse	-	-.136*	-
Benefit of drugs to mind	-	.140**	-
Cognitive-experimental approach	.085*	-	-
Concern for mind	-	-.149**	-
Concern for the body	.101*	-	.174**
Halting abuse voluntarily	-	-	-.131*
Hospitalization after abuse	-	-.141**	-
Mother absent	.099*	-	-
Residential drug treatment	.108**	-	.158**
Social desirability	-	-	.138*

* $p < .05$. ** $p < .01$. *** $p < .001$.

Significant pre-intervention moderators that increased the effectiveness of the use of CBIT in the E-group in reducing pro-drug misunderstanding in terms of perceived benefits of drug abuse were as follows:

- Drug abuse by injection
- Drug abuse during certain activities
- Abusing atypical drugs
- Perceived benefit of drug abuse to mind
- Father as an employer
- Living with the father
- Mother as an employer
- Mother not employed
- Receiving services concerning drugs
- Receiving services not concerning drugs
- Receiving youth center services
- Service duration

Significant pre-intervention moderators that attenuated the effectiveness of the use of CBIT in the E-group in reducing pro-drug misunderstanding in terms of perceived benefits of drug abuse were as follows:

- Mixing drugs with acid in drug abuse
- Abusing marijuana
- Abusing tranquilizer
- Arrest after drug abuse
- Experiencing behavioral intervention
- Education level
- Receiving family center services

- Halting drug abuse by services
- Perceived harm of drug abuse to spirit

Table 25: Significant moderating effects of CBIT on post-intervention perceived benefits of drugs

Baseline moderator	Body	Spirit	Relationship	Mind
Abuse by injection (worker report)	-.124**	-	-	-
Abuse during certain activities	-.164***	-	-	-
Abuse mixing with acid	-	.144**	-	-
Abusing atypical drugs (worker report)	-	-	-.118*	-
Abusing marijuana	.094*	-	-	-
Abusing tranquilizer (worker report)	-	-	-	.122*
Arrested after abuse	-	-	-	.109*
Trained behavioral approach experienced	-	-	-	.168**
Benefit of drugs to mind	-	-.109*	-	-
Drug free time (worker report)	.173***	-	-	-
Education	-	-	-	.117*
Family center service	-	-	.141*	-
Father as an employer	-.136**	-	-.128*	-
Fighting inside the family after abuse	-	-	.139*	-
Fighting inside the family after abuse (worker report)	-	-.147**	-	-
Halting abuse by services	.109*	-	-	-
Harm of drugs to spirit	.148**	-	-	-
Living with the father	-	-	-	-.151**
Mother as an employer	-	-.114*	-	-
Mother not employed	-	-.136*	-	-
Receiving services concerning drugs	-	-	-	-.144**
Receiving services not concerning drugs	-	-	-.142*	-
Service duration	-	-	-	-.125*
Youth center service	-	-	-	-.107*

* $p < .05$. ** $p < .01$. *** $p < .001$.

Significant pre-intervention moderators that increased the effectiveness of the use of CBIT in the E-group in reducing drug abuse were as follows:

- Drug abuse before
- Drug abuse duration
- Mixing drugs with acid during drug abuse
- Mixing drugs with medicine during drug abuse
- Mixing drugs with none during drug abuse
- Regular drug abuse in time
- Abusing Ecstasy
- Arrest after drug abuse
- Quarrel inside the family after drug abuse
- Perceived benefit of drug abuse to the body
- Concern of social relationships
- Halting drug abuse by services
- Receiving school social work services
- Service duration

- Perceived harm of drug abuse to social relationships
- Perceived harm of drug abuse to spirit
- Being female
- Living with extended relatives

Significant pre-intervention moderators that attenuated the effectiveness of the use of CBIT in the E-group in reducing drug abuse were as follows:

- Drug abuse during certain activities
- Receiving correctional services
- Not halting drug abuse
- Living with younger siblings

Table 26: Significant moderating effects of CBIT on post-intervention drug abuse

Baseline moderator	Abstain	Abuse before the recent month	Abuse in the recent month	Abuse months	Drug free time
Abuse before the recent month		-.161*	-	-	-
Abuse duration	.106*	-	-	-	-
Abuse during certain activities (worker report)	-	-	-	.136**	-
Abuse mixing with acid (worker report)	-	-	-	-	.226**
Abuse mixing with medicine	-	-.122*	-	-	-
Abuse mixing with none	-	-	-	-.104*	-
Abuse regularity in time (worker report)	-	-	-.154**	-	-
Abusing Ecstasy	-	-	-	-.125**	-
Arrested after abuse	.106*	-	-	-	-
Benefit of drugs to the body	-	-	-.165**	-	-
Concern for relationships	-	-.245***	-	-.111**	-
Correctional service	-	-	.167**	-	-
Female	.139**	-	-	-	-
Halting abuse by service	-	-	-.144*	-	-
Halting abuse: none	-	-	-	-	-.140*
Harm of drugs to relationships	.108*	-	-	-	-
Harm of drugs to spirit	-	-	-	-	.210**
Income	-	.173**	-.156**	.206***	-
Living with extended relatives	.118*	-	-	-	-
Living with younger siblings	-	.166**	-	-	-
No experience after abuse	-	-	.136*	-	-
No experience after abuse (worker report)	-	-.139*	-	-	-
Quarrel inside the family after abuse (worker report)	-	-	-.170**	-	-
Runaway after abuse (worker report)	-	-	.208**	-	.187**
School social work service	.167**	-	-	-	-
Service duration	-	-	-	-.101*	-
Social desirability	-	-	-.131*	-	-

* $p < .05$. ** $p < .01$. *** $p < .001$.

Impacts of Pre-intervention Misunderstanding

The following findings concerning impacts of pre-intervention misunderstanding or thought held after controlling for all significant background and pre-intervention characteristics.

Pre-intervention misunderstandings or thoughts did not significantly increase post-intervention drug abuse before the recent month.

Table 27: Standardized effects on post-intervention drug abuse earlier than the recent month by pre-intervention thoughts

Predictor	All	Level 0	Level 1	Level 2
Pro-drug misunderstanding	.051	-.062	.067	-.178
General misunderstanding	.054	-.043	.114	.058
Cost-benefit misunderstanding	.032	.025	.109	.075
Playfulness	.093	-.156	.075	-.126
Appropriateness	.046	-.064	-.009	.052
Benefit to the body	.030	.113	.072	-.060
Benefit to spirit	.069	-.086	.058	-.112
Benefit to relationship	.002	.011	.025	-.243
Benefit to mood	-.001	-.032	.083	-.202
Harm to the body	.018	.123	.076	-.209
Harm to spirit	-.068	-.066	-.041	-.220
Harm to relationship	-.049	.006	-.053	-.083
Harm to mood	.072	.008	-.072	-.066
Harm to behavior	.006	-.057	-.016	-.175
Weighted benefit to spirit	-.039		.072	-.168
Weighted benefit to relationship	-.092		-.053	-.160
Weighted benefit to mood	-.046		-.056	-.025
Weighted benefit to the body	.083		-.073	-.081
Weighted harm to spirit	-.027		-.003	-.228
Weighted harm to relationship	-.139		-.272	-.164
Weighted harm to mood	-.103		-.104	-.069
Weighted harm to the body	.073		-.127	.012

Note: Regression analysis controlled for all significant background characteristics.

Weighted benefit or harm were the products of concern and perceived benefit or harm to spirit, relationships, mood, and the body correspondingly.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Pre-intervention misunderstandings or thoughts did not significantly increase post-intervention drug abuse in the recent month.

Table 28: Standardized effects on post-intervention drug abuse in the recent month by pre-intervention thoughts

Predictor	All	Level 0	Level 1	Level 2
Pro-drug misunderstanding	-.066	-.223	.219	-.178
General misunderstanding	-.032	-.388	.026	.058
Cost-benefit misunderstanding	.007	-.307	.006	.075
Playfulness	-.093	-.201	.092	-.126
Appropriateness	-.120	-.133	.060	.052

Predictor	All	Level 0	Level 1	Level 2
Benefit to the body	-.011	-.255	.163	-.060
Benefit to spirit	-.049	-.170	.173	-.112
Benefit to relationship	.007	-.345	.143	-.243
Benefit to mood	-.041	.055	-.015	-.202
Harm to the body	-.103	.175	-.074	-.209
Harm to spirit	.051	.099	.125	-.220
Harm to relationship	-.016	.111	.100	-.083
Harm to mood	-.077	-.135	.079	-.066
Harm to behavior	.036	-.066	.202	-.175
Weighted benefit to spirit	-.023		-.228	-.168
Weighted benefit to relationship	.071		-.002	-.160
Weighted benefit to mood	-.063		-.048	-.025
Weighted benefit to the body	-.189*		-.259*	-.081
Weighted harm to spirit	.041		-.140	-.228
Weighted harm to relationship	.077		-.051	-.164
Weighted harm to mood	-.054		-.048	-.069
Weighted harm to the body	-.044		-.151	.012

Note: Regression analysis controlled for all significant background characteristics.

Weighted benefit or harm were the products of concern and perceived benefit or harm to spirit, relationships, mood, and the body correspondingly.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Pre-intervention misunderstandings or thoughts did not significantly increase post-intervention drug abuse time in a consistent way.

Table 29: Standardized effects on post-intervention drug abuse months by pre-intervention thoughts

Predictor	All	Level 0	Level 1	Level 2
Pro-drug misunderstanding	.029	-.083	-.007	-.023
General misunderstanding	.020	.104	-.002	-.041
Cost-benefit misunderstanding	.014	.151	.012	-.012
Playfulness	.022	-.025	-.047	-.036
Appropriateness	.021	-.050	-.031	-.062
Benefit to the body	-.024	-.153	-.002	.062
Benefit to spirit	.002	-.072	.003	-.074
Benefit to relationship	.065	-.135	.018	-.035
Benefit to mood	.043	.097	.004	.034
Harm to the body	-.029	-.112	-.034	.022
Harm to spirit	.018	-.022	.106	.067
Harm to relationship	.037	-.095	-.028	-.035
Harm to mood	-.016	-.305	-.035	.008
Harm to behavior	.019	-.135	-.037	-.021
Weighted benefit to spirit	.028		-.013	.033
Weighted benefit to relationship	.069		-.014	.175
Weighted benefit to mood	-.016		-.043	-.028
Weighted benefit to the body	.039		-.155*	.150
Weighted harm to spirit	.069		.113	-.209
Weighted harm to relationship	.011		-.178*	.264*
Weighted harm to mood	.022		-.128	.072

Predictor	All	Level 0	Level 1	Level 2
Weighted harm to the body	-.052		-.096	-.083

Note: Regression analysis controlled for all significant background characteristics.

Weighted benefit or harm were the products of concern and perceived benefit or harm to spirit, relationships, mood, and the body correspondingly.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Among pre-intervention misunderstandings or thoughts, the one that tended to reduce drug-free time significantly was the perceived benefit of drug abuse to mood, weighted by concern for mood. However, the finding was not consistent, as the weighted perceived from of drug abuse to mood delivered a significant negative effects on the number of drug-free days as well.

Table 30: Standardized effects on post-intervention days since the latest drug abuse by pre-intervention thoughts

Predictor	All	Level 0	Level 1	Level 2
Pro-drug misunderstanding	.074	-.016	-.033	.007
General misunderstanding	.096	-.287	.103	-.042
Cost-benefit misunderstanding	.103	-.290	.154	-.052
Playfulness	-.022	-.028	-.100	.038
Appropriateness	.033	.076	-.131	.005
Benefit to the body	.080	-.005	.134	-.072
Benefit to spirit	.120	.166	-.006	-.002
Benefit to relationship	-.020	-.024	-.097	-.001
Benefit to mood	.121	-.229	.025	.059
Harm to the body	-.070	.199	-.115	-.119
Harm to spirit	.078	.211	.001	-.012
Harm to relationship	-.081	.240	-.215	.070
Harm to mood	-.084	.171	-.164	.029
Harm to behavior	.064	.028	-.043	.159
Weighted benefit to spirit	-.024		-.075	.073
Weighted benefit to relationship	.057		.051	.031
Weighted benefit to mood	-.159*		-.166	-.030
Weighted benefit to the body	-.082		-.028	-.023
Weighted harm to spirit	.099		.252	.059
Weighted harm to relationship	-.026		.074	.177
Weighted harm to mood	-.163*		-.061	-.052
Weighted harm to the body	-.060		-.112	-.037

Note: Regression analysis controlled for all significant background characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Weighted benefit or harm were the products of concern and perceived benefit or harm to spirit, relationships, mood, and the body correspondingly.

Impacts of Post-intervention Misunderstanding

The following findings concerning impacts of post-intervention misunderstanding or thought held after controlling for all significant background and pre-intervention characteristics.

Post-intervention misunderstandings or thoughts tended to increase the chance of having post-intervention drug abuse before the recent month. Hence, post-intervention misunderstanding, rather than pre-intervention understanding would underlie post-intervention drug abuse. The impact of misunderstanding or thought on drug abuse tended to be immediate or contemporaneous and it was not enduring over time.

Table 31: Standardized effects on post-intervention drug abuse earlier than the recent month by post-intervention thoughts

Predictor	All	Level 0	Level 1	Level 2
Pro-drug misunderstanding	.094*	.008	.010	.039
General misunderstanding	.189***	.005	.124	-.086
Cost-benefit misunderstanding	.163**	.001	.124	-.107
Playfulness	.181***	.035	.059	.105
Benefit to the body	-.026	.002	-.085	-.056
Benefit to spirit	.110*	-.017	.011	.021
Benefit to relationship	.057	.000	.088	.080
Benefit to mood	.066	.003	.017	.095
Harm to the body	-.065	-.009	-.089	-.031
Harm to spirit	-.027	-.017	-.062	.120
Harm to relationship	-.083	.004	-.076	.203
Harm to mood	-.137**	.002	-.119	.029
Harm to behavior	-.061	.006	-.019	.151
Appropriateness	.043	.010	-.050	-.065

Note: Regression analysis controlled for all significant background and pre-intervention characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Post-intervention misunderstandings or thoughts did not show a significant increase in post-intervention drug abuse in the recent month. Nevertheless, post-intervention misunderstandings or thoughts seem to raise the chance of drug abuse in the recent month among the youths who did not abuse drugs in the baseline.

Table 32: Standardized effects on post-intervention drug abuse in the recent month by post-intervention thoughts

Predictor	All	Level 0	Level 1	Level 2
Pro-drug misunderstanding	-.066	.276	-.084	-.003
General misunderstanding	-.127*	.236	-.004	.040
Cost-benefit misunderstanding	-.110*	.264	-.024	.086
Playfulness	-.170**	-.215	.056	-.008
Benefit to the body	.030	.123	.037	-.049
Benefit to spirit	-.067	.048	-.318**	.055
Benefit to relationship	-.034	.349*	.054	.063
Benefit to mood	-.054	.338	-.101	.059
Harm to the body	.061	.243	-.050	-.048
Harm to spirit	.038	.238	-.091	.049
Harm to relationship	.073	-.167	-.037	-.020
Harm to mood	.084	-.053	.088	-.018
Harm to behavior	.024	-.128	-.084	-.094
Appropriateness	.005	.172	.079	-.145*

Note: Regression analysis controlled for all significant background and pre-intervention characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Post-intervention misunderstandings or thoughts did not significantly increase post-intervention drug abuse time in a consistent way.

Table 33: Standardized effects on post-intervention drug abuse months by post-intervention thoughts

Predictor	All	Level 0	Level 1	Level 2
Pro-drug misunderstanding	.041	-.047	.095	-.002
General misunderstanding	.044	-.170	.065	.096
Cost-benefit misunderstanding	.025	-.179	.032	.100
Playfulness	.049	-.063	.108	-.053
Benefit to the body	.012	-.190	.029	.058
Benefit to spirit	.016	.005	.071	.026
Benefit to relationship	.033	.069	.119	-.124
Benefit to mood	.012	-.026	.055	.022
Harm to the body	.065	.023	.013	.081
Harm to spirit	-.013	.092	.074	-.112
Harm to relationship	.035	.111	.043	-.027
Harm to mood	-.070	.170	-.061	-.119
Harm to behavior	-.041	.089	.049	-.144
Appropriateness	.069	-.008	.079	.072

Note: Regression analysis controlled for all significant background and pre-intervention characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Post-intervention misunderstandings or thoughts did not significantly reduce the number of post-intervention drug-free days.

Table 34: Standardized effects on post-intervention days since the latest drug abuse by post-intervention thoughts

Predictor	All	Level 0	Level 1	Level 2
Pro-drug misunderstanding	-.058	-.003	.002	-.039
General misunderstanding	-.053	-.151	.062	.025
Cost-benefit misunderstanding	-.036	-.195	.059	.035
Playfulness	-.063	.157	.053	-.087
Benefit to the body	-.013	-.021	.104	-.050
Benefit to spirit	-.070	.013	-.057	-.066
Benefit to relationship	-.040	-.003	-.026	.004
Benefit to mood	-.022	-.054	-.010	-.026
Harm to the body	-.040	-.029	-.046	-.068
Harm to spirit	-.021	.138	-.008	-.108
Harm to relationship	.012	.224	-.012	-.034
Harm to mood	.000	.196	-.058	-.010
Harm to behavior	.049	.104	-.068	-.045
Appropriateness	-.052	-.035	-.035	.022

Note: Regression analysis controlled for all significant background and pre-intervention characteristics.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Ways to Achieve Service Effectiveness

In personal qualitative interviews conducted after the intervention, three social workers and 14 young service users separately indicated the ways that their services, particularly those based on CBIT, were helpful for their preventing or tackling youth drug abuse and/or its misunderstanding. The help consisted to that for the youth directly and that to the social worker's services, which indirectly benefited the youth. In the following were the procedures and benefits of the helpful or effective services, based on social workers' views.

Direct Benefits to Youth

Youth could benefit directly from the service when they participated in a collaborative way in cognitive, behavioral, and other interventions embedded in CBIT. Specifically, effective cognitive intervention included the use of diagramming tools and checklists and experiments and behavioral intervention consisted of the formulation of a behavioral contract.

Diagramming tools

Diagramming tools were attractive and useful to the youth for eliciting thoughts about drug taking and its prevention and rehabilitation. The tools included the life line or time line, social network diagram, drug taking diagram, preventing drug taking diagram, drug relapse diagram, and preventing drug relapse diagram, group diagram, and interest analysis diagram. These diagrams aided the youth to recall experiences and thoughts related to drug taking. Essentially, thoughts that provoked the debut and relapse of drug taking emerged from the completion of the diagrams. Such elicited thoughts could be the focus of cognitive and even behavioral intervention. The following quotes revealed that diagramming offered such merits as:

- Showing a hope, raising confidence
- Revealing strengths and weaknesses
- Realizing interests
- Providing inspiration
- Identifying thoughts, including misunderstandings or myths
- Clarifying social networks and their influences
- Suggesting goals, even life goals
- Revealing backgrounds
- Providing grounds for behavioral intervention, including distraction and contracting

A condition for the success of the tools was ignorance in the youth and social worker as well about the youth's background, thought, and its sources of influence. Without the tools, the ignorance would remain and pose an obstacle to planning for intervention.

Life line or time line

Using the life line to discuss their problems about moving up to secondary school and goals can make them know that the future is hopeful. As previously mentioned, they do not have a large hope about current situations. Therefore, if telling them that the future is hopeful, I can

plan for the future with them, about how to start anew... Besides, I think that it can allow them the chance to see more comparisons. (Worker C)

Apart from letting me know about his development and impact, the life line is good at making him turn back to see the exercise. Anyway, I think having a hope is paramount to them. This is because some experiences hit them very much, or the condition is very poor. Using the life line can help this group of primary school children ignite a hope. Even though secondary schooling is their new hope and even though they hold a do-nothing attitude toward primary schooling, I wish that they hold a new hope to welcome secondary schooling. As regards this junior secondary school boy, his background was more complicated. His surroundings had worse things emerging that he could not control. However, I could let him know that the worst thing had already gone. (Worker C)

Such as the boy of the home, he could draw out experiences on paper. This was at a low point. He described it as going to the bottom of a valley... This process could allow him to think. (Worker C)

I like the life line the most. I can understand the client's happiness and unhappiness throughout his life. I also find that most clients would become fonder of drawing life lines. A client among them found that he could overcome many obstacles through the process of the life line, gradually appreciating oneself. He at that time no longer took drugs. Through the life line, he have stronger confidence in quitting drugs. It is because he could overcome every difficulty recalled in the past. Another client, after completing the life line, realized that he liked friends very much, liking collective life very much. He reflected that drug taking would bring him friends, but it also confined him inside the sphere of drug abusing friends and deprived him of activities that he had liked before. For example, he liked playing football. Gradually, he acquainted with some friends in church through my referral. Moreover, he actively contacted colleagues and friends in the past. I find that his thought gradually changed, knowing that drug abuse was not the only choice, and that he not only had friends acquainted in the sphere of drug abuse. (Worker F)

It is not easy for the client to feel boring. The life line is both novel and giving a chance for the client and worker to review together. The worker can more deeply understand the client's past life experiences. Moreover, realizing from the experience, the worker must be able to identify through the life line the client's inherent assets and ability. (Worker F)

The difficulty is: it must require a good relationship with the client and a suitable environment. Besides, the worker needs to be able to apply the life line to elicit the client's more sharing, in order to elicit more questions to have a deeper understanding of the client. Meanwhile, it needs to elicit positive messages, and well summarize main points of the client's sharing. (Worker F)

I would recall the client who liked playing football. I had him doing the life line and social network diagram. The client probably rarely reviewed as usual, he found through the tools that he had many friends who did not take drugs. Moreover, he found that he liked playing football very much. Those life experiences were all good. During the process, I only did some simple reflection with him. Subsequently, I found that he often gather friends to play football, and often played football with colleagues. When he learned that my church had football activities, he also took initiative to request joining. After several months, he really reduced

drug taking. I think that this is a case about thought change leading to behavior change. (Worker F)

I would apply diagrams of preventing drug abuse, drug relapse, and preventing drug relapse. I can learn about clients' thought before and after abusing drugs. It has effects every time I use them. I also summarize main points well and write them on small cards for him to take with him... The small cards have a reminding effect on them. This is also an example of thought change leading to behavior change. (Worker F)

I think that the greatest effectiveness happens when the client is ignorance of thought that make him take drugs. The diagram is to review their thoughts, behaviors, and actions made at each period one by one. (Worker N)

The pure drug-taking diagram made him recall the thought of curiosity before trying to take drugs. When applied to his life, I found that he was a person having a high wish to try novel things. Therefore, I discussed with him that he did not need to try something again. This was the major thing that I discussed with him. This diagram mainly provides them with inspiration, letting them realize which positions would make them crave for drug taking. This allows workers to discuss deeply about these positions when making contracts and setting up goals. (Worker N)

Another would be the group's group diagram. This diagram has an "I" in the center and friends in the surroundings... This is a diagram about peer influence. This can bring about which friends would take drugs and influence him, which friends do not take drugs, how close are their relationships with the client, and how much the influence is? I would analyze the influence of current social networks on them. (Worker N)

This diagram is most effective in letting them reflect on themselves. This is because this diagram has a cell about how people's words in seducing them to take drugs and other ways that can suppress his thought and behavior about taking drugs again. The main point is that it can explore difficulties in the course. If difficulties happen, they are in need of removal. For example, a client would think about taking drugs whenever he had nothing to do or felt boring. In order to make him reduce drug taking or abstain from it, I would find a job for him or place him in the company of family... Of course, he should have a certain job in the family. (Worker N)

Another diagram is the interest analysis diagram. This diagram can make clients who are not in employment or studying know their interests. This is because they would often feel boring and idle. Therefore, they wish to kill time faster by taking drugs. (Worker N)

Like the afore-mentioned one who wished to have progress in family relationships and to have ability to give money to family, he had had no attachment to any system before. During the intervention, he realized through the diagram what thought affected his taking drugs. For example, he was too fond of play at that time and he regarded himself insusceptible to drugs... Therefore, when he discovered that his life goal was different and realized that he took drugs only because of friends and feeling boring, I would make a contract with him. It was about seeking jobs to enrich his life and letting family know that he had a mind for

change. Afterwards, he could find a secure job. Moreover, because the working time was relatively long, his contact time with his earlier friends shortened. (Worker N)

Checklist

I think that the merit of tools is their ability to make them understand the impacts of drug abuse during the interview. A checklist has two sides. For example, a schoolboy described his belief about the benefits of drugs to him in a side of the checklist. He chose “drug abuse affects the relationship with family” in the column of the impact. He also indicated in the footnote that he often quarreled with family... This could deepen our understanding about his background, knowing that family factors were distressing him. It made me able to chat with him deeply about them subsequently. (Worker C)

Imagery

The social worker could use pictures to induce the client’s imagery and thought in order dispel misunderstandings.

The social gave me some picture to see. A person was only in her 20s. However, she looked in her 40s or even 60s, like an old woman. It proved that taking drugs had not benefit to spirit or health. All are harm. (Client 5 of Worker M)

Experiment

Cognitive intervention involved encouragement for an experiment and reflection about results of the experiment. The latter was vital in strengthening correct thoughts and dispelling improper myths. Merits of cognitive experiment consisted in the following quotes.

- Opening the talk and initiating motivation and action
- Identifying room for improvement
- Informing further behavioral intervention, such as contracting

I would conduct some experiments. I would not ask the client to stop drug addiction immediately. However, I would ask him to start the first step to reduce dosage and then to review it. This way can help open the talk and initiate motivation and action. (Worker F)

I told him to do an experiment to try to see if you could no longer take drugs everyday. Afterwards, I steadily learned about his condition of drug abuse and the easiest way to find room for improvement. Then, he said that during the usual time of work. I then made a contract with him to find a day not to take drugs after work. When we discussed this, we found that the plan was feasible. Then, I discussed with him about reasons for the success and ways to reduce drug taking. This method can perform an activating function. (Worker F)

Distraction

Distraction could effectively rely on the induction of the youth into alternative healthy activities such as sport, dancing, and volunteering. It was not just shifting the youth attention at the moment of craving or contemplation for drug taking. Instead, distraction required making a sustained distance away from drug abuse. The following quotes reveal some merits of such distraction.

- Reducing myths for drug abuse
- Strengthening positive value orientations

For example, feeling happy through playing football, a client would find that it did not need to abuse drugs. Afterwards, his myths for drug abuse reduced. I find that the general pattern is reducing myths through activity and this subsequently drives him to take more action to reduce myths further. (Worker F)

My clients are all members of the dancing group. Through dancing and training, they would have opportunities to perform and meanwhile strengthen their positive value orientations, in the expectation that they can reduce drug taking... A client was the leader of the dancing group. His thought and work were more positive and persistent than before. Moreover, I saw that his organizing ability was improving. (Worker N)

Playing football. When I find a group people to play football together, I naturally have less contact with drugs... My stand is that everybody has his or her own interest and encouragement for using the interest to distract his or her attention would be preferable... For example, I know that I need to play football. Thus, I reduce drug taking and go to jogging more frequently and using more time to practice. At least I become happier and my strength improves. (Client 10 of Worker F)

For example, during the course of volunteering, I ascertain my ability. Apart from feeling that I have ability, I strengthen my self-confidence, having ability to counteract. Moreover, this gives me considerable encourage. Although some people do not necessarily know that I am an drug addict, I see that they take care of me a lot. Some people also feel interested in my past. They do not necessarily know what happened in my past, but they encourage me a lot. Volunteering, apart from allowing me to see that many people take care of me, ascertaining my ability, also distracts my attention, and not makes me feel bored and thinking something about drug taking. For example, I would not go to take drug during flag selling. (Client 8 of Worker F)

Contracting

Contracting was a behavioral intervention to demand the client's compliance. Effective contracting would require a short or reasonable time span, constant review, and consideration of circumstantial influence.

The client could not do according the contract, probably because the time was too long. We then revised the contract to make the time shorter. To those taking drugs daily, two weeks can be relatively severe. Therefore, I revised the contract to three or five days in the subsequent review. (Worker N)

Contracting probably needs to proceed gradually. I need to take care of the distance from the goal. Three to five days would probably a relatively suitable time to let them begin abstinence. Meanwhile, it needs to take consideration of his surroundings. Does he have friends celebrating their birthdays within the few days? This is influential on young people. (Worker N)

Conditions Facilitating Service Effectiveness

Conditions facilitating service effectiveness, especially cognitive intervention, included providing services or intervention in a quiet place, targeting a youth who was older, suffering from more severe impacts of drug abuse, or having lower intensity in drug abuse. A quiet place was conducive to the thinking and deliberation especially required for cognitive intervention. Such deliberation and other cognitive activity might be more ready in the youth who was older. One suffering more from drug abuse could have more to think and debunk the misunderstanding about drug abuse. Nevertheless, one with more a longer history of drug abuse might have more thoughts about the misunderstanding and thus was habituated to and unsusceptible to it.

Having a quiet place

The environment for conducting a one-to-one conversation is very important, particularly to outreaching social workers. Game shops, playgrounds, and parks are difficult to conduct a conversation with the client. The preferable way is to ask the client to go to a quieter place. The presence of the client's friends makes it very difficult to conduct an intervention. (Worker F)

Age and drug impact

Thought and behavior affect one another. For youth, it is inclined to have behavior change leading to thought change. However, youth with older age or greater impacts would have thought change leading to behavior change. (Worker F)

Drug abuse intensity

The intensity of drug abuse is certainly influential. If the client has taken drugs for a longer time, they need to spend more time to recall conditions in the application of the diagram, because they have too many conditions of drug taking. Conversely, those having taken drugs for a short time would be better. Also, I think that it is a common sense. Clients having taken drugs for a longer time are clearer about their tolerance for drugs and benefits and costs of taking drugs. They understand that drugs are harmful to them, but they gratify some of their needs to a certain extent. Therefore, it is difficult for them to stop drug taking. Hence, the worker needs to find some goals or alternative methods to gratify their needs. Health conditions would also be influential. Particularly, it is difficult for clients who have taken drugs for a long time to complete the diagram. (Worker N)

Indirect Benefits

The training and learning of CBIT benefited service users indirectly through strengthening collaboration among social workers. This collaboration possibly increased due to social workers' common knowledge about CBIT, which facilitated communication and mutual understanding.

Having colleagues of the same team to receiving the same training, learning the same package of intervention tools would make common topics of talk among workers. The quality of workers' intervention and work would escalate. (Worker F)

Workers help each other. They have common topics for talking. At least workers understand topics discussed among them. As regards mutual support, they would take care of each other's conditions of applying tools and difficulties during intervention... They discuss how to apply the techniques to help service users. (Worker F)

The process of discussion about cases would accelerate. The result is that we do not spend time on communication and have more time for service users. We have more time exploring needy service users and can handle more cases. (Worker F)

It is because during the process of casework, workers inevitably encounter conditions of a standstill. Communication within the team can muster wisdom to broaden benefits, for identifying better intervention approaches. (Worker F)

Background Influences

Apart from social work services and the intervention with CBIT, background influences on drug abuse behavior and misunderstanding were possible. Examination of these influences was useful for identifying and targeting youth for service provision.

Pro-drug misunderstanding was significantly higher in the youth who had received school social work services after abusing drugs. This was the case especially in the youth assigned to the E-group.

Table 35: Standardized effects on post-intervention pro-drug misunderstanding

Predictor	All	E-group	C-group
Never abusing drugs	-.097	-.078	-.035
Receiving outreaching social work	-.141	.056	-.274
Receiving drug counseling	.080	.193	-.043
Receiving residential drug treatment	.037	.164	-.076
Receiving school social work services	.240**	.397**	.061
Receiving youth center services	.005	-.014	-.006
Receiving correctional/probation services	-.010	-.044	.015
Receiving family center services	-.099	-.039	-.063
Services received in the recent 6 months	-.011	-.142	.131
Living alone	-.035	-.023	-
Age	.045	.017	.100
Female	.057	.040	.054

Note: Reference conditions were abusing drugs, not receiving services, not living alone, and being male.

Pro-drug misunderstanding was a composite of playfulness, compulsiveness, and perceived benefits of drugs to the body, spirit, mind, and relationships.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Playfulness was significantly higher in the youth who had received school social work services after abusing drugs.

Table 36: Standardized effects on post-intervention playfulness

Predictor	All	E-group	C-group
Never abusing drugs	.020	.072	.006

Predictor	All	E-group	C-group
Receiving outreach social work	-.006	-.118	.050
Receiving drug counseling	.117	.130	.080
Receiving residential drug treatment	.017	.136	-.063
Receiving school social work services	.267**	.264*	.223
Receiving youth center services	-.009	-.073	.060
Receiving correctional/probation services	-.060	-.169	-.018
Receiving family center services	-.088	-.143	-.056
Services received in the recent 6 months	.017	.075	-.012
Living alone	.023	-.021	-
Age	.059	-.015	.108
Female	.069	-.030	.159

Note: Reference conditions were abusing drugs, not receiving services, not living alone, and being male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Perceived drug abuse benefit to the body was significantly higher in the youth who had received school social work services after abusing drugs. This was the case especially in the youth assigned to the E-group.

Table 37: Standardized effects on post-intervention drug abuse benefit to the body

Predictor	All	E-group	C-group
Never abusing drugs	-.145	-.138	-.075
Receiving outreach social work	-.202*	-.079	-.318*
Receiving drug counseling	.119	.167	.015
Receiving residential drug treatment	.057	.180	-.061
Receiving school social work services	.197*	.329**	.034
Receiving youth center services	-.061	.022	-.198
Receiving correctional/probation services	.092	.044	.155
Receiving family center services	-.091	-.081	-.021
Services received in the recent 6 months	.060	-.032	.220
Living alone	-.047	-.042	-
Age	.004	-.037	.072
Female	.099	.096	.060

Note: Reference conditions were abusing drugs, not receiving services, not living alone, and being male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Perceived drug abuse benefit to spirit was significantly lower in the youth in the C-group who had received outreach social work services after abusing drugs.

Table 38: Standardized effects on post-intervention drug abuse benefit to spirit

Predictor	All	E-group	C-group
Never abusing drugs	-.014	.076	-.050
Receiving outreach social work	-.157	.135	-.336*
Receiving drug counseling	.074	.223	-.022
Receiving residential drug treatment	.055	.123	.024
Receiving school social work services	.026	.158	-.081
Receiving youth center services	.006	-.001	-.019

Predictor	All	E-group	C-group
Receiving correctional/probation services	-.039	-.075	.006
Receiving family center services	-.039	-.019	.005
Services received in the recent 6 months	-.059	-.173	.039
Living alone	-.015	.032	-
Age	-.001	.048	-.020
Female	.005	.032	-.001

Note: Reference conditions were abusing drugs, not receiving services, not living alone, and being male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Perceived drug abuse benefit to social relationships was significantly higher in the youth in the E-group who had received school social work services after abusing drugs.

Table 39: Standardized effects on post-intervention drug abuse benefit to relationships

Predictor	All	E-group	C-group
Never abusing drugs	-.156	-.134	-.112
Receiving outreaching social work	-.066	.211	-.242
Receiving drug counseling	.079	.145	-.043
Receiving residential drug treatment	.014	.087	-.082
Receiving school social work services	.165	.257*	.028
Receiving youth center services	.013	-.055	.065
Receiving correctional/probation services	-.088	-.060	-.089
Receiving family center services	.003	.168	-.062
Services received in the recent 6 months	-.040	-.140	.060
Living alone	-.049	.001	-
Age	.027	-.054	.172
Female	.026	.126	-.083

Note: Reference conditions were abusing drugs, not receiving services, not living alone, and being male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Perceived drug abuse benefit to social relationships was significantly higher in the youth who had received school social work services after abusing drugs. This happened especially in the youth attending the E-group.

Table 40: Standardized effects on post-intervention drug abuse benefit to mood

Predictor	All	E-group	C-group
Never abusing drugs	.031	.012	.111
Receiving outreaching social work	-.091	.030	-.162
Receiving drug counseling	-.012	.091	-.088
Receiving residential drug treatment	-.020	.018	-.066
Receiving school social work services	.202*	.324*	.069
Receiving youth center services	.072	.017	.108
Receiving correctional/probation services	.116	.180	.085
Receiving family center services	-.151	-.073	-.146
Services received in the recent 6 months	.014	-.183	.167
Living alone	.004	.020	-
Age	.041	.029	.098

Female	.054	-.001	.078
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Note: Reference conditions were abusing drugs, not receiving services, not living alone, and being male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Perceived appropriateness or the drug abuse myth was significantly higher in the youth in the E-group who had received school social work services after abusing drugs. This happened especially in the youth attending the E-group. Moreover, the youth who never abused drugs was significantly lower in perceived appropriateness.

Table 41: Standardized effects on post-intervention drug abuse appropriateness

Predictor	All	E-group	C-group
Never abusing drugs	-.174*	-.230	-.059
Receiving outreaching social work	-.080	.041	-.157
Receiving drug counseling	-.028	.069	-.123
Receiving residential drug treatment	.039	.179	-.116
Receiving school social work services	.242**	.416**	.046
Receiving youth center services	-.006	.034	-.053
Receiving correctional/probation services	-.098	-.137	-.114
Receiving family center services	-.074	-.054	.011
Services received in the recent 6 months	-.044	-.161	.089
Living alone	-.073	-.103	-
Age	.084	.129	.033
Female	-.003	-.090	.044

Note: Reference conditions were abusing drugs, not receiving services, not living alone, and being male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Background factors did not exhibit a significant effect of the number of days free of drug abuse.

Table 42: Standardized effects on post-intervention days since the latest drug abuse

Predictor	All	E-group	C-group
Never abusing drugs	-.008	-.019	-.005
Receiving outreaching social work	-.008	.206	-.048
Receiving drug counseling	.030	.122	-.083
Receiving residential drug treatment	-.028	-.109	-.023
Receiving school social work services	.049	.001	.074
Receiving youth center services	-.065	-.065	-.109
Receiving correctional/probation services	-.024	.127	-.122
Receiving family center services	.037	.109	.017
Services received in the recent 6 months	-.142	-.200	-.194
Living alone	-.119	-.126	-
Age	-.003	.066	-.079
Female	-.019	.234	-.199

Note: Reference conditions were abusing drugs, not receiving services, not living alone, and being male.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Quite consistently, the service user who had received school social work services after abusing drugs manifested a higher pro-drug misunderstanding. This was not the case for the use of outreaching social work, family center, correctional/probation, and other services. The contrast might reveal that school social work services did not play an important role in preventing or dispelling the pro-drug misunderstanding. This speculation might echo some past research findings that drug-prevention programs in school were insufficient to treat drug abusers in school (Skroban et al. 1999).

Conclusions

Statistical analysis showed the following conclusions, which apply to youth generally.

- The CBIT training was effective in raising the use of CBIT and CBIT and social work skills in the service encounter by the social worker in the E-group, who had attended the training.
- The services provided by the E-group social worker exhibited a greater use of CBIT than those of the C-group, showing the integrity in the implementation of the E-group.
- CBIT interventions received by the youth tended to reduce the youth's pro-drug misunderstanding, which combined playfulness, perceived benefits of drug abuse, and perceived appropriateness of drug abuse or myths.
 - The reduction happened in both the E-group and C-group.
 - The reduction particularly happened in the youth who had abused drugs once in 8 or more days before, that is, with a moderate level of drug abuse.
- Cognitive intervention of CBIT provided to the youth tended to reduce the youth's pro-drug misunderstanding, especially when the youth had abused drugs once in 8 or more days before, that is with a moderate level of drug abuse.
 - The reduction especially happened in the perceived benefit of drug abuse to social relationships.
- Some CBIT interventions received by and provided to the youth tended to increase the youth's drug-free days.
 - The increase particularly happened in the youth of the E-group.
 - The increase particularly happened in the youth who had abused drugs once in 8 or more days before, that is with a moderate level of drug abuse.
- The youth in the E-group had a lower pro-drug understanding than the youth in the C-group, under the conditions of
 - Presence of the mother
 - Not having had residential drug treatment
- The youth in the E-group had longer drug-free days or a shorter drug abusing history than the youth in the C-group, under the conditions of
 - Having halted drug abuse
 - As required by social services
 - Having had received social services for a longer time after abusing drugs
 - Not having had received correctional services after abusing drugs
- The youth's pre-intervention pro-drug misunderstanding did not increase drug abuse.
- However, the youth's post-intervention pro-drug misunderstanding tended to precipitate drug abuse, specifically that before the recent month.

Hence, use of CBIT in the service tended to reduce the youth's pro-drug misunderstanding. This misunderstanding then tended to foment drug abuse within a short time. As such, use of CBIT would reduce drug abuse indirectly, but within a short time. Accordingly, reduced misunderstanding, as targeted in previous interventions using merely cognitive approaches to effect change, did not engender lasting reduction in or prevention against drug abuse, and thus an integrated CBIT approach that uses multiple cognitive and behavioral techniques is required for a sustained improvement in drug abuse. The above statistical findings receive some support from qualitative findings based on interviews with social workers and young clients. These qualitative data illustrated that the use of diagrams, checklists, pictures, distraction or encouragement of alternative activities in CBIT could induce cognitive and behavioral changes, which eventually prevented drug abuse.

CBIT appeared to be particularly effective in dispelling the pro-drug misunderstanding of youth of a moderate level of drug abuse. This finding concurs with existing findings that cognitive-behavioral therapy is less effective in case of higher risk (van Aswegen 2000). Meanwhile residential treatment would be more useful to tackle the high risk (Sherman et al. 1998). In principle, greater supervision is required to handle higher risk (Lowenkamp et al. 2006). These considerations suggest that therapy outside the residential setting would not be the best choice to tackle the high risk. However, CBIT would not be effective in case of no risk at all. In this regard, CBIT cannot find a misunderstanding or problem behavior as a focus of intervention. Notably, CBIT needs to target some risky experiences for behavioral change or cognitive deliberation. The absence of risk would simply undercut the feasibility of CBIT.

Limitations

Although the study employs a longitudinal, experimental design involving data collection from multiple informants, including at-risk young service users and their social workers by surveys and qualitative interviews, the study has four notable limitations. First, although the design assigned an E-group with social workers specifically trained for cognitive-behavioral integrated therapy and a C-group with social workers not trained as such, the C-group was not a control group without service or intervention. As such, the advantage of the E-group over the C-group was not evident, as the study might underestimate the advantage. Second, the study did not have a way to assign at-risk youths randomly to the E-group and C-group, although the study managed to have a random assignment for social workers. This limitation gave rise to differences in drug abuse and other characteristics between the E-group and C-group before the intervention. The differences might be so profound that they were not completely tractable by statistical control. This means that the findings might emerge under an imperfect control condition. Third, the elapse time, an average of about six months, between the pre-intervention and post-intervention assessments might be too short to tap any effect that depends on a longer time. Fourth, the sample of at-risk youths and their social workers were only from two social service agencies. As the study is not about youths with severe problems in drug abuse, which already seriously impair the abusers, the target is those at-risk youth not already afflicted with such severe problems. Moreover, the sampled youths and social workers might be different from those in other social service agencies and other sources. They might not be fully representative of the target population of at-risk youth. These limitations thereby prohibit drawing definitely correct conclusions from findings obtained from the study.

Implications

Cognitive-behavioral integrated therapy (CBIT) is worth promotion as a way to prevent drug abuse in the short run. This therapy is different from other approaches in its integration of cognitive, behavioral, and motivational components. While the cognitive component specifically tackles the cognitive issue in misunderstanding drug abuse, the other components are complementary to the treatment of drug abuse. The active use of the CBIT approaches appeared to reduce the at-risk youth's misunderstanding of drug abuse and drug abuse or the lengthening of drug-free days. In contrast, non-CBIT approaches did not demonstrate such beneficial effects of the CBIT approaches. This indicates the merit of CBIT for its promotion. The promotion presupposes the following conditions, which would magnify the effectiveness of CBIT:

- Implementation of the therapy in terms of its cognitive, behavioral, and motivational components in the service encounter
- Reduction in misunderstanding, which reduces drug abuse within a short time
- Targeting particularly youth abusing drugs once in 8 or more days, that is, at of moderate level of drug abuse
- Targeting youth who have mothers, or more reasonably soliciting mothers' support for the therapy
- Targeting youth who have halted drug abuse before
- Targeting youth who have received social services for a longer time after abusing drugs
- Not targeting youth who have received residential drug treatment or correctional services

Advocacy for and promotion of social workers use of CBIT in tackling youth's drug abuse is preferable. Such an approach is in line with the current trend toward harm reduction in drug rehabilitation, which aims to enhance positive changes in drug-use behavior (from reduced drug use to remaining free of illicit drugs), realization of one's potentialities in work and other activities, social integration through engagement in and acceptance by society, and improved quality of life among drug-abusing youth. The promotion in turn relies on training to raise practitioners' competence in this important approach, which appears to be feasible and effective in facilitating the implementation of CBIT in service encounters. Professionals concerned for sustained life improvement of drug-abusing youth may refer to the strategies used in the current project, which involve the provision of a five-day workshop and follow-up consultation/supervision sessions provided by seasoned practitioners and outside experts in CBIT for less-experienced staff members.

Appendix

A. Questions for interviewing youths / social workers in the exploratory phase

- 1 What experience/expectations are about drug abuse?
- 2 What knowledge is about drugs?
- 3 What knowledge is about the following?
 - 3.1 What good and bad impacts are within a month after abusing drugs?
 - 3.1.1 What mentality affected drug abuse?
 - 3.1.2 What ways prevented the impacts?
- 4 What ways the benefits and harm of drug abuse affected drug abuse?
- 5 What other conditions affected drug abuse?

B. Questions for interviewing youth / social workers in the service evaluation phase

- 1 What changes were in the thought about drug abuse?
- 2 What caused the changes?
- 3 How social workers helped produce the changes?
- 4 What impacts were these changes?

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