Final research report for Narcotics Division, Security Bureau

CROSS Fitness 2.0 – A Community-Based Reintegrated Project for young adult with drug abuse

Project reference number: (BDF180033)

Principal Investigators:

Tung Wah Group of Hospitals CROSS Centre

AND

Dr. Stephen Hui Research Centre for Physical Recreation and Wellness,

Hong Kong Baptist University

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Introduction

The benefits of physical activity have been well-documented in many literature, such as being effective for improving physical health (Qin, Knol, Corpeleijn, & Stolk, 2009; Reiner et al., 2013) and psychological (Waade, 2004; Manger & Motta, 2005) and social well-being (Parcel et al. 1989; Penedo & Dahn, 2005). According to World Health Organization (WHO) in 2020, moderate to intense physical activities are beneficial to physical and mental health, effective for improving quality of life and wellness (Bull et al, 2020).

Physical activity and sports have more frequently been utilized for drug prevention in the past decades. For example, the National Institute on Drug Abuse (2011) focused on investigating how physical activities and exercise can be used to prevent drug abuse. Past studies frequently reported that children and adolescence who participated in sports were associated with lower incidence of substance abuse (Kirkcaldy, Shephard, & Siefen, 2002; Moore & Werch, 2005; Terry-McElrath et al., 2011). In addition, engagement in team sports is a kind of pro-social behaviour which would improve an individual's self-esteem. Hence, adolescents and adults are less likely to engage in drug abuse behaviours when they are more physically active (Hillman & Drobes, 2012).

The impact of drug abuse on health

The impact of drug abuse on health should never be underestimated. Degenhardt et al. (2014) did a systematic review on how illicit drug use contributed to the global burden of disease. They identified different drugs being the risk factors for different diseases and found that cannabis had been a risk factor for schizophrenia. Dependence on opioid, cocaine and amphetamine was identified as a risk factor for suicide, while injecting drug was a risk factor for having the human immunodeficiency viruses (HIV), Hepatitis C virus and Hepatitis B virus.

Drug-abuse among young adults

In Hong Kong, according to the statistics compiled by the Central Registry of Drug Abuse (CRDA) in 2021, the total number of reported drug users had dropped from 5,772 in 2019 to 5,569 in 2020 by 4%. However, the number of reported young drug abusers aged under 21 in 2020 had increased 6% from 494 in 2019 to 525 in 2020. While the drug history of newly reported drugs users in 2020 was 5 years, young adult drug users aged under 21 recorded an increase from 1 year in 2019 to 1.2 years in 2020, along with a rising proportion of this age group from 7% in 2017 to 9% in 2020.

CRDA also reported that the number of psychotropic substances abusers continuously higher than narcotics analgesics abusers (mainly heroin) from 2011 to 2020. Among the drug abusers, in 2020, 2,837 (51%) were reported heroin abusers, while 3,409 (62%) were psychotropic substances abusers, among whom methamphetamine was the most popular psychotropic substance. In 2020, the average ages of first abuse of all reported drug abusers and reported young drug abusers aged under 21 were 19 and 16 years old respectively.

In fact, young adults are more vulnerable to fall victims to substance or drug abuse. Based on the latest report of CRDA, for those who aged under 21, “peer influence/ to identify with peers” was the most common reason for taking drugs (54%), followed by “relief of boredom/depression/stress” (42%) and “to seek euphoria or sensory satisfaction” (29%).

Unfortunately, the situation is accelerated by the attitude among young people toward substance abuse. In the study reviewing young drug abusers in Hong Kong, Cheung and Cheung (2018) found that young people considered their action of taking drug as similar as bad habits like smoking and drinking. And being only a “bad habit”, doping is considered “not a big deal”. This may result in low awareness of the danger of abusing psychoactive drugs, denial of drug abuse, and the lack of motivation to seek help from others. In short, hidden drug abuse among young population is still a concern.

Effectiveness of physical activities and exercises as treatment for drug abusers

Positive effects of physical activity and sports on drug prevention or reduction have long been reported over the past decade. Giménez-Meseguer et al. (2015) found that after an exercise treatment programme, the physical, mental, and social quality of life of the drug-dependent patients were improved, plus a reduction in the desire to use drugs after the training programme. Zhu et al. (2016) conducted a study on the effects of Tai Chi on amphetamine-type stimulant dependence patients. After a 12-week intervention, the participants in the Tai Chi group showed a significant increase in the test scores of the quality of life for drug-addiction (QOL-DA) questionnaire in the areas of physiology, symptoms, society, and total score. The improvement in the quality of life and decrease in body fat of the Tai Chi group were also revealed, in addition to an increase in balance by 10 seconds, indicating the positive impact of physical activity for overall health improvement.

As mentioned, to help people recover from drug abuse, one should focus on improving the physical, psychological, and social health (Giménez-Meseguer et al., 2015). Roessler (2010) suggested exercise to be used as a means of early prevention and as part of a treatment programme for drug abusers as it had been shown to have positive impact on physical, psychological, and social aspect of drug abuse in Denmark and Norway. This was agreed by Giménez-Meseguer et al. (2015) as exercise is effective for improving fitness, reducing the level of anxiety and depression, and alleviate symptoms of withdrawal. Hence, it can help to reduce the desire to take drug and increase the length of abstinence in drug addicts. Roessler (2010) suggested that the emphasis of a treatment programme should be placed on both physical treatment and psychological advice, as an interdisciplinary approach is essential to support physical withdrawal from the drugs while assisting the development of new patterns of motivation and behaviour.

Another study on the effect of exercise on drug craving also shows that even if temporary mood-change and attenuation of drug craving would become significant as a result of participating in relatively intense aerobic exercise (Ellingsen et al., 2018).

Exercise intervention for drug abusers in Hong Kong

In Hong Kong, the Narcotics Division of the Security Bureau works closely with other government departments and non-governmental organisations (NGOs) for providing drug treatment and rehabilitation services to drug abusers in the community, including voluntary out-patient methadone treatment programme, residential drug treatment services and the community-based counselling services. In order to promote community efforts to beat drugs, the Government established the Beat Drugs Fund in 1996. Through this funding support, many projects had been conducted on drug prevention and rehabilitation for the past decades. However, community-based programmes or interventions services using sport or physical activities for rehabilitations for the drug abusers are still relatively limited in Hong Kong.

Objectives and purposes

The Tung Wah Group of Hospitals (TWGHs) CROSS Centre has been one of the prominent organizations in Hong Kong to provide rehabilitation services for individuals who are troubled with substance abuse and disorders as a result of drug addiction. This study was a collaboration research project with the Dr. Stephen Hui Research Centre for Physical Recreation and Wellness, and Department of Sport, Physical Education and Health, of Hong Kong Baptist University (HKBU) to investigate the utilization of sports or exercise as intervention treatment with aims to help reduce drug use frequency of drug abusers in the community, and to assess the impact of physical activities on their physical fitness, stress level, self-efficacy and resilience against drug abuse, quality of life and wellness, by joining various CROSS exercise services and programmes over a period of 3 years.

In 2015, the TWGHs CROSS Centre and HKBU had jointly conducted a pilot study on investigating using exercise to assist drug abusers to abstain from drug use. After the completion of the sports training in the pilot study, the participants obtained improvement in the percentage of body fat, cardiovascular fitness, arms and abdominal muscular strength. In addition, those with higher attendance in sports training group had a higher score in the six dimensions of perceived wellness.

There are psychological, social, and cultural experiences of stigmatization associated with "socially problematic" drug abusers (Gibson, S., 2001). The empowerment approach to clinical practice attempts to make connections between drug abusers and their social and economic reality. The empowerment process of the project can help the drug abusers rebuild positive connection between themselves and the society. The connection is one of the important dimensions in wellness. Six dimensions of wellness, which are emotional, intellectual, occupational, physical, social and spiritual (Hettler, 1980), are used to measure the effectiveness of the CROSS Fitness project.

Objectives

The objectives of this study were to assess the effectiveness of sport training programmes on drug abusers in the following domains:

Drug rehabilitation domain

- Reduce in frequency of drug abuse (Outcome 1).

Motor domain

- Improve on physical fitness and physical skill levels of drug dependent persons undergoing treatment through the CROSS Fitness project (Outcome 2).

Affective domain

- Assist drug dependent persons undergoing treatment to develop their skills of stress management (Outcome 3), self-efficacy to avoid using drugs (Outcome 4).

Cognitive domain

- Enable drug dependent persons undergoing treatment to have clearer concepts toward life satisfaction (Outcome 5) and wellness (Outcome 6).
- Provide useful information on life satisfaction, wellness and the hazards of drugs abuse for individuals who browse the CROSS Fitness Facebook page.

Methods

Participants with drug use disorders from different background were invited to join this study by the social workers on a voluntary basis. They came from the TWGHs CROSS Centre (Central Western, Southern and Islands Office), Barnabas Charitable Service (Lamma Island), Barnabas Charitable Service (Ma On Shan), Hong Kong Juvenile Care Centre, Caritas Wong Yiu Nam Centre, Hong Kong Christian Services- PS33, Sheng Kung Hui Welfare Council-Neo Horizon, the Society for the Aid and Rehabilitation of Drug Abusers (Sister Aquinas Memorial Women's Treatment Centre), and Hong Kong Christian Service-Jockey Club Lodge of Rising Sun respectively.

Ethics and Informed Consent

This study was approved by the ethical committee of HKBU. Prior to the fitness test, participants completed the Physical Activity Readiness Questionnaire (PAR-Q; The Canadian Society for Exercise Physiology, 2002; Leisure and Cultural Services Department, 2017) to secure a medical clearance and signed an informed consent form. All data collected would serve as research purpose solely. Personal information would be kept confidential. Participants had the right to opt out of the research or to discontinue any parts of the tests if he/she felt uncomfortable. All information collected would be destroyed after 36 months of the completion of the study.

Power calculation

Using the G*Power statistical power analysis program (Faul, Erdfelder, Lang, & Buchner, 2007), it is estimated that a sample size of 44 participants would be necessary to detect a medium effect size with a power of 0.90 and an α level of 0.05 using a within-subject (2 assessment time points) design. Based on our experience, we expect an attrition rate of 30%. Therefore, at least 58 participants were recruited.

Measurements

A mixed method of quantitative and qualitative approaches was used in this study. A pre-and-post data collection method was implemented to collect the baseline and post training information on fitness, wellness and drug abuse data. Semi-structured interviews with the participants, coaches, and centre social workers were also conducted after the completion of the exercise training programmes, so as to get more in-depth details about the effectiveness of the project.

Quantitative Method

Physical Fitness test. Participants completed the PAR-Q (see Appendix 1, Part 1) and consent form (see Appendix 1, Part 2) before joining any physical activity training. Physical fitness tests were conducted with those who were ready to exercise according to the results of the PAR-Q by trained personnel. The physical fitness testing items are as follows:

Body Mass Index. Body Mass Index (BMI) is used to assess the weight relative to height. It is calculated by dividing weight in kilograms (kg) by height in meters squared (kg/ m^2) (Esmat, 2012). "The traditional World Health Organization (WHO)/National Institutes of Health (NIH) body mass index (BMI) classification scheme uses < 18.5 kg/m^2 , 18.5-24.9 kg/m^2, 25.0-29.9 kg/m^2, and ≥ 30 kg/m^2 to define underweight, normal BMI, overweight, and obesity respectively" (Oreopoulos, et al., 2008).

Waist-to-Hip Ratio. Waist-to-Hip ratio is calculated using waist measurement (cm) divided by hip measurement (cm). It is used for measuring central visceral obesity (Baumgartner, et al., 2006).

Spirometry Test. Spirometer (Spirobank II BASIC by MIR) is used to record the amount of air an individual exhales and thereby evaluating his/her lung capacity (Moore, 2012). In this study, the Forced Vital Capacity (FVC) and Forced Expiratory Volume in 1 second (FEV1) were recorded, and FEV1/FVC Ratio was calculated.

YMCA 3-Minute Step Test. The YMCA 3-minute step test is a submaximal test to determine cardiovascular fitness level. The participant executes a 3-minute designed step test at a beat of 96 bpm, the recovery heart rate is measured by a manual pulse reading for 1 minute would be recorded (Nieman, 1999).

Sit and Reach Test. The Sit and Reach test is used to measure the flexibility of hamstring and lower back muscles. Participants sit down in front of the Sit and Reach box and reached forward as far as possible and hold the position for 1-2 seconds. The most distant point one reached was recorded from the marking on the box (Nieman, 1999).

Stork Balance Stand Test. The Stork Balance Stand Test is used to test the participant's balance and the time participants could stand on one leg is counted with maximum of 2 minutes (Safrit & Wood, 1995).

Standing Long Jump Test. The Standing Long Jump test is used to access explosive leg power. Participants are required to take-off and land with two feet. The nearest point of contact to the take-off line was measured (Baumgartner, et al., 2006).

Handgrip Strength Test. The hand and forearm muscular strength is measured by using the dynamometer. Both right and left hands should be measured. The maximum reading of the dynamometer is taken after 3 trials and the readings of both hands are summed up to get the final score (Nieman, 1999).

One-Minute Sit-up Test. The strength and endurance of abdominal muscle is measured by the 1-minute sit-up test. The higher the sit-up scores, the better the abdominal muscle strength and endurance (Nieman, 1999).

Questionnaires. A set of questionnaires was used to collect data on Wellness and Drug Abuse situation in this study. The questionnaires consist of three sections which are demographic, wellness-related questions and drug involvement (see Appendix 2). Details are as follows:

Demographic Questionnaire. This section consists of demographic questions which are used to collect the basic information of participants, such as gender, age, education level, marital status, study/work situation, and monthly salary (see Appendix 2, Part 1).

Drug Involvement Questionnaires. Two questionnaires are utilized to assess participants' drug involvement in this study. There were Drug Abuse Situation Questionnaire and Drug Avoidance Self-Efficacy Scale (DASES) which was developed by Martin, Wilkinson and Poulos (1995). The Drug Abuse Situation Questionnaire (Narcotics Division, Security Bureau, n.d.; Lam et al., 2005) (see Appendix 2, Part 2) is utilized to investigate the type, amount and frequency of drug abuse in the past 3 months. The DASES consists of questions related to 16 specific situations (see Appendix 2, Part 5). The participant would choose whether he/she can get rid of the drug when he/she is in those circumstances.

Physical Activity Questionnaires. The International Physical Activity Questionnaire (IPAQ) is administered in this study. IPAQ is used to investigate the amount of time that the participant spent on carrying out vigorous-intensity physical activity, moderate-intensity activity, walking and/or sitting within a week (Fischer, et al., 2012) (see Appendix 2, Part 3). Based on the amount of time the participants spent on the three levels of physical activities, their physical activity levels will then be classified as "low", "moderate", and "high" (see Appendix 3).

Simplified Coping Style Questionnaire. The Simplified Coping Style Questionnaire (SCSQ) was developed by Xie (1998) from the ways of coping questionnaire (WCQ). The SCSQ is used to investigate the coping style of participants by calculating positive-coping score and negative-coping score from the 20 questions in this questionnaire (see Appendix 2, Part 4). The active coping score and passive coping score will then be calculated according to the results (see Appendix 3 for calculation).

Life Satisfaction. Life Satisfaction questionnaire is used to investigate the satisfaction toward life such as quality of life, personal achievement, and interpersonal relationship in this study. The first one is the global assessment of life measure (Self-Anchoring Scale, Cantril, 1965), which is utilized to measure the life satisfaction score of the participants. They rate their life satisfaction from 1 to 10. The higher the score, the higher the satisfaction level (see Appendix 2, Part 6).

The second questionnaire is the Personal Wellbeing Index (Lau, Cummins, & McPherson, 2005) which is used to measure the participants' subjective quality of life. There are 8 items representing general perception of quality of life as a whole and perception of satisfaction in 7 domains. The 7 domains are 1) standard of living, 2) personal health, 3) achievement in life, 4) personal relationships, 5) personal safety, 6) feeling part of the community, and 7) future security. The items are rated on an 11-point Likert scale ranging from "0 – very sad" to "10 – very happy", where the higher the score, the higher the satisfaction perceived by the participants on that particular domain of life (see Appendix 2, Part 6).

Wellness Questionnaire. The Perceived Wellness Survey (PWS; Adams et al., 1997) is used to examine the perceived wellness of the participants. The PWS included six dimensions of wellness: physical, psychological, spiritual, social, emotional, and intellectual

wellness (see Appendix 2, Part 7). The Wellness Composite Score will then be calculated according to the results (see Appendix 3).

Sport Motivation Questionnaire. The Chinese Sport Motivation Scale II (CSMSII) (Li et al., 2018), the Chinese version of the Sport Motivation Scale II (SMS II, Pelletier et al., 2013), is adopted to assess the participants' motivations to participate in sports (see Appendix 2, Part 8). The scale was developed based on the Self-determination Theory (Deci & Ryan, 1985, 1991; Deci et al., 1991), and was designed to examine the motivation factors including: "Intrinsic Motivation", "Extrinsic Motivation - integrated regulation", "Extrinsic Motivation - identified regulation", "Extrinsic Motivation - Introjected regulation", "Extrinsic Motivation- External regulation", and "Amotivation" through 18 items on 7-point Likert Scale, from "Very Strongly Disagree" to "Very Strongly Agree" (see Appendix 3 for Grouping of the items).

Qualitative Method

Semi-structured interview was also conducted for this study. The interview questions were designed by the investigators in a semi-structured format (see Appendix 5). The contents of the questions were designed with the support from literatures to assess the effectiveness of the programme. Questions on participant's motivation, comments on the wellness programme (e.g. location, accessibility, type of sport training, etc), participation constraints, and perceived changes after the programme were included.

Prior to the interviews, an informed consent (see Appendix 4) was sought from the interviewees to make sure they understand that they had the right to refuse to answer any questions or to discontinue the interview whenever he/she felt uncomfortable. Participants were assured of confidentiality of their responses. Due to the outbreak of COVID-19, most interviews were conducted online through Zoom, except 3 of them, i.e. a drug abuser, a coach

and a social worker, who underwent face-to-face interviews. The interviews were conducted in Cantonese and were analysed using the Framework Method (Gale et al., 2013).

Data Collection Procedure

The physical fitness tests were held at the Tung Wah Group of Hospitals CROSS Centres located in Sheung Wan, Shau Kei Wan and Tung Chung, other drug rehabilitation centres or hostels (see Appendix 7) from June 2019 to October 2021. The participation was voluntary. Two separate physical fitness tests, i.e., pre-test and post-test, were conducted as a part of the research procedure in order to measure the fitness condition of the participants. Well-trained test administrators were assigned to administer all the testing items. The drug abusers who joined this project were stationed either at the centres or the hostels one week prior to and after the sport training programmes in order to participate in the physical fitness tests. Participants could take part in the physical fitness tests according to his/her individual schedule, then they completed the questionnaires afterward.

An interviewer was also trained to collect the qualitative data. Most of the interviews were conducted online after the completion of sport training programme and post physical fitness test. Three interviews were conducted by face-to-face method. Of the total 13 interviewees, two social workers from the Tung Wah Group of Hospitals CROSS Centre in charge of the project participated in the interview, while another social worker came from Hong Kong Sheng Kung Hui Welfare Council-Neo Horizon and the last one was from Barnabas Charitable Service in Lamma Island. In addition, a personal fitness trainer and a dance coach of the project also participated in the interview. Furthermore, seven participants who were formerly drug abusers were interviewed. Most of them attended the sport training sessions held in the centres whilst two participants attended in a hostel.

Training Programme

Tung Wah Group of Hospitals employed a number of professional coaches to conduct the sport training programmes at different centres and hostels. Sport training programmes included yoga, Pilates, dancing, boxing, running, weight training and floor curling, which varied among the centres and hostels. The participants took part in the pre-physical fitness test and attended the 1-hour weekly training session for 10 weeks. Upon completion of the training programme, they were invited to participate in the post physical fitness test.

Data Analysis

For quantitative method, the Statistical Package for Social Sciences (SPSS version 27) was utilized to analyse the quantitative data. The descriptive statistics were conducted and the paired T-tests were used to assess the overall distribution and the mean difference between pre-test and post-test.

For qualitative method, Framework Method (Gale et al., 2013) was used for the thematic analysis of the semi-structured interview transcripts. Raw data from the interviews were firstly transcribed verbatim and then examined by investigators for more than three times. The transcription notes were systematically labelled, coded, grouped, sorted, and finally compared by theme in a spreadsheet. Recurring themes were afterward identified, reviewed and analysed by four researchers for more than three times.

Work Schedule

The work schedule of the project was as follows:

Date	Activity
➢ June 2019 – October 2021	• Pre and Post Physical Fitness Test • Pre and Post Questionnaire
➢ 10,17, 24 November 2020; 17, 24 August 2021	• Physical Exercise Training Workshops for Social Workers
➢ October 2020 – September 2021	• Semi-structured interview and data analysis
➢ March 2021 – April 2022	• Data analysis and report writing

Results

Demographic Information

Gender

There were 43 men (55.1%) and 35 women (44.9%) participated and completed the training and pre and post physical tests in this project (see Table 1).

Table 1

The Number and Percentage of Participants (N = 78)

Gender	*n*	Percentage (%)
Male	43	55.1
Female	35	44.9
Total	78	100

Age

The participants consisted of various age groups ranging from 14 to 39 years old ($M = 27.1$; $SD = 7.16$). Most of them aged from 26-30 ($n = 21$, 26.9%) (see Table 2).

Table 2

Age Range of Participants (N = 78)

Age range	*n*	Percentage (%)
14-15	10	12.8
16-20	5	6.4
21-25	14	17.9
26-30	21	26.9

Age range	*n*	Percentage (%)
31-35	19	24.4
35-40	9	11.5
Total	78	100

Employment situation

Among the 78 participants, most of them (*n* = 34, 43.6%) were unemployed. Furthermore, 20 (25.6%) of them had full-time jobs, 13 (16.7%) were full-time students, 6 (7.7%) had part-time jobs, 1 (1.3%) was part-time student and 4 (5.1%) did not give any answers to the question (see Table 3).

Table 3

The Employment Situation of Participants (N = 78)

Employment Situation	*n*	Percentage (%)
Full-time student	13	16.7
Part-time student	1	1.3
Full-time job (Work equal or more than 44 hours a week)	20	25.6
Part-time job (Work less than 44 hours a week)	6	7.7
Unemployed	34	43.6
Unknown	4	5.1

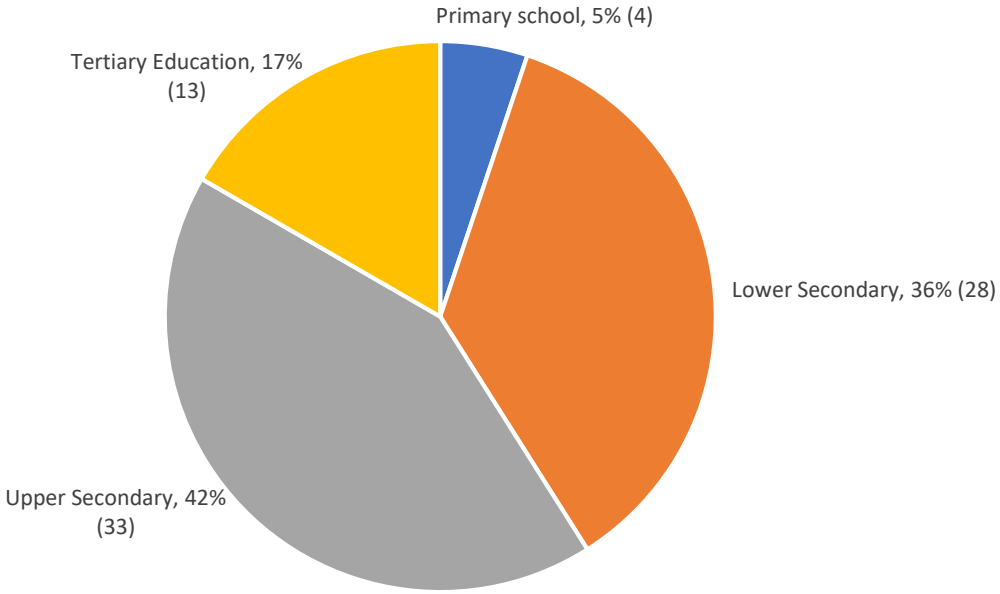
Employment Situation	*n*	Percentage (%)
Total	78	100

Education

The education level of the participants ranged from primary school to above-University levels. Most of the participants reported that they achieved secondary school education levels (*n* = 61, 78.2%).

Figure 1

Education levels of the participants (N = 78)



Marital status

Among 78 participants, majority of them (*n* = 55, 70.5%) were single, 10 of them (12.8%) were in relationship, 9 of them (11.5%) were married or cohabitating, and 4 of them (5.1%) were widowed, divorced, or separated (see Table 4).

Table 4

The Marital Status of Participants (N = 78)

Marital status	*n*	Percentage (%)
Single	55	70.5
In relationship	10	12.8
Married / Cohabitation	9	11.5
Widowed / Divorced / Separated	4	5.1
Total	78	100

Personal income

Regarding personal income, 5.1% of participants did not state their personal income (*n* = 4). Most of them did not have any monthly income (*n* = 45, 57.7%). Seven of them (9%) earned HK$15,000-19,999 per month, and 6 of them (7.7%) earned HK$10,000-14,999 monthly (see Table 5).

Table 5

The Personal Income of Participants (N = 78)

Personal income (HKD)	*n*	Percentage (%)
0	45	57.7
≤4,999	4	5.1
5,000-9,999	3	3.8
10,000-14,999	6	7.7

Personal income (HKD)	*n*	Percentage (%)
15,000-19,999	7	9.0
20,000-29,999	5	6.4
≥30,000	4	5.1
Unknown	4	5.1
Total	78	100

Quantitative results for questionnaires

Drug Abuse Situation Questionnaire

The survey was used to examine the drug abuse situation. The participants reported the types of drugs they took and the frequency of taking the drug in the past 3 months. Types of drugs included: cannabis, heroin, MDMA (Ecstasy), ketamine, methylamphetamine, methaqualone, nimetazepam, midazolam, triazolam, cocaine, cough medicine, thinner, and others.

The total frequency of using drugs in the past 3 months had dropped from 2,341 in pre-test to 129 in post-test. The most significant difference is found in the use of ketamine, in which the total usage had dropped from 996 times in 3 months to once in 3 months by 78 participants (see Figure 2).

The total number of users of different drugs also dropped from 43 in pre-test to 14 in post-test. The most significant drop of drugs appeared in the users of ketamine, where 7 out of 8 participants dropped out from using ketamine in post-test (see Figure 3).

Figure 2

The Frequency of Drugs Used by Participants in the Past 3 Months

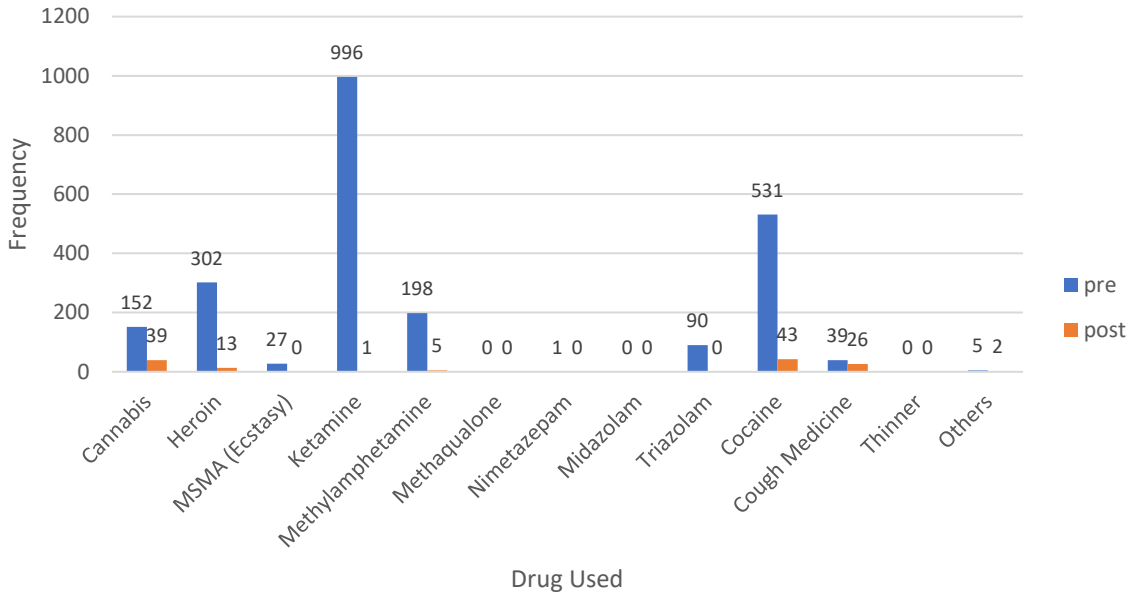
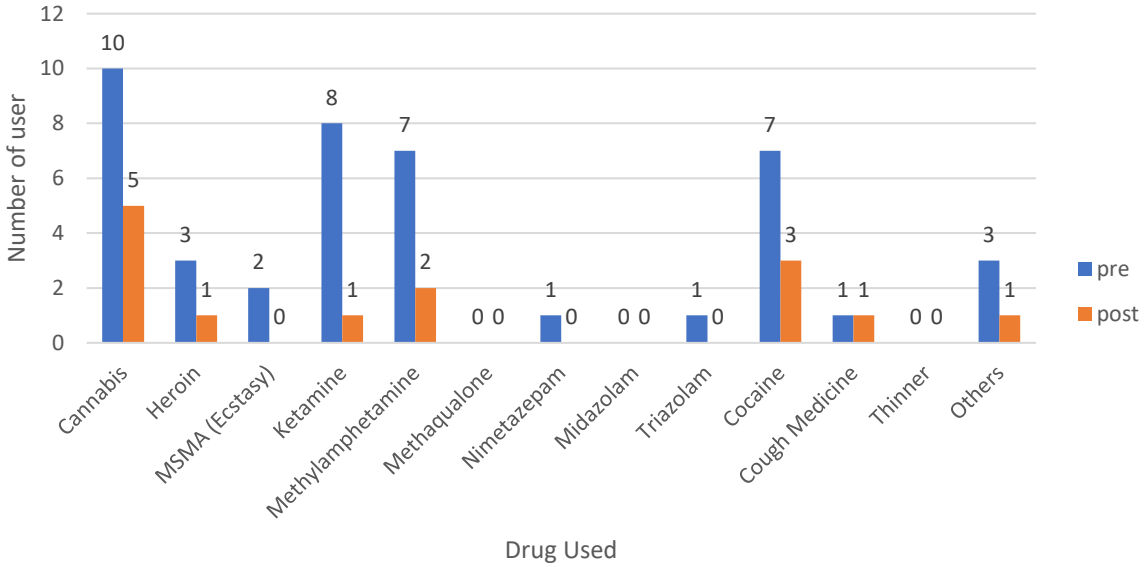


Figure 3

The Number of Users of Different Drugs in the Past 3 Months



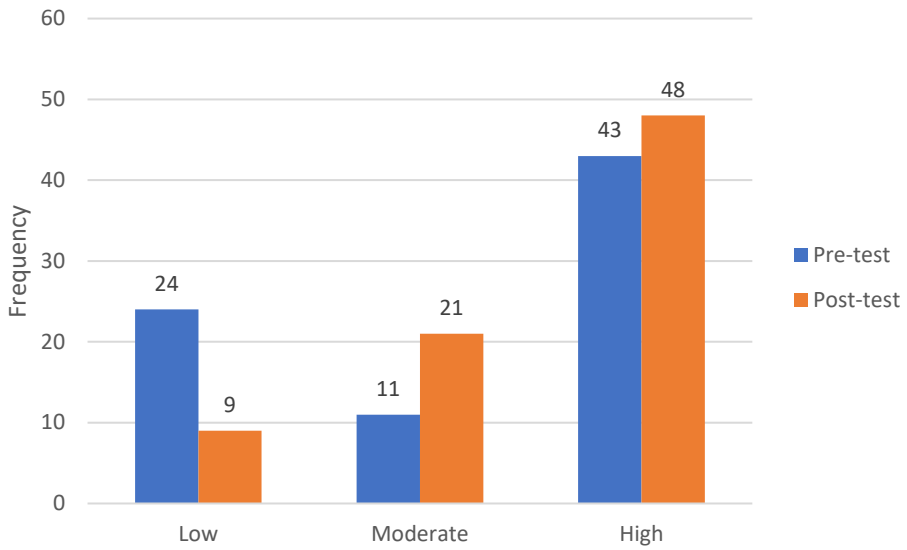
International Physical Activity Questionnaire

The International Physical Activity Questionnaire (IPAQ) was developed as an instrument for cross-national monitoring of physical activity and inactivity (Craig, et al., 2003; Fischer et al., 2012).

The participants reported how much time they spent on vigorous and moderate physical activities, walking, and/or sitting per week. Among the 78 participants who participated in post-physical fitness test, in their pre-tests, 24 (30.8%) participants were graded as having "low activity level" and reduced to 9 (11.5%) in post-test. Eleven (14.1%) of them achieved "moderate activity level" in pre-test and the number increased to 21 (26.9%) in post-test. For "high activity level", 43 (55.1%) of them had been recorded for pre-test and increased to 48 (61.5%) in post-test. Overall, more participants are having higher physical activity level after the sport training in post-test (see Figure 4).

Figure 4

Physical Activity Levels Recorded in Pre- and Post-test (N = 78)



Simplified Coping Style Questionnaire

The Simplified Coping Style Questionnaire (SCSQ, Xie, 1998) was developed to investigate the coping style of participants. The pre-test scores and post-test scores were compared by paired t-tests. The mean differences between the active coping score calculated in the pre-test (M = 1.58, SD = .55) and that in the post-test (M = 1.90, SD = .42) were found to be statistically significant as $p < .001$ and t (77) = -5.93. Cohen's d was used to indicate the effect size of the outcomes. It presents the difference between groups by standard deviations units. It was suggested by Cohen (1988) that the effect size was small when d = .20, the effect size was medium when d = .50, and the effect size was large when d = .80 (Pallant, 2010). In this case, as d = -.67, it indicated a medium effect size. As the higher the score, a more active coping style among the participants is identified, the participants showed more positive attitude in active coping in this study. However, the mean differences between the passive coping score calculated in the pre-test (M = 1.42, SD = .56) and that in the post-test (M = 1.51, SD = .83) were found to be statistically insignificant as p = .39 and t (77) = -.87 (see Table 6).

Table 6

Paired t-test of Pre-test and Post-test Scores in SCSQ (N = 78)

		M	*SD*	*MD*	*t*	*p*	*d*
Active Coping Score	Pre	1.58	.55	-.32	-5.932	.000***	-.672
	Post	1.90	.42				
Passive Coping Score	Pre	1.42	.56	-.09	-.866	.389	-.098
	Post	1.51	.83				

*$p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Drug Avoidance Self-efficacy Scale

The Drug Avoidance Self-Efficacy Scale (DASES, Martin et al., 1995) was developed to assess the self-efficacy of a drug user. Participants were asked to imagine themselves in 16 particular situations and then rank their level of confidence (self-efficacy) to resist drug abuse in those situations. The 16 questions were answered on a 7-point Likert scale ranging from "certainly yes" to "certainly no" which corresponded to a measure of "strength" of self-efficacy (Certainly yes = 7, Very likely yes = 6, Probably yes = 5, Really can't say = 4, Probably no = 3, Very likely no = 2 and Certainly no = 1).

The mean of all situations in pre-test and post-test was 69.56, and 83.26 respectively, where the higher the score, the more resistance towards drug abuse. The mean of total pre-test scores and post-test scores were compared by paired t-tests. As $p < .001$ and t (77) =-6.68, the mean differences between the pre-test score (M = 69.56, SD = 16.81) and post-test score (M = 83.26, SD = 17.41) were significant (see Table 7). The Cohen's d statistic (-.76) indicated a relatively large effect size.

The mean of pre-test scores and post-test scores of each item was also compared by paired t-tests. Most items were found to have significant mean differences between pre-test scores and post-test scores ($p < .05$), except Item 8 and Item 10. Among them, Item 1, Item 2, Item 3, Item 5, Item 6, Item 14 and Item 16 had the most significant mean differences p values ($p < .001$) with a medium effect size (d = .5). Item 7 and Item 15 resulted in d = .4, while Item 4, Item 9, Item 11 and Item 13 resulted in d = .3, which indicated that they all have a small effect size despite that they all had significant mean differences between the pre-test score and post-test score ($p < .05$). Thus, all items with significant mean differences between pre-test scores and post-test scores showed positive improvements in the scores (see Table 7).

Table 7

Paired t-test of Pre-test and Post-test Scores in DASES (N = 78)

Items		*M*	*SD*	*MD*	*t*	*p*	*d*
Item 1 Imagine that you are going to a party where you will meet new people. You feel that drug use will relax you and make you more confident. Could you avoid drug use?	Pre	4.21	1.89	-1.05	-3.996	.000***	-.452
	Post	5.26	1.77				
Item 2 Imagine that you have just blown a good job, you are home alone and depressed. Would you give in to the urge to take drugs which are in the house?	Pre	4.22	1.92	-1.12	-4.228	.000***	-.479
	Post	5.33	1.70				
Item 3 Imagine that you are home with a loved one, and feeling angry after a fight. You want to make up, but at the same time you want to get stoned/loaded. Could you resist the urge to take drugs?	Pre	4.38	1.82	-.97	-4.025	.000***	-.456
	Post	5.36	1.58				

Items		*M*	*SD*	*MD*	*t*	*p*	*d*
Item 4[a] Imagine that you are feeling good and have no responsibilities for a couple of days. The only thing you see against getting a bit stoned/loaded is that you have promised yourself you would go straight for 2 months, and you still have 3 weeks to go. Would you take drugs?	Pre	3.35	1.85	.67	2.448	.017*	.277
	Post	2.68	1.92				
Item 5 Imagine it is late, you cannot sleep and drugs are available in the house. You have decided not to use drugs. Could you resist the urge to use drugs to help you get to sleep?	Pre	4.23	1.88	-1.05	-4.116	.000***	-.466
	Post	5.28	1.64				
Item 6 Imagine that a new job is starting tomorrow, you are going out with friends and expecting a good time. Could you resist the urge to celebrate with drugs?	Pre	4.37	2.11	-1.17	-4.418	.000***	-.500

Items		*M*	*SD*	*MD*	*t*	*p*	*d*
	Post	5.54	1.55				
Item 7 Imagine that you are home with your loved one, and very angry after a fight. You are tempted to get back at your partner by getting stoned/loaded. Would you give in to the temptation?	Pre	4.24	2.01	-1.00	-3.755	.000***	-.425
	Post	5.24	1.75				
Item 8[a] Imagine that a very important relationship has just ended, and you are very depressed. Would you give in to the urge to take drugs?	Pre	3.91	1.92	.45	1.609	.112	.182
	Post	3.46	2.04				
Item 9 Imagine that you have run into 2 friends who are celebrating a win at horse racing with drugs. Could you resist their urging to join them in drug use?	Pre	4.28	2.10	-.78	-2.540	.013*	-.288
	Post	5.06	1.90				
Item 10[a] Imagine that you are at a party and feeling uptight. Most people seem	Pre	3.31	1.93	.37	1.266	.209	.143

Items		*M*	*SD*	*MD*	*t*	*p*	*d*
to be having a good time. You are tempted to use drugs to loosen up. Would you?							
	Post	2.94	1.98				
Item 11[a] Imagine that you promised yourself to stay straight for 2 months but you have just blown your 5 week record with one hit or drink. Would this situation lead you to take a second one?	Pre	3.64	1.65	.55	2.512	.014*	.284
	Post	3.09	1.79				
Item 12[a] Imagine that you had managed to stay straight for a near record time, but last night you blew it. Because of last night you are feeling weak. Would you take drugs tonight?	Pre	3.40	1.57	.42	1.909	.060	.216
	Post	2.97	1.74				
Item 13 Imagine that you are home alone and depressed. Could you resist the urge to go out and find some drugs?	Pre	4.73	1.81	-.74	-3.034	.003**	-.343

Items		*M*	*SD*	*MD*	*t*	*p*	*d*
	Post	5.47	1.59				
Item 14 Imagine that a good friend has accused you of being insensitive. Now you are feeling hurt and tempted to use drugs. Could you resist?	Pre	4.50	2.06	-1.21	-4.620	.000***	-.523
	Post	5.71	1.61				
Item 15 Imagine that a good friend is feeling miserable. He wants you to join him in heavy discussion and drug use to pick his spirits up. Could you resist the urge to take drugs?	Pre	3.68	2.00	-.91	-3.098	.003**	-.351
	Post	4.59	2.14				
Item 16 Imagine that you are home alone; it is a dull weekend with nothing in particular to look forward to. You are bored. Would you give in to the urge to get stoned/loaded?	Pre	4.32	2.02	-1.23	-4.794	.000***	-.543
	Post	5.55	1.66				
Overall Scoring	Pre	69.56	16.81	-13.69	-6.684	.000***	-.757
	Post	83.26	17.41				

[a] reversely-scored items; the lower the scoring the better

**p < 0.05, **p < 0.01, ***p < 0.001*

Life Satisfaction

This section consisted of two parts, including the Self-Anchoring Scale (Cantril, 1965) and the Personal Wellbeing Index (Lau et al., 2005). Participants ranked their life satisfaction level on a 10-point scale using the self-anchoring scale (item 1). The Personal Wellbeing Index (item 2 to item 9) is used to measure subjective dimension of quality of life - subjective wellbeing, such as standard of living, achievement in life and personal relationship. Participants ranked their level of satisfaction on a 11-point Likert scale with "0" represents "very dissatisfied", 5 as "neutral", and 10 represents “very satisfied”. Paired t-tests were conducted to compare the pre-test scores and post-test scores of each item. All items were found to have significant mean differences between pre-test and post-test ($p < .05$).

All items had significant mean differences between pre-test score and post-test score as $p <.05$. Item 1 ($d = -.69$), Item 7 ($d = -.59$), Item 2 and Item 9 ($d = -.5$) had a medium effect size. The rest of the items all had small effect sizes with $d = .4$ and .3. The overall scoring was also found to have significant mean differences between pre-test ($M = 42.8$, $SD = 11.1$) and post-test ($M = 49.9$, $SD = 13.4$) as $p < .001$ and t (77) = -5.38. The Cohen’s d statistic (-.61) indicated a medium effect size. The responses from participants showed positive improvements in all items (see Table 8).

Table 8

Paired t-test of Pre-test and Post-test Scores in Life Satisfaction Questionnaire (N = 78)

		M	*SD*	*MD*	*t*	*p*	*d*
Item 1 Self-Anchoring Scale	Pre	5.36	1.68	-1.28	-6.094	.000***	-.690

		M	*SD*	*MD*	*t*	*p*	*d*
	Post	6.64	1.37				
Item 2 Thinking about your own life and personal circumstances, how satisfied are you with your life as a whole	Pre	5.63	1.60	-.86	-4.494	.000***	-.509
	Post	6.49	1.70				
Item 3 How satisfied are you with your standard of living	Pre	5.64	1.57	-.64	-3.248	.002**	-.368
	Post	6.28	1.74				
Item 4 How satisfied are you with your health	Pre	5.45	1.77	-.78	-3.381	.001*	-.383
	Post	6.23	1.89				
Item 5 How satisfied are you with what you are achieving in life	Pre	5.28	1.92	-.65	-2.741	.008**	-.310
	Post	5.94	2.16				

		M	*SD*	*MD*	*t*	*p*	*d*
Item 6 How satisfied are you with your personal relationships	Pre	5.71	1.67	-.77	-3.818	.000***	-.432
	Post	6.47	1.86				
Item 7 How satisfied are you with how safe you feel	Pre	4.91	2.15	-1.37	-5.249	.000***	-.594
	Post	6.28	2.08				
Item 8 How satisfied are you with feeling part of your community	Pre	5.32	1.79	-.92	-3.815	.000**	-.432
	Post	6.24	2.05				
Item 9 How satisfied are you with your future security	Pre	4.91	2.00	-1.03	-4.166	.000***	-.472
	Post	5.94	2.18				
Overall Scoring	Pre	42.8	11.1	-7.03	-5.381	.000***	-.609
	Post	49.9	13.4				

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Perceived Wellness Survey

The Perceived Wellness Survey (PWS, Adams et al., 1997) was conducted to understand the wellness levels of participants from different perspectives, including psychological, emotional, social, physical, spiritual and intellectual wellness. The questionnaire consisted of 36 statements which were related to the six dimensions of wellness aforementioned. The participants answered the statements according to a 6-point Likert scale from "Very Strongly Disagree" to "Very Strongly Agree." The numerical value of each pole is "1" and "6" respectively. When calculating the score of the six dimensions, there were some statements with reverse coding (see Appendix 3).

The results of the Perceived Wellness Questionnaire reflected the six dimensions of wellness, which were grouped and compared according to the dimensions of wellness respectively. Among the six wellness dimensions, 4 dimensions were found to have significant mean differences between pre-test and post-test ($p < .05$). Physical wellness (t (77) = -4.17, $p < .001$) and psychological wellness (t (77) = -3.22, $p < .001$) had the most significant mean difference between pre-test and post-test results and the remaining two had similar results, which were emotional wellness (t (77) = -2.86, $p = .01$) and intellectual wellness (t (77) = -2.79, $p = .01$). Physical wellness had a medium effect size ($d = -.47$). Psychological wellness ($d = .04$) and the other two ($d = -.3$) had a small effect size. The participants showed improvements in the above dimensions of wellness. On the other hand, social wellness (t *(77)* = -1.79 $p = .08$,) and spiritual wellness (,t *(77)* =-1.22, $p = .23$) had no significant mean differences between their pre-test and post-test results. There was also a significant mean difference between the wellness composition score (see Appendix 3 for calculation) between pre-test ($M = 13.9$, $SD = 1.86$) and post-test ($M = 14.6$, $SD = 2.04$) as p =.03 and t *(77)* = -2.21 with a small effect size ($d = -.32$) (see Table 9).

Table 9

Paired t-test of Pre-test and Post-test Scores in Perceived Wellness Survey (N = 78)

Dimension		*M*	*SD*	*MD*	*t*	*P*	*d*
Psychological	Pre	22.2	3.34	-1.46	-3.217	.002**	-.364
	Post	23.7	3.42				
Emotional	Pre	21.1	3.34	-1.26	-2.858	.005**	-.324
	Post	22.4	3.77				
Social	Pre	23.6	3.66	-.82	-1.788	.078	-.202
	Post	24.4	3.14				
Physical	Pre	22.4	3.27	-1.47	-4.174	.000***	-.473
	Post	23.9	3.46				
Spiritual	Pre	23.7	4.36	-.62	-1.215	.228	-.138
	Post	24.3	4.11				
Intellectual	Pre	23.1	3.12	-.99	-2.784	.007**	-.315

Dimension		*M*	*SD*	*MD*	*t*	*P*	*d*
	Post	24.0	3.43				
Wellness Composite Score	Pre	13.9	1.86	-.61	-2.205	.030*	-.250
	Post	14.6	2.04				

$*p < 0.05$, $**p < 0.01$, $***p < 0.001$

Chinese Sport Motivation Scale II

The Chinese Sport Motivation Scale II (CSMSII, Li et al, 2018) was adopted to assess the participants' motivations to participate in sports. Paired t-tests were carried out to compare the mean differences between the pre-test score and post-test score of each type of motivation. Only the pre-test score and post-test score of "Extrinsic Motivation - integrated regulation" (t (77) = -2.58, p = .01,), "Intrinsic Motivation" (t (77) = -2.33, p = .02) and "Extrinsic Motivation-external regulation" (t (77) = -2.06, p = .04) showed significant mean differences in paired t-test. Improvements were found in the post-test score of intrinsic, extrinsic motivation - integrated and external regulations. The effect sizes were small as d = .3 in "Intrinsic Motivation" and "Extrinsic Motivation - integrated regulation", and d = .2 in "Extrinsic Motivation-external regulation". The rest of the motivation types did not show significant mean differences in pre-test score and post-test score (p >.05) (see Table 10).

Table 10

Paired t-test of Pre-test and Post-test Scores in CSMSII (N = 78)

Motivation Type		*M*	*SD*	*MD*	*t*	*p*	*d*
Intrinsic Motivation	Pre	14.9	4.35	-1.06	-2.328	.023*	-.264
	Post	16.0	3.38				
Extrinsic Motivation - Integrated regulation	Pre	13.4	4.22	-1.24	-2.577	.012*	-.292
	Post	14.6	3.88				
Extrinsic Motivation - Identified regulation	Pre	14.8	4.61	-.50	-.962	.339	-.109
	Post	15.3	3.75				
Extrinsic Motivation - Introjected regulation	Pre	12.3	4.08	-.49	-.925	.358	-.105
	Post	12.8	3.73				
Extrinsic Motivation- External regulation	Pre	10.0	4.18	-1.01	-2.063	.042*	-.234
	Post	11.0	3.80				
Amotivation[a]	Pre	9.03	3.66	-.18	-.357	.722	-.040
	Post	9.21	4.21				

[a] *reversely-scored items; the lower the scoring the better*

**p < 0.05, **p < 0.01, ***p < 0.001*

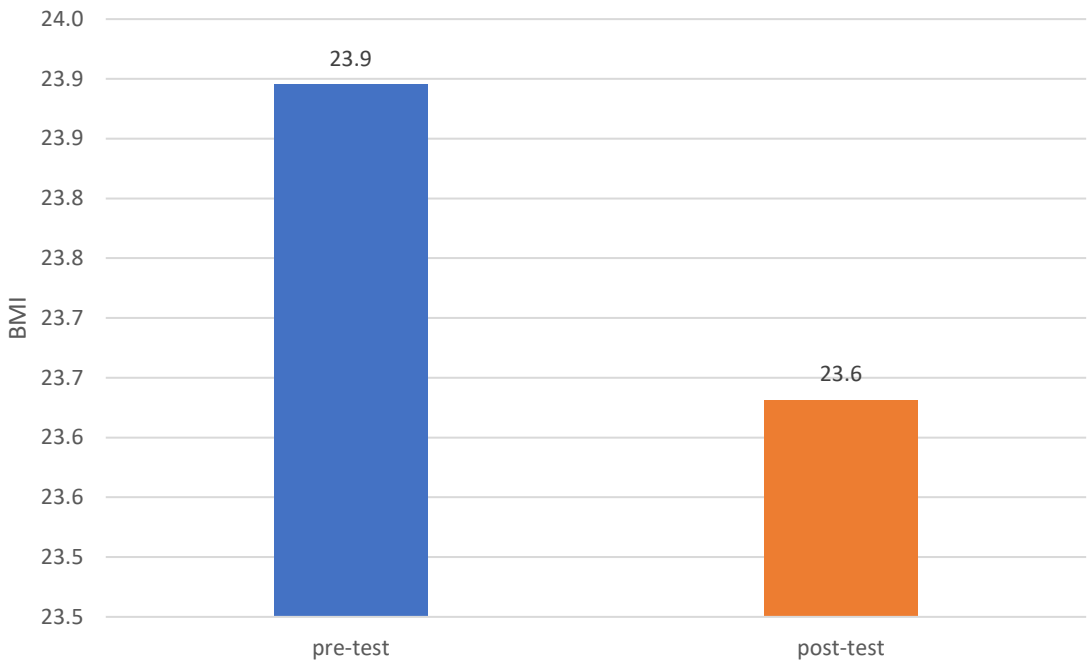
Physical Fitness Tests

Body Mass Index (BMI). The results showed that the post-test mean scores of the BMI (M = 23.6, SD = 4.33) slightly decreased as compared to the pre-test mean scores (M = 23.9, SD = 3.51). The decrease was .3, p = .41 and t (77) = .83 (see Table 11). As $p > .05$, the null hypothesis was accepted. It revealed that the BMI before and after the training was similar.

The BMI result between 18.5 and 24.9 indicated that the weight level of the participants was normal (Department of Health and Human Services Centers for Disease Control and Prevention, n.d.).

Figure 5

Results of BMI in pre- and post- test (N = 78)

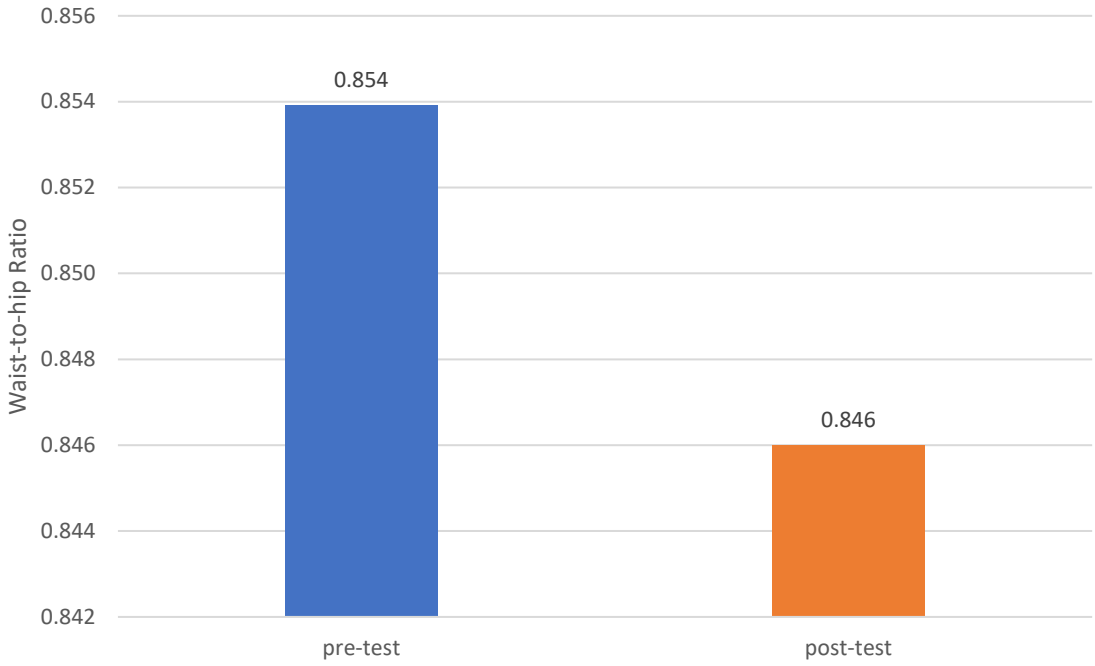


Waist-to-hip Ratio. Participants' hip circumferences and waist circumferences were measured, and their waist-to-hip ratio were calculated accordingly. The pre-test and post-test results were compared by paired t-test. The mean difference in the waist-to-hip ratio in pre-

test (*M* = .854, *SD* = .08) and post-tests (*M* = .846, *SD* = .07) was not significant as *p* = .41 and *t* (76) = .84 (see Table 11).

Figure 6

Results of waist-to-hip ratio in pre- and post-test (n = 77)



Forced Vital Capacity (FVC), Forced Expiratory Volume in 1 second (FEV1), and FEV1/FVC Ratio. The post-test mean scores of the FVC decreased with a 5.19ml difference. The post-test mean score of FEV1 had also decreased for 9.19ml. However, the mean differences recorded were proven to be not significant after undergoing paired t-tests for the pre-test score and post-test score as $p > .05$, $p = .96$ and $t\ (77) = .96$ for FVC, and $p = .90$ and $t\ (77) = .91$ for FEV1. The mean difference in the pre-test FEV1/FVC ratio (*M* = .873, *SD* = .11) and post-test FEV1/FVC ratio (*M* = .870, *SD* = .11) was also insignificant ($p = .83$, $t\ (77) = .21$) (see Table 11).

Figure 7

Results of FVC in pre- and post-test (N = 78)

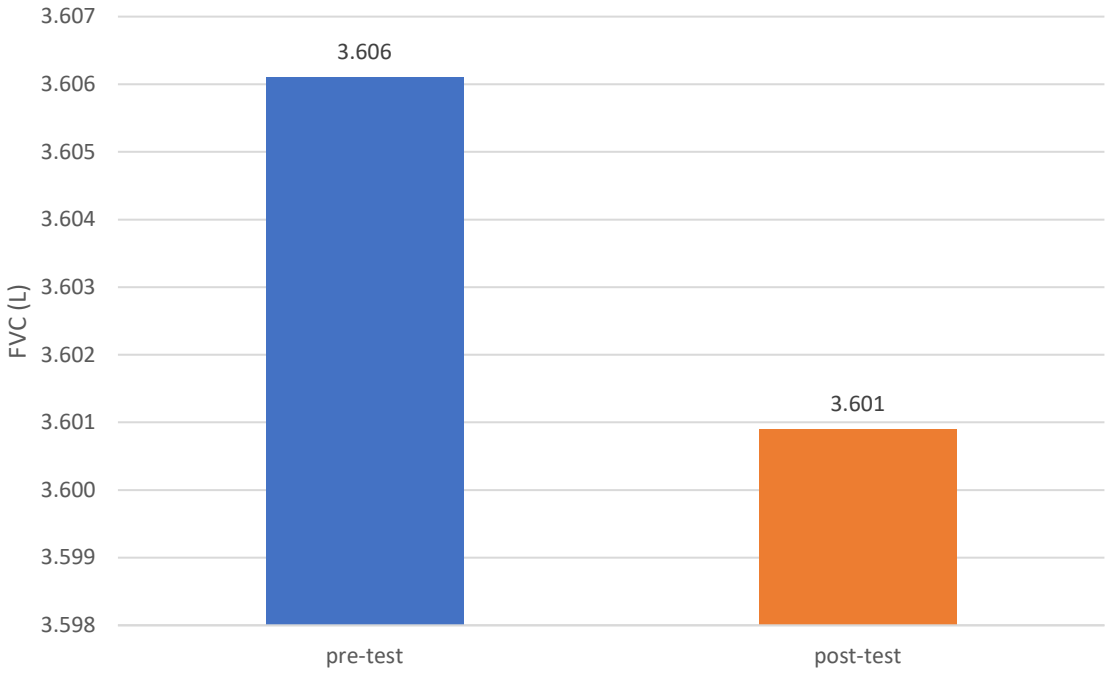


Figure 8

Results of FEV1 in pre- and post-test (N = 78)

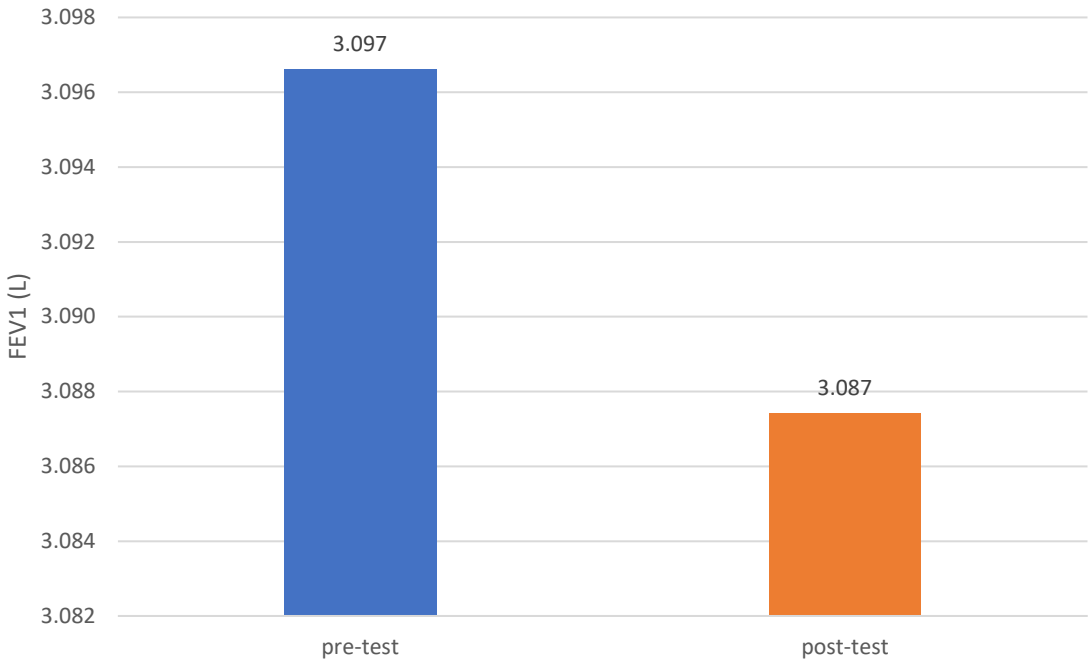
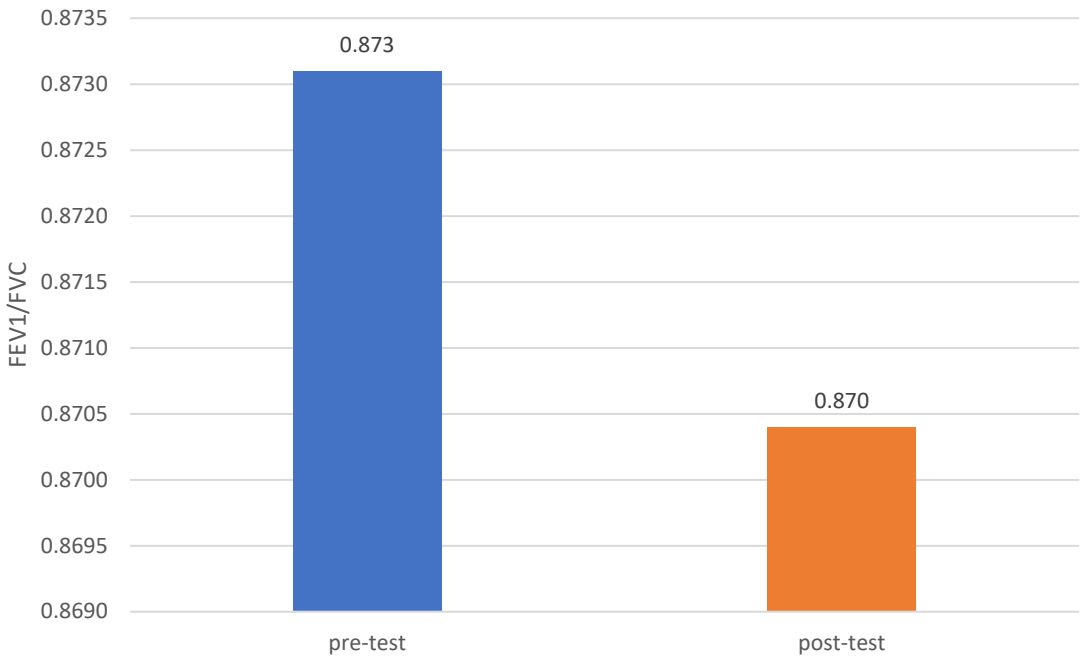


Figure 9

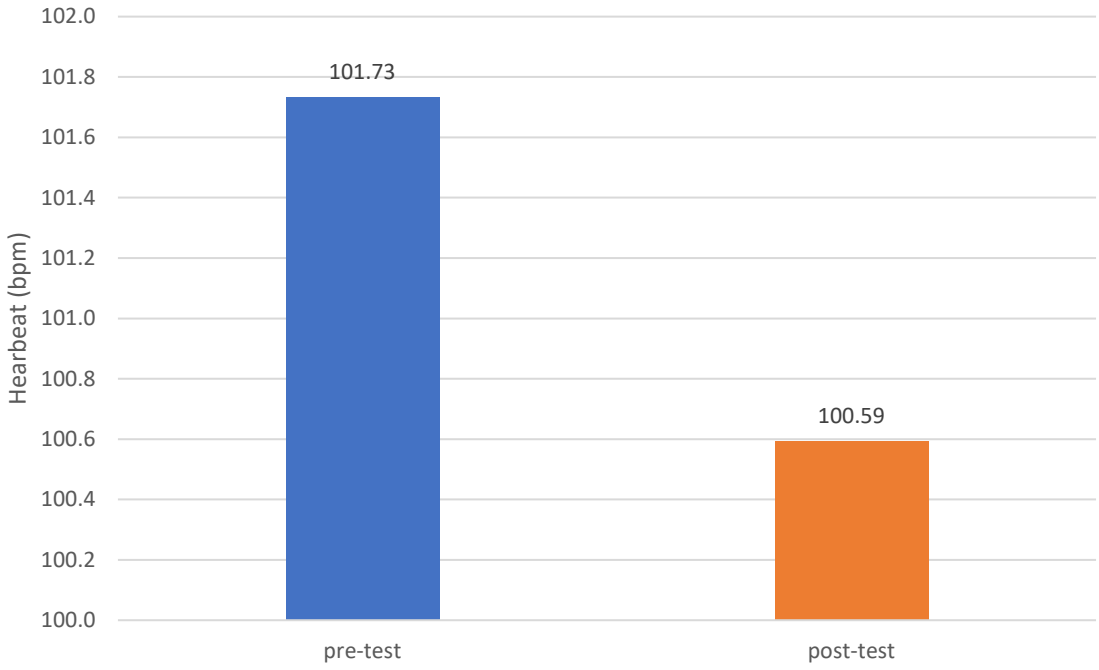
The distribution of FEV1/FVC ratio in pre- and post-test (N = 78)



YMCA 3-minute Step Test. The test was used to assess the recovery heart rate after 3-minute of a stepping test. The post-test mean score (M = 100.59, SD = 22.83) of the step test had slightly decreased as compared to the pre-test mean score (M = 101.73, SD = 19.59). There was a slight improvement in the mean recovery heart rate with a decrease of 1.14bpm, which was proven to be insignificant by performing a paired t-test as p = .72 and t (70) = .35. As p > .05, the mean difference between pre-test score and post-test score was not significant (see Table 11).

Figure 10

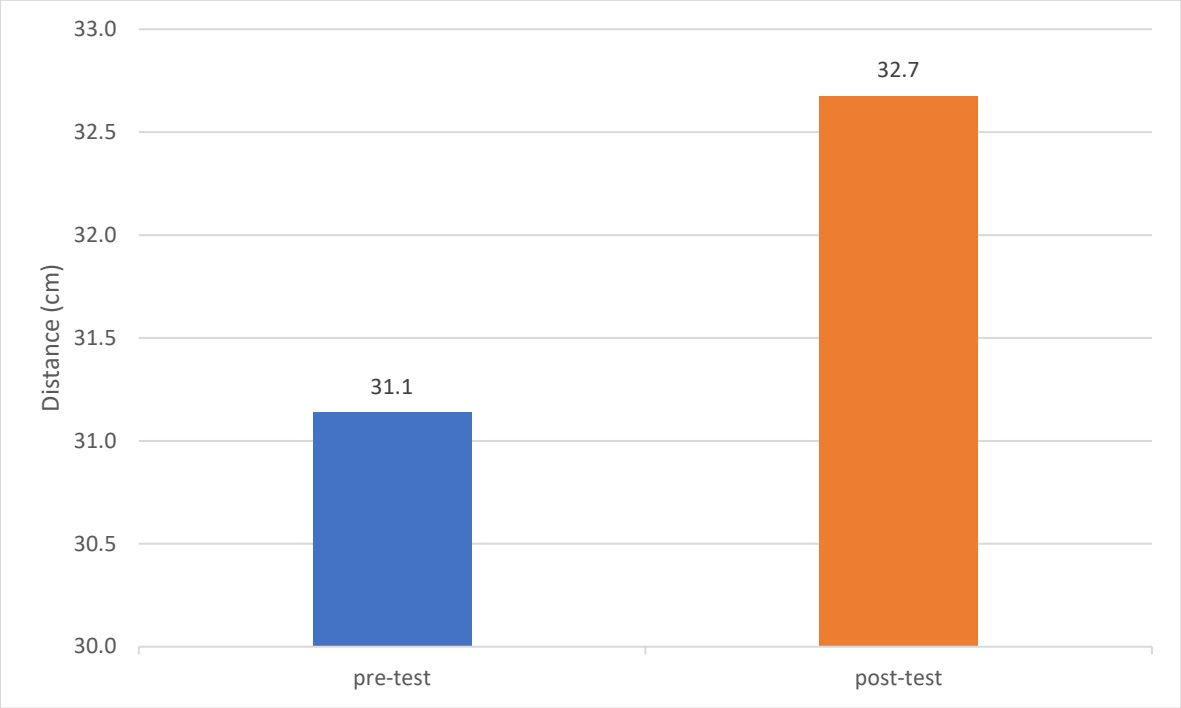
Results of step test in pre- and post-test (n = 71)



Sit and Reach Test. This test was conducted to test the participant's muscular flexibility. Traditionally, level of the feet is used as recording zero where the test starts, so any measure that does not reach the toes is negative and any reach past the toes is positive. However, in order to avoid negative value in statistical analysis in this study, 23cm is set at the baseline of the feet where the measurement initiates. The results in this study showed that the post-test mean scores (M = 32.68, SD = 9.16) of the Sit and Reach test had increased slightly for 1.54cm as compared to the pre-test mean score (M = 31.14, SD = 9.11). After conducting a paired t-test to compare the pre-test and post-test mean score, it was found that the mean difference was significant (p = .00, t (76) = -3.15). The Cohen's d statistic (-.36) indicated that the effect size is small (see Table 11).

Figure 11

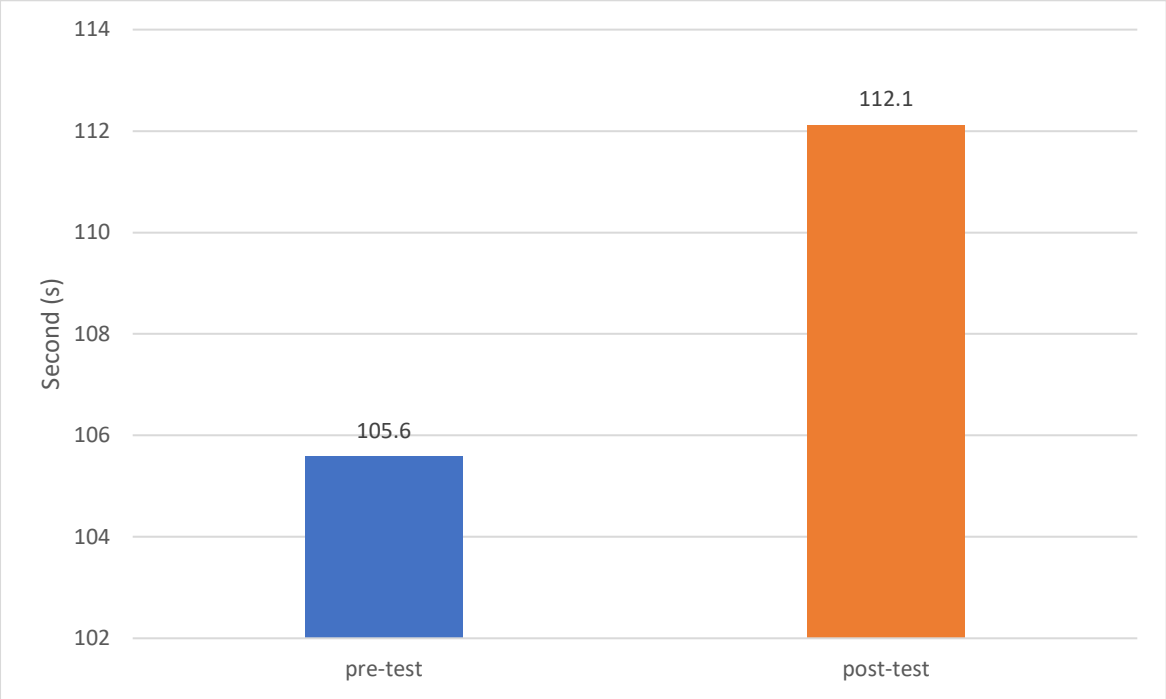
Results of sit and reach test in pre- and post-test (n = 77)



Stork balance stand test. The Stork Balance Stand Test was conducted to test the participant's static balance. The time participants could stand on one leg was counted to a maximum of 2 minutes. The length of time that the participants could hold had increased by 6.95 seconds in the post-test. The pre-test (M = 105.59, SD = 28.22) and post-test (M = 112.12, SD = 21.68) results were compared by paired t-test. The mean difference in the number of sit-ups in pre-test and post-test was significant as p = 0.01 and t (76) = -2.54. The effect size indicated by Cohen's d was small (d = -.29) (see Table 11).

Figure 12

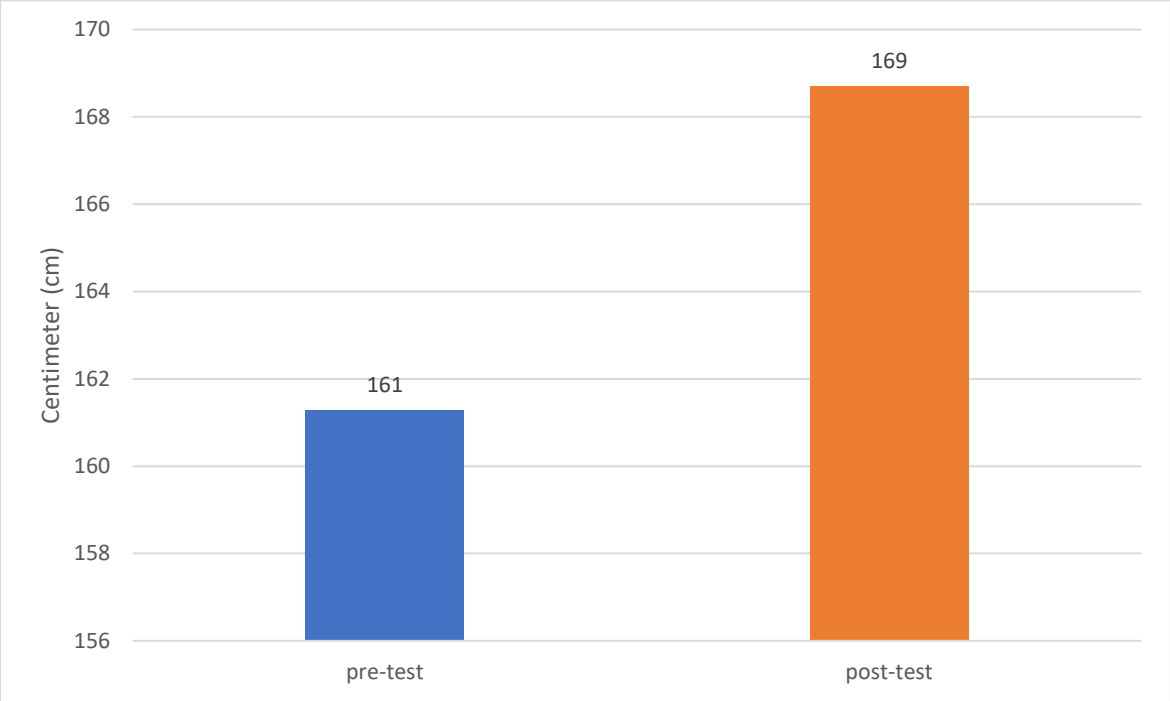
Results of Stork Balance Stand Test in pre- and post-test (n =77)



Standing Long Jump test. Standing long jump test was conducted to test the participant's muscular power of their legs. The furthest distance they could jump was recorded. The distance that the participants could jump had increased by 7.43cm in the post-test. The pre-test (M = 161.27, SD = 46.51) and post-test (M = 168.70, SD = 44.31) results were compared by paired t-test. The mean difference in the distance recorded in pre-test and post-test was significant as p = 0.03 and t (60) = -2.20. The effect size of this test is small as d = -.28 (see Table 11).

Figure 13

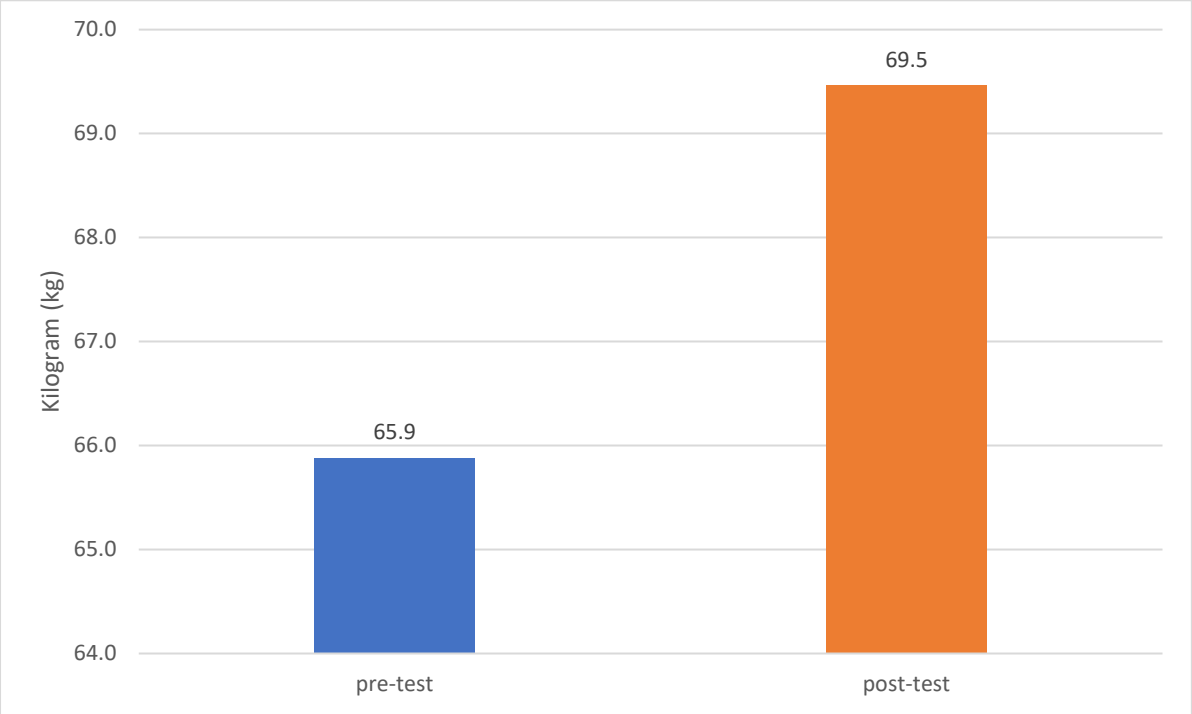
Results of standing long jump in pre- and post-test (n = 61)



Handgrip Test. The handgrip tests were used for participants' arm strength. The result showed that participants had improvement in their muscular strength after they completed the sport training programme. The mean of the post-test handgrip scores (M = 69.46, SD = 21.69) from this group was 3.58kg more than the pre-test mean score (M = 65.88, SD = 21.57). The mean of pre-test and post-test handgrip results were compared by paired t-test. As p = .00 and t (77) = -3.58, the mean difference between pre-test and post-test results were significant. The Cohen's d statistics (-.39) indicated a small effect size (see Table 11).

Figure 14

Results of handgrip test in pre- and post-test (N =78)



Sit-up Test. Sit-up test was conducted to test the participant's muscular endurance by counting the number of sit-ups within 1 minute. The average number of sit-ups being done increased by 2.70 in the post-test. The pre-test (M = 30.81, SD = 8.56) and post-test (M = 33.51, SD = 8.67) results were compared by paired t-test. The mean difference in the number of sit-ups finished in pre-test and post-tests were significant as p = .00 and t (76) = -4.67, and the effect size was medium as d = -.53 (see Table 11).

Figure 15

Results of sit-up test in pre- and post-test (n = 77)

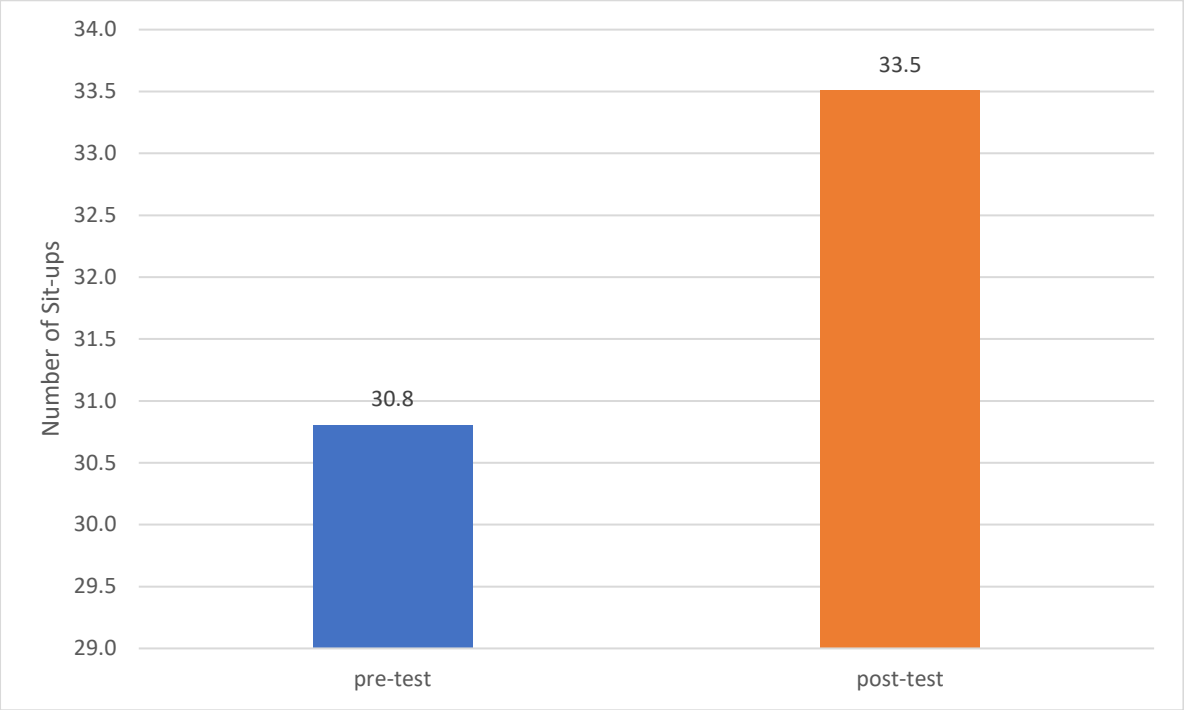


Table 11

Paired t-test of Pre-test Scores and Post-test Scores in Physical Fitness Test

Test Items		*n*	*M*	*SD*	*MD*	*t*	*p*	*d*
BMI[a]	Pre	78	23.89	3.51	.26	.834	.407	.094
	Post	78	23.63	4.33				
Waist-to-hip Ratio[a]	Pre	77	.854	.08	.01	.836	.406	.095
	Post	77	.846	.07				
FVC	Pre	78	3.61	1.00	.01	.056	.956	.006
	Post	78	3.60	.99				

Test Items		*n*	*M*	*SD*	*MD*	*t*	*p*	*d*
FEV1	Pre	78	3.10	.79	.01	.123	.902	.014
	Post	78	3.09	.77				
FEV1/FVC Ratio	Pre	78	.873	.11	.00	.213	.832	.024
	Post	78	.870	.11				
Step Test[a]	Pre	71	101.73	19.59	1.14	.354	.724	.042
	Post	71	100.59	22.83				
Sit and Reach Test	Pre	77	31.14	9.11	-1.54	-3.150	.002**	-.359
	Post	77	32.68	9.16				
Stork Balance Stand Test	Pre	77	105.59	28.22	-6.53	-2.535	.013*	-.289
	Post	77	112.12	21.68				
Standing Long Jump	Pre	61	161.27	46.51	-7.43	-2.204	.031*	-.282
	Post	61	168.70	44.31				
Handgrip Test	Pre	78	65.88	21.57	-3.58	-3.482	.001***	-.394
	Post	78	69.46	21.69				

Test Items		*n*	*M*	*SD*	*MD*	*t*	*p*	*d*
Sit-up	Pre	77	30.81	8.56	-2.70	-4.670	.000***	-.530
	Post	77	33.51	8.67				

[a] *reversely-scored items; the lower the scoring the better*

**p < 0.05, **p < 0.01, ***p < 0.001*

Gender and Time Periods

A 2 x 2 Repeated Measures Analysis of Variance (ANOVA) was conducted to investigate the mean differences in the selected dependent variables between men and women before and after the sport training programmes. The dependent variables were the questionnaires scores of the 1) Drug Abuse Situation Questionnaire, 2) International Physical Activity Questionnaire (IPAQ), 3) Simplified Coping Style Questionnaire (SCSQ), 4) Drug Avoidance Self-Efficacy Scale (DASES), 5) Personal Wellbeing Index, 6) Perceived Wellness Survey (PWS) and 7) Chinese Sport Motivation Scale II (CSMSII), and also 8) physical fitness tests scores.

Before conducting the ANOVAs, we conducted the Levene's Test of Equality of Error Variances and the Box's Test of Equality of Covariance Matrices. The results of 2 x 2 ANOVA tests are reported as follows:

Drug Abuse Situation Questionnaire

Total frequency for drug use across two time periods (pre-intervention and post-intervention) was recorded. It did not pass the assumption tests (Levene's Test of Equality of Error Variances and the Box's Test of Equality of Covariance Matrices), so a stringent significant level was set at .01. There were no interaction effects between gender and time periods, Wilks' Lambda = .99, F (1, 76) = 1.15, p = .29. There was a statistically significant main effect for time periods, Wilks' Lambda = .88, F (1, 76) = 10.18, p = .00, partial eta

squared = .12, with both groups showing a reduction in drug-taking frequency across the two time periods (see Table 12). The effect size was medium as partial eta squared was between .14 to .06. The main effect comparing the genders was not significant, F (1, 76) = .66, p = .42, suggesting no statistically significant mean difference between men and women.

Table 12

Descriptive Statistics for Drug Abuse Situation Questionnaire

	Male			Female		
Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
Pre-intervention	43	22.21	61.78	35	39.60	99.34
Post-intervention	43	2.79	8.99	35	.37	2.20

International Physical Activity Questionnaire (IPAQ)

Physical activity levels as measured in total MET-minutes per week were recorded across two time periods (pre-intervention and post-intervention). It did not pass the assumption tests, so a stringent significant level was set at .01. There were no interaction effects between gender and time periods, Wilks' Lambda = .97, F (1, 76) = 2.08, p = .15. There was no significant difference in the main effect for time periods, Wilks' Lambda = .96, F (1, 76) = 3.34, p = .07 (see Table 13). The main effect comparing the genders was not significant, F (1, 76) = 2.29, p = .13, suggesting no statistically significant mean difference between men and women.

Table 13

Descriptive Statistics for IPAQ

	Male			Female		
Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
Pre-intervention	43	5206.74	7604.02	35	2702.29	2790.88
Post-intervention	43	5476.14	4137.41	35	4984.62	5107.08

Active Coping Score

Active coping score across two time periods (pre-intervention and post-intervention) were recorded. It passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = .98, F (1, 76) = 1.77, p = .19. There was a statistically significant main effect for time periods, Wilks' Lambda = .69, F (1, 76) = 33.57, p < .001, partial eta squared = .31, with both groups showing an improvement in active coping score across the two time periods (see Table 14). The effect size was large as partial eta squared > .14. The main effect comparing the genders was not significant, F (1, 76) = .29, p = .38, suggesting no statistically significant mean difference between men and women.

Table 14

Descriptive Statistics for Active Coping Score

	Male			Female		
Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
Pre-intervention	43	1.59	.58	35	1.57	.53
Post-intervention	43	1.97	.36	35	1.81	.49

Passive Coping Score

Passive coping scores were recorded across two time periods (pre-intervention and post-intervention). It passed the assumption tests, so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = .99, F (1, 76) = .72, p = .40. There was no significant difference in the main effect for time periods, Wilks' Lambda = .99, F (1, 76) = .60, p = .44 (see Table 15). The main effect comparing the genders was not significant, F (1, 76) = .77, p = .42, suggesting no statistically significant mean difference between men and women.

Table 15

Descriptive Statistics for Passive Coping Score

	Male			Female		
Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
Pre-intervention	43	1.34	.58	35	1.53	.53
Post-intervention	43	1.50	.62	35	1.52	1.04

Drug Avoidance Self-Efficacy Scale

Total score in Drug Avoidance Self-Efficacy Scale (DASES) across two time periods (pre-intervention and post-intervention) were recorded. It did not pass the assumption tests, so the significant level was set at .01. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .02, p = .88, but there was a statistically significant main effect for time periods, Wilks' Lambda = .64, F (1, 76) = 43.85, p < .001, partial eta squared = .37, with both groups showing an improvement in DASES score across the two time periods (see Table 16). The effect size was large as partial eta squared > .14. The main effect comparing the genders was not significant, F (1, 76) = 1.58, p = .21, suggesting no statistically significant mean difference between men and women.

Table 16

Descriptive Statistics for DASES

	Male			Female		
Time Period	*n*	*M*	*SD*	*N*	*M*	*SD*
Pre-intervention	43	71.56	16.44	35	67.11	17.18
Post-intervention	43	84.98	19.52	35	81.14	14.40

Personal Wellbeing Index

Participants' scores on personal wellbeing index across two time periods (pre-intervention and post-intervention) were recorded. It passed the assumption tests, so the significant level was set at .05. There was no significant interaction between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .089, p = .77. There was statistically significant main effect for time periods, Wilks' Lambda = .73, F (1, 76) = 27.99, p < .001, partial eta squared = .27, with both groups showing an improvement in personal wellbeing index score across the two time periods (see Table 17). The effect size was large as partial eta squared > .14. The difference in gender was not significant, F (1, 76) = 3.27, p = .08, suggesting no statistically significant mean difference between men and women.

Table 17

Descriptive Statistics for Personal Wellbeing Index

	Male			Female		
Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
Pre-intervention	43	44.65	10.05	35	40.63	12.06
Post-intervention	43	52.02	12.63	35	47.23	13.99

Perceived Wellness Survey

Participants' perceived wellness scores in different dimensions across two time periods (pre-intervention and post-intervention) were recorded. Results from Psychological Dimension, Emotional Dimension, Social Dimension, Physical Dimension, Spiritual Dimension and Intellectual Dimension and Wellness Composition Score were presented below:

For Psychological Dimension, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = .99, F (1, 76) = .84, p = .36. There was a statistically significant main effect for time periods, Wilks' Lambda = .89, F (1, 76) = 9.63, p = .00, partial eta squared = .11, with both groups showing an improvement in perceived wellness score in psychological dimension across the two time periods (see Table 18). The effect size was medium as partial eta squared was between .14 to .06. The main effect comparing the genders was not significant, F (1, 76) = 1.63, p = .21, suggesting no statistically significant mean difference between men and women.

For Emotional Dimension, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .12, p = .73. There was a statistically significant main effect for time periods, Wilks' Lambda = .90, F (1, 76) = 8.19, p = .01, partial eta squared = .10, with both groups showing an improvement in perceived wellness score in emotional dimension across the two time periods (see Table 18). The effect size was medium as partial eta squared was between .14 to .06. The main effect comparing the genders were significant, F (1, 76) = 12.01, $p < .001$, partial eta squared = .14, suggesting a significant difference between men and women. The effect size was large as partial eta squared = .14. Results showed that men scored higher in the emotional dimension of the perceived wellness score than women.

For Social Dimension, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .40, p = .53. There was no significant difference in the main effect for time periods, Wilks' Lambda = .96, F (1, 76) = 3.37, p = .07 (see Table 18). The main effect comparing the genders was not significant, F (1, 76) = .08, p = .78, suggesting no statistically significant mean difference between men and women.

For Physical Dimension, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time, Wilks' Lambda = 1.00, F (1, 76) = .31, p = .58. There was a statistically significant main effect for time periods, Wilks' Lambda = .82, F (1, 76) = 16.62, p < .001, partial eta squared = .18, with both groups showing an improvement in perceived wellness score in physical dimension across the two time periods (see Table 18). The effect size was large as partial eta squared > .14. The main effect comparing the genders was significant, F (1, 76) = 5.82, p = .02, partial eta squared = .07, suggesting a significant mean difference in genders. The effect size was medium as partial eta squared was between .14 to .06. Results showed that men scored higher in the physical dimension of the perceived wellness score than women.

For Spiritual Dimension, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = .97, F (1, 76) = 2.79, p = .10. There was no significant difference in the main effect for time periods, Wilks' Lambda = .98, F (1, 76) = 1.94, p = .17 (see Table 18). The main effect comparing the genders was not significant, F (1, 76) = .56, p = .46, suggesting no statistically significant mean difference between men and women.

For Intellectual Dimension, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time, Wilks' Lambda = .96, F (1, 76) = 3.54, p = .06. There was a statistically significant main effect for time periods,

Wilks' Lambda = .89, F (1, 76) = 9.05, p = .00, partial eta squared = .11, with both groups showing an improvement in perceived wellness score in intellectual dimension across the two time periods (see Table 18). The effect size was medium as partial eta squared was between .14 to .06. The main effect comparing the genders was not significant, F (1, 76) = 2.57, p = .11, suggesting no statistically significant mean difference between men and women.

For Wellness Composition Score, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time, Wilks' Lambda = 1.00, F (1, 76) = .39, p = .53. There was a statistically significant main effect for time periods, Wilks' Lambda = .94, F (1, 76) = 5.06, p = .03, partial eta squared = .06, with both groups showing an improvement in wellness composition score across the two time periods (see Table 18). The effect size was medium as partial eta squared = .06. The main effect comparing the genders was significant, F (1, 76) = 9.32, p = .00, partial eta squared = .11, suggesting a significant mean difference in genders. The effect size was medium as partial eta squared was between .14 to .06. Results showed that men scored higher in the wellness composition score than women.

Table 18

Descriptive Statistics for Perceived Wellness Survey

		Male			Female		
Dimension	Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
Psychological	Pre-intervention	43	22.37	2.82	43	22.06	3.32
	Post-intervention	43	24.21	3.69	35	23.06	2.97
Emotional	Pre-intervention	43	22.19	3.22	35	19.83	3.03
	Post-intervention	43	23.30	3.85	35	21.26	3.37
Social	Pre-intervention	43	23.60	3.65	35	23.49	3.72

		Male			Female		
Dimension	Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
	Post-intervention	43	24.16	3.01	35	24.63	3.32
Physical	Pre-intervention	43	23.05	3.11	35	21.66	3.33
	Post-intervention	43	24.70	3.20	35	22.91	3.54
Spiritual	Pre-intervention	43	24.37	4.35	35	22.91	4.30
	Post-intervention	43	24.23	3.85	35	24.26	4.47
Intellectual	Pre-intervention	43	23.8	2.91	43	22.1	3.14
	Post-intervention	43	24.2	3.61	35	23.8	3.24
Wellness	Pre-intervention	43	14.47	1.80	35	13.29	1.74
Composition							
Score							
	Post-intervention	43	14.92	2.07	35	14.09	1.94

Chinese Sport Motivation Scale II

Participants' scores on Chinese Sport Motivation Scale II across two time periods (pre-intervention and post-intervention) were recorded. Results of Amotivation, Extrinsic Motivation – External Regulation, Extrinsic Motivation – Introjected Motivation, Extrinsic Motivation – Identified Motivation, Extrinsic Motivation – Integrated Regulation and Intrinsic Motivation were presented below:

For Amotivation, it did not pass the assumption tests so the significant level was set at .01. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .01, p = .91. There was no significant difference in the main effect for time periods, Wilks' Lambda = 1.00, F (1, 76) = .12, p = .73 (see Table 19). The main effect

comparing the genders was not significant, F (1, 76) = 4.95, p = .03, suggesting no statistically significant mean difference between men and women.

For Extrinsic Motivation – External Regulation, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = .98, F (1, 76) = 1.68, p = .20. There was a statistically significant main effect for time periods, Wilks' Lambda = .94, F (1, 76) = 4.82, p = .03, partial eta squared = .06, with both groups showing an improvement in the score of extrinsic motivation – external regulation across the two time periods (see Table 19). The effect size was medium as partial eta squared = .06. The main effect comparing the genders was significant, F (1, 76) = 11.10, p = .00, partial eta squared = .13, suggesting a significant difference in genders. The effect size was medium as partial eta squared was between .14 to .06. From statistics, we can see that men scored higher in the extrinsic motivation – external regulation than women.

For Extrinsic Motivation – Introjected Regulation, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .01, p = .92. There was no significant difference in the main effect for time periods, Wilks' Lambda = .99, F (1, 76) = .82, p = .37 (see Table 19). The main effect comparing the genders was significant, F (1, 76) = 8.86, p = .00, partial eta squared = .10, suggesting a significant difference in genders. The effect size was medium as eta squared was between .14 to .06. From statistics, we can see that men scored higher in the extrinsic motivation – introjected regulation than women.

For Extrinsic Motivation – Identified Regulation, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .00, p = .98. There was no significant difference in the main effect for time periods, Wilks' Lambda = .99, F (1, 76) = .91, p = .34 (see Table

19). The main effect comparing the genders was not significant, F (1, 76) = 59.29, p = .12, suggesting no statistically significant mean difference between men and women.

For Extrinsic Motivation – Integrated Regulation, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .085, p = .77. There was a statistically significant main effect for time periods, Wilks' Lambda = .92, F (1, 76) = 6.65, p = .01, partial eta squared = .08, with both groups showing an improvement in the score of extrinsic motivation – integrated regulation across the two time periods (see Table 19). The effect size was medium as partial eta squared was between .14 to .06. The main effect comparing the genders was not significant, F (1, 76) = 2.31, p = .13, suggesting no significant mean difference between men and women.

For Intrinsic Motivation, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = .99, F (1, 76) = .60, p = .44. There was a statistically significant main effect for time periods, Wilks' Lambda = .93, F (1, 76) = 5.71, p = .02, partial eta squared = .07, with both groups showing an improvement in the score of intrinsic motivation across the two time periods (see Table 19). The effect size was medium as partial eta squared was between .14 to .06. The main effect comparing the genders was not significant, F (1, 76) = 1.11, p = .30, suggesting no significant mean difference between men and women.

Table 19

Descriptive Statistics for Chinese Sport Motivation Scale II

		Male			Female		
Motivation	Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
Amotivation	Pre-intervention	43	9.72	3.94	35	8.17	3.12
	Post-intervention	43	9.95	4.60	35	8.29	3.52

		Male			Female		
Motivation	Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
Extrinsic Motivation - External Regulation	Pre-intervention	43	11.37	4.00	35	8.34	3.81
	Post-intervention	43	11.81	3.65	35	10.06	3.81
Extrinsic Motivation - Introjected Regulation	Pre-intervention	43	13.23	3.79	35	11.26	4.21
	Post-intervention	43	13.77	3.13	35	11.69	4.10
Extrinsic Motivation - Identified Regulation	Pre-intervention	43	15.40	4.24	35	14.14	5.00
	Post-intervention	43	15.88	3.40	35	14.66	4.10
Extrinsic Motivation – Integrated Regulation	Pre-intervention	43	13.95	3.64	35	12.63	4.78
	Post-intervention	43	15.07	3.58	35	14.03	4.20
Intrinsic Motivation	Pre-intervention	43	15.44	4.10	35	14.29	4.62
	Post-intervention	43	16.19	3.09	35	15.74	3.74

Physical Fitness Tests results between men and women

Participants' scores on physical fitness tests across two time periods (pre-intervention and post-intervention) were recorded. Results of Body Mass Index (BMI), waist-to-hip ratio, Forced Vital Capacity (FVC), Forced Expiratory Volume in 1 second (FEV1), FEV1/FVC ratio, YMCA 3-minute step test, sit-and-reach test, stork balance stand tests, standing long jump test, hand grip test, and 1-minute sit-up test were presented below:

For BMI, it did not pass the assumption tests so the significant level was set at .01. There were no interaction effects between gender and time periods, Wilks' Lambda = .99, F (1, 76) = .85, p = .36. There was no significant difference in the main effect for time periods, Wilks' Lambda = .99, F (1, 76) = .54, p = .47 (see Table 20). The main effect comparing the genders was not significant, F (1, 76) = .52, p = .47, suggesting no significant mean difference between men and women.

For waist-to-hip ratio, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 75) = .30, p = .59. There was no significant difference in the main effect for time periods, Wilks' Lambda = .99, F (1, 75) = .77, p = .38 (see Table 20). The main effect comparing the genders was not significant, F (1, 75) = 3.65, p = .06, suggesting no significant mean difference between men and women.

For FVC test, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = .98, F (1, 76) = 1.87, p = .18. There was no significant difference in the main effect for time periods, Wilks' Lambda = 1.00, F (1, 76) = .01, p = .93 (see Table 20). The main effect comparing the genders was significant, F (1, 76) = 44.55, $p < .001$, partial eta squared = .37, suggesting a significant mean difference in genders. The effect size was large as partial eta squared was > .14. The results showed that men have a higher FVC score than women.

For FEV1 test, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = .95, F (1, 76) = 3.66, p = .06. There was no significant difference in the main effect for time periods, Wilks' Lambda = 1.00, F (1, 76) = .01, p = .94 (see Table 20). The main effect comparing the genders was significant, F (1, 76) = 46.80, p < .001, partial eta squared = .38, suggesting a significant difference in genders. The effect size was large as partial eta squared was > .14. The results showed that men have a higher FEV1 score than women. For FEV1/FVC ratio, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .01, p = .92. There was no significant difference in the main effect for time periods, Wilks' Lambda = 1.00, F (1, 76) = .04, p = .84 (see Table 20). The main effect comparing the genders was not significant, F (1, 76) = 1.90, p = .17, suggesting no statistically significant mean difference between men and women.

For the step-test score, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = .98, F (1, 69) = 1.46, p = .23. There was no significant difference in the main effect for time periods, Wilks' Lambda = 1.00, F (1, 69) = .03, p = .87 (see Table 20). The main effect comparing the genders was not significant, F (1, 69) = .00, p = .96, suggesting no statistically significant mean difference between men and women.

For the sit-and-reach test score, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 75) = .13, p = .72. There was a statistically significant main effect for time periods, Wilks' Lambda = .88, F (1, 75) = 9.94, p = .00, partial eta squared = .12, with both groups showing an increase in the distance recorded in sit-and-reach test across the two time periods (see Table 20). The effect size was medium as partial eta squared was

between .14 to .06. The main effect comparing the genders were significant, F (1, 75) = 4.26, p = .04, partial eta squared = .05, suggesting a significant difference in genders. The effect size was small as partial eta squared <.06. Results showed that women performed better in the sit-and-reach test than men.

For the stork balance stand test score, it passed the assumption tests so the significant level was set at .05. There were no interaction effects between gender and time, Wilks' Lambda = 1.00, F (1, 75) = .17, p = .68. There was a statistically significant main effect for time, Wilks' Lambda = .93, F (1, 75) = 6.03, p = .02, partial eta squared = .07, with both groups showing an increase in the time recorded in stork balance test across the two time periods (see Table 20). The effect size was medium as partial eta squared was between .14 to.06. The main effect comparing the genders were not significant, F (1, 75) = .163, p = .69, suggesting no significant mean difference between men and women.

For standing long jump test, it did not pass the assumption tests so the stringent significant level was set at .01. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 59) = .23, p = .64. There was no significant difference in the main effect for time periods, Wilks' Lambda = .94, F (1, 59) = 4.02, p = .05 (see Table 20). The main effect comparing the genders was significant, F (1, 59) = 99.85, p < .001, partial eta squared = .63, suggesting a significant difference in genders. The effect size was large as partial eta squared was > .14. suggesting men performed better in standing long jump test than women.

For hand grip test score, it did not pass the assumption tests so the stringent significant level was set at .01. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 76) = .00, p = .95. There was a statistically significant main effect for time, Wilks' Lambda = .87, F (1, 76) = 11.80, p < .001, partial eta squared = .13, with both groups showing an increase in the time recorded in hand grip test across the

two time periods (see Table 20). The effect size was medium as partial eta squared was between .14 to .06. The main effect comparing the genders was significant, F (1, 76) = 131.42, p < .001, partial eta squared = .96, suggesting a significant difference in genders. The effect size was large as partial eta squared was > .14. From statistics, we can see that men performed better in hand grip test than women.

For sit-up test score, it did not pass the assumption tests so the stringent significant level was set at .01. There were no interaction effects between gender and time periods, Wilks' Lambda = 1.00, F (1, 75) = .01, p = .93. There was a statistically significant main effect for time, Wilks' Lambda = .78, F (1, 75) = 21.14, p < .001, partial eta squared = .22, with both groups showing an increase in the time recorded in sit-up test across the two time periods (see Table 20). The effect size was large as partial eta squared was > .14. The main effect comparing the genders was significant, F (1, 75) = 18.91, p < .001, partial eta squared = .20, suggesting a significant difference in genders. The effect size was large as partial eta squared was > .14. According to the statistics, men performed better in sit-up test than women.

Table 20

Descriptive Statistics for Physical Fitness Tests

		Male			Female		
Test Item	Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
BMI	Pre-intervention	43	23.76	3.67	35	24.07	3.37
	Post-intervention	43	23.23	5.19	35	24.13	2.95
Waist-to-hip Ratio	Pre-intervention	42	.86	.09	35	.84	.05
	Post-intervention	42	.86	.08	35	.83	.06

		Male			Female		
Test Item	Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
FVC	Pre-intervention	43	4.16	.75	35	2.93	.86
	Post-intervention	43	4.04	.95	35	3.06	.76
FEV1	Pre-intervention	43	3.55	.63	35	2.54	.58
	Post-intervention	43	3.41	.74	35	2.69	.59
FEV1/FVC Ratio	Pre-intervention	43	.86	.11	35	.89	.10
	Post-intervention	43	.86	.13	35	.89	.08
Step-test	Pre-intervention	41	103.49	19.86	30	99.33	19.30
	Post-intervention	41	99.02	19.07	30	102.73	27.36
Sit-and reach Test	Pre-intervention	43	29.40	9.01	34	33.34	8.89
	Post-intervention	43	30.78	9.08	34	35.07	8.81
Stork Balance Stand Test	Pre-intervention	43	106.04	27.1	34	105.02	29.9
	Post-intervention	43	113.52	19.3	34	110.35	24.5
Standing long-jump	Pre-intervention	38	187.24	36.82	23	118.37	23.02
	Post-intervention	38	195.92	29.67	23	123.72	21.89
Handgrip	Pre-intervention	43	80.94	16.18	35	47.37	9.53

		Male			Female		
Test Item	Time Period	*n*	*M*	*SD*	*n*	*M*	*SD*
Sit-up	Post-intervention	43	84.58	16.63	35	50.89	8.96
	Pre-intervention	43	34.05	8.77	34	26.71	6.32
	Post-intervention	43	36.79	8.43	34	29.35	7.12

Differences in the pre-tests scores of participants completed and uncompleted post-tests

In this project, 169 participants completed pre-tests, however, only 78 of them completed both the pre and post-tests. Independent t-tests were utilized to investigate the mean differences between the results of the participants who completed the 10-week sport training programmes and the post-tests, and those who did not.

Overall results from the Simplified Coping Style Questionnaire (SCSQ), Drug Avoidance Self-Efficacy Scale (DASES), Life satisfaction questionnaire, Perceived Wellness Survey (PWS), Chinese Sport Motivation Questionnaire and physical fitness tests are shown in Table 21 to Table 24.

Results showed that there were no significant mean differences between the two groups in all questionnaires and physical fitness test items, except for the result in step test, in which $t = .55$, $p = .04$. It showed a significant mean difference between the results of those who did not complete sport training ($M = 107.98$, $SD = 18.37$) and who completed the training ($M = 101.80$, $SD = 19.92$) in pre-test (see Table 24).

Table 21

Independent t-tests of Simplified Coping Style Questionnaire (SCSQ), Drug Avoidance Self-Efficacy Scale and Life satisfaction questionnaire

		n	*M*	*SD*	*MD*	*t*	*p*	*d*
Active Coping	Uncompleted	91	1.71	.59	.13	1.474	.142	.227
	Completed	78	1.58	.55				
Passive Coping	Uncompleted	91	1.41	.58	-.02	-.185	.853	-.029
	Completed	78	1.42	.56				
DASES-Overall Scoring	Uncompleted	91	73.00	16.69	3.44	1.329	.186	.205
	Completed	78	69.56	16.81				
Self-Anchoring Scale	Uncompleted	91	15.98	104.21	10.62	.899	.370	.139
	Completed	78	5.36	1.68				
Overall Personal Wellbeing Index	Uncompleted	91	42.08	14.88	-.77	-.376	.708	-.058
	Completed	78	42.85	11.11				

Table 22

Independent t-tests for Perceived Wellness Survey

Dimension		*n*	*M*	*SD*	*MD*	*t*	*p*	*d*
Psychological	Uncompleted	91	22.6	4.07	.33	.588	.557	.091
	Completed	78	22.2	3.04				
Emotional	Uncompleted	91	21.2	4.07	.03	.044	.964	.007
	Completed	78	21.1	3.34				
Social	Uncompleted	91	22.9	3.96	-.66	-1.120	.264	-.173
	Completed	78	23.6	3.66				
Physical	Uncompleted	91	22.2	4.14	-.27	-.464	.643	-.072
	Completed	78	22.4	3.27				
Spiritual	Uncompleted	91	22.9	4.71	-.81	-1.147	.253	-.177
	Completed	78	23.7	4.36				
Intellectual	Uncompleted	91	22.5	3.70	-.59	-1.110	.269	-.171
	Completed	78	23.1	3.12				
Wellness Composite Score	Uncompleted	91	13.67	2.50	-.27	-.796	.427	-.123
	Completed	78	13.94	1.86				

Table 23

Independent t-tests for Chinese Sport Motivation Scale II (CSMSII)

Motivation Type		*n*	*M*	*SD*	*MD*	*t*	*p*	*d*
Intrinsic Motivation	Uncompleted	91	14.60	4.58	-.32	-.461	.645	-.071
	Completed	78	14.92	4.35				
Extrinsic Motivation - Integrated regulation	Uncompleted	91	12.94	3.82	-.42	-.687	.493	-.106
	Completed	78	13.36	4.22				
Extrinsic Motivation - Identified regulation	Uncompleted	91	14.22	4.39	-.61	-.885	.378	-.137
	Completed	78	14.83	4.61				
Extrinsic Motivation - Introjected regulation	Uncompleted	91	11.96	3.69	-.39	-.653	.515	-.101
	Completed	78	12.35	4.08				

Motivation Type		*n*	*M*	*SD*	*MD*	*t*	*p*	*d*
Extrinsic Motivation-External regulation	Uncompleted	91	9.19	3.92	-.83	-1.325	.187	-.204
	Completed	78	10.01	4.18				
Amotivation	Uncompleted	91	9.22	4.26	-.19	.315	.753	.049
	Completed	78	9.03	3.66				

Table 24

Independent t-tests for physical fitness tests

Test Items		*n*	*M*	*SD*	*MD*	*t*	*p*	*d*
BMI[a]	Uncompleted	90	23.45	5.13	-.45	-.649	.517	-.100
	Completed	78	23.89	3.51				
Waist-to-hip Ratio[a]	Uncompleted	88	.85	.07	.00	.041	.967	.006
	Completed	77	.85	.08				
FVC	Uncompleted	88	3.71	1.27	.10	.553	.581	.086
	Completed	78	3.61	1.00				
FEV1	Uncompleted	88	3.15	1.06	.05	.371	.711	.058
	Completed	78	3.10	.79				

Test Items		*n*	*M*	*SD*	*MD*	*t*	*p*	*d*
FEV1/FVC Ratio	Uncompleted	88	.86	.12	-.01	-.542	.588	-.084
	Completed	78	.87	.11				
Step Test[a]	Uncompleted	88	107.98	18.37	6.18	2.052	.042*	.324
	Completed	74	101.80	19.92				
Sit and Reach Test	Uncompleted	89	29.52	8.24	-1.54	-1.149	.252	-.178
	Completed	78	31.06	9.08				
Stork Balance Stand Test	Uncompleted	90	97.10	36.01	-.868	-1.722	.087	-.266
	Completed	78	105.78	28.08				
Standing Long Jump	Uncompleted	79	162.33	46.18	3.43	.447	.656	.075
	Completed	66	158.89	45.88				
Handgrip Test	Uncompleted	90	68.99	20.05	3.11	.969	.334	.150
	Completed	78	65.88	21.57				
Sit-up	Uncompleted	85	30.91	10.98	.07	.047	.963	.007
	Completed	78	30.83	8.51				

*$p < .05$

Drug-taking history

Completed and uncompleted participants

Participants' drug history was also analysed and descriptive statistics of participants' drug history is listed in Table 25. For individuals who did not complete the 10-week physical training, the least drug history recorded was 1 year, and the longest was 27 years. Most of them had a drug history of 14 years or 16 years. For individuals who completed the 10-week physical training and post-test, the least drug history recorded was 1 year, and the longest was 22 years. Most of them had a drug history of 5 years.

Table 25

Descriptive Statistics of Participants' Drug History

	n	*M*	*SD*	*Mode*	*Median*	*Range*
Uncompleted	91	11.58	6.15	14 & 16[#]	13	1-27
Completed	78	10.77	5.77	5	10	1-22

[#] Multiple modes exist.

To compare the drug-taking history of participants who had dropped out from the programme and those who had completed the post-test, an independent t-test was conducted. Even though the drug-taking history of those who had dropped out from the programme (M = 11.59, SD = 6.15) was slightly higher than those who completed the post-test (M = 10.77, SD = 5.78), the mean difference was not significant as t = .881 and p = .38.

Drug-taking duration groups

A one-way between-groups analysis of variance (ANOVA) was also conducted to explore the mean differences in life satisfaction, quality of life, wellness, motivation, and physical fitness scores of participants with different drug-taking history. A total of 169 participants were divided into 4 groups according to their drug-taking history (Group 1: 1-5

years, n = 38; Group 2: 6-10 years, n = 41; Group 3: 11-15 years, n = 46; Group 4: 16 years or above, n = 44).

Self-Anchoring Scale was adopted to measure participants' life satisfaction levels. The results showed no significant mean difference between groups as F (3, 165) = .46 and p = .71. For the quality of life level, no significant mean difference was found in the Personal Wellness Index: F (3, 165) = .21, p = .89. There was no significant mean difference found in the results of the Perceived Wellness Survey in all dimensions of wellness and the Wellness Composition Score: F (3, 165) = .77, p = .52. In addition, there were also no significant mean differences in all motivation types in the Chinese Sport Motivation Scale II.

While there were no significant mean differences in most physical fitness testing items among the groups, there was a significant mean difference in the result of standing long jump.

For standing long jump test, F (3, 141) = 4.72 and p = .00. The effect size, calculated using eta squared, was .09. It shows a medium effect as eta squared is between .14 to .06. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 1: 1-5 years (M = 177.65, SD = 44.48) was significantly different from Group 3: 11-15 years (M = 150.24, SD = 43.61) and Group 4: 16 years or above (M = 144.93, SD = 40.96). Group 2: 6-10 years (M = 171.55, SD = 47.98) did not differ significantly from either Group 1, Group 3 or Group 4. Group 3 also did not differ significantly from Group 4 (see Table 26).

Table 26

Post-hoc Tukey HSD test comparing mean differences of standing long jump test among four groups of drug-taking history

	Group 1	Group 2	Group 3	Group 4
Group 1	-	6.10	27.4*	32.72**
Group 2		-	21.30	26.62
Group 3			-	5.32
Group 4				-

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

The results above show people who had been taking drugs for 1-5 years had better performance in standing long jump than those who had been taking drugs for 10 years or above, especially those who had been taking them for over 15 years. Whether the result is due to the aging process of the participants or the duration of taking drug, further investigation is needed.

Different types of drugs

Participants abusing different types of drugs and how they affected in different aspects of physical and psychological wellbeing among the participants were also analyzed.

A one-way between-groups analysis of variance (ANOVA) was conducted to explore the impact of the types of drugs taken by the participants on their life satisfaction, quality of life, wellness, motivation, and physical fitness scores. In this project, 61 out of 169 participants had no records in the types of drugs taken. The remaining 108 participants were divided into 4 groups according to the drug types they took (Group 1: Hallucinogens, $n = 29$; Group 2: Stimulants, $n = 39$; Group 3: Tranquillizers, Narcotics Analgesics and others: $n = 15$; Group 4: Multiple drugs, $n = 25$). For details of different types of drugs categorized, see Table 27 below.

Table 27

Four types of drugs abused among participants (N = 108)

Group	*n*	Type	Example
Group 1	29	Hallucinogens	Cannabis, LSD
Group 2	39	Stimulants	Methamphetamine, Cocaine, Ecstasy
Group 3	15	Tranquillizers, Narcotics Analgesics and other	Diazepam (Valium), Triazolam, Flunitrazepam, Heroin, Ketamine
Group 4	25	Multiple drugs	/

Life satisfaction

Self-Anchoring Scale was adopted to measure participants' life satisfaction level. The results showed no significant mean difference between the groups as F (3, 104) = .36 and p = .78. For quality of life, no significant mean difference was found in the Personal Wellness Index: F (3, 104) = 2.52, p = .06 (see Table 28).

Table 28

Descriptive statistics of drug types for life satisfaction among four groups

		n	*M*	*SD*
Self-Anchoring Scale	Group 1	29	5.17	1.51
	Group 2	39	5.26	1.91
	Group 3	15	5.13	1.92
	Group 4	25	4.80	1.68
	Total	108	5.11	1.74
Personal Wellbeing Index	Group 1	29	43.83	8.45
	Group 2	39	42.28	14.74
	Group 3	15	40.20	9.14
	Group 4	25	35.68	10.25
	Total	108	40.88	11.82

Perceived Wellness Survey

Participants' perceived wellness scores in different dimensions among 4 groups were recorded. ANOVA results found that there was no significant mean difference in the results of all dimensions of wellness except intellectual wellness: F (3, 104) = 2.70, p = .05. The effect size, calculated using eta squared, was .07. It shows a medium effect as eta squared between .14 to .06. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 2: Stimulants (M = 23.26, SD = 3.62) was significantly different from Group 4: Multiple drugs (M = 20.92, SD = 4.18). While Group 1: Hallucinogens (M = 23.07, SD = 3.01) and Group 3: Tranquillizers (M = 22.27, SD = 1.79) did not differ significantly from other groups (see Table 29 and 30).

Table 29

Descriptive statistics of intellectual wellness score among four drug groups

	n	*M*	*SD*
Group 1	29	23.07	3.01
Group 2	39	23.26	3.62
Group 3	15	22.27	1.79
Group 4	25	20.92	4.18
Total	108	22.53	3.50

Table 30

Post-hoc Tukey HSD test comparing mean differences of intellectual wellness score among four drug groups

	Group 1	Group 2	Group 3	Group 4
Group 1	-	-.19	.80	2.15
Group 2		-	.99	2.34*
Group 3			-	1.35
Group 4				-

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

ANOVA results showed that there were no significant mean differences in the Psychological Dimension, Emotional Dimension, Social Dimension, Physical Dimension, and Spiritual Dimension. Descriptive statistics of these dimensions are listed in Table 31.

Table 31

Descriptive statistics of Perceived Wellness Dimensions without significant mean differences among four drug groups

Dimension	*Group*	*n*	*M*	*SD*
Psychological	Group 1	29	22.66	2.22
	Group 2	39	21.85	4.15
	Group 3	15	22.60	3.27
	Group 4	25	22.08	4.65
	Total	108	22.22	3.71
Emotional	Group 1	29	22.21	3.33
	Group 2	39	20.92	4.21
	Group 3	15	20.60	3.16
	Group 4	25	20.76	3.91
	Total	108	21.19	3.79
Social	Group 1	29	23.24	2.90
	Group 2	39	22.59	4.35
	Group 3	15	23.60	2.87
	Group 4	25	22.68	4.43
	Total	108	22.93	3.82
Physical	Group 1	29	22.62	3.55
	Group 2	39	22.46	4.13
	Group 3	15	21.27	3.08
	Group 4	25	20.92	4.65
	Total	108	21.98	4.00
Spiritual	Group 1	29	23.86	4.56
	Group 2	39	23.33	4.88
	Group 3	15	22.47	3.80
	Group 4	25	22.92	5.70
	Total	108	23.26	4.83

In addition, there was also a significant mean difference found in the Wellness Composition Score: F (3, 104) = 3.59, p = .02. The effect size, calculated using eta squared, was .09. It shows a medium effect as eta squared between .14 to .06. Post-hoc comparisons

using the Tukey HSD test indicated that the mean score for Group 1: Hallucinogens (M = 14.72, SD = 1.69) was significantly different from Group 2: Stimulants (M = 13.16, SD = 2.29) and Group 4: Multiple drugs (M = 13.17, SD = 2.35). Group 3: Tranquillizers (M = 13.56, SD = 2.04) did not differ significantly from any groups (see Table 32 and 33).

Table 32

Descriptive statistics of Wellness Composition Score among four drug groups

Group	*n*	*M*	*SD*
Group 1	29	14.72	1.69
Group 2	39	13.16	2.29
Group 3	15	13.56	2.04
Group 4	25	13.17	2.35
Total	108	13.64	2.20

Table 33

Post-hoc Tukey HSD test comparing mean differences of Wellness Composition Score among four drug groups

	Group 1	Group 2	Group 3	Group 4
Group 1	-	1.56*	1.16	1.55*
Group 2		-	-.40	-.01
Group 3			-	.39
Group 4				-

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

Chinese Sport Motivation Scale II

Motivation for physical activity among the 4 groups of participants was also analyzed. It was found that there were no significant mean differences in all motivation types in the Chinese Sport Motivation Scale II. The motivation scores among four drug groups are similar. Descriptive statistics of the Chinese sport motivation scale are listed in Table 34.

Table 34

Descriptive statistics Chinese Sport Motivation Scale II among four drug groups

Motivation	*Group*	*n*	*M*	*SD*
Amotivation	Group 1	29	9.82	4.15
	Group 2	39	9.64	3.93
	Group 3	15	8.73	3.47
	Group 4	25	9.64	3.67
	Total	108	9.56	3.84
Extrinsic Motivation-External regulation	Group 1	29	10.31	3.81
	Group 2	39	9.33	4.79
	Group 3	15	8.33	3.04
	Group 4	25	9.92	3.49
	Total	108	9.59	4.03
Extrinsic Motivation - Introjected regulation	Group 1	29	12.62	3.82
	Group 2	39	12.18	3.76
	Group 3	15	11.87	3.46
	Group 4	25	11.76	4.41
	Total	108	12.16	3.86
Extrinsic Motivation – Identified regulation	Group 1	29	14.38	4.66
	Group 2	39	14.74	4.17
	Group 3	15	13.13	4.90
	Group 4	25	13.36	4.58
	Total	108	14.10	4.49
Extrinsic Motivation - Integrated regulation	Group 1	29	13.34	3.75
	Group 2	39	12.67	4.00
	Group 3	15	11.93	3.39
	Group 4	25	12.00	4.33
	Total	108	12.59	3.92

Motivation	*Group*	*n*	*M*	*SD*
Intrinsic Motivation	Group 1	29	14.41	4.65
	Group 2	39	14.67	4.57
	Group 3	15	13.73	4.62
	Group 4	25	13.64	4.32
	Total	108	14.23	4.50

Fitness tests results

For the physical fitness tests, the ANOVA results showed that there were significant mean differences in some of the physical fitness testing items among 4 groups of participants, including the results of 1) waist-to-hip ratio, 2) Forced Vital Capacity (FVC), 3) Forced Expiratory Volume (FEV1), 4) standing long jump test, 5) handgrip test, and 6) sit-up test scores. Descriptive statistics of these fitness tests are listed in Table 35.

Table 35

Descriptive statistics of fitness tests among four drug groups

Test Items	*Group*	*n*	*M*	*SD*
Waist-to-hip ratio	Group 1	27	.83	.06
	Group 2	39	.87	.07
	Group 3	15	.82	.04
	Group 4	25	.86	.07
	Total	106	.85	.07
FVC	Group 1	28	4.01	1.09
	Group 2	39	3.84	1.17
	Group 3	15	2.74	.54
	Group 4	24	3.51	1.69
	Total	106	3.65	1.23

Test Items	*Group*	*n*	*M*	*SD*
FEV1	Group 1	28	3.48	.95
	Group 2	39	3.21	.96
	Group 3	15	2.45	.58
	Group 4	24	3.11	1.08
	Total	106	3.15	.98
Standing Long Jump	Group 1	25	192.80	41.35
	Group 2	35	174.64	45.07
	Group 3	15	122.67	32.54
	Group 4	20	153.43	35.53
	Total	95	166.75	46.21
Handgrip	Group 1	28	77.06	16.10
	Group 2	39	75.03	19.89
	Group 3	15	47.19	14.92
	Group 4	25	62.83	18.80
	Total	107	68.81	20.63
Sit-up	Group 1	28	35.43	11.07
	Group 2	39	31.85	10.32
	Group 3	13	24.31	6.94
	Group 4	24	30.58	9.67
	Total	104	31.58	10.43

For waist-to-hip ratio, F (3, 102) = 3.63 and p = .02. The effect size, calculated using eta squared, was .10. It shows a medium effect as eta squared between .14 to .06. Post-hoc

comparisons using the Tukey HSD test indicated that the mean score for Group 2: Stimulants (M = .87, SD = .07) was significantly different from Group 3: Tranquillizers (M = .82, SD = 04). Group 4: Multiple drugs (M = .86, SD = .07) and Group 1: Hallucinogens (M = .83, SD = .06) did not differ significantly from any of the groups (see Table 36).

Table 36

Post-hoc Tukey HSD test comparing mean differences of waist-to-hip ratio among four groups of drug type

	Group 1	Group 2	Group 3	Group 4
Group 1	-	-.04	.01	-.03
Group 2		-	.05*	.01
Group 3			-	-.04
Group 4				-

*p < .05, **p < .01, ***p < .001

For Forced Vital Capacity (FVC), F (3, 102) = 4.37 and p = .01. The effect size, calculated using eta squared, was .11. It shows a medium effect as eta squared between .14 to .06. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 3: Tranquillizers (M = 2.74, SD = .54) was significantly different from Group 1: Hallucinogens (M = 4.01, SD = 1.09) and Group 2: Stimulants (M = 3.84, SD = 1.17). Group 4: Multiple drugs (M = 3.51, SD = 1.50) did not differ significantly from other groups (see Table 37).

Table 37

Post-hoc Tukey HSD test comparing mean differences of FVC among four drug groups

	Group 1	Group 2	Group 3	Group 4
Group 1	-	.17	1.27**	.50
Group 2		-	1.10*	.34
Group 3			-	-.77
Group 4				-

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

For Forced Expiratory Volume (FEV1), F (3, 102) = 3.54 and p = .01. The effect size, calculated using eta squared, was .10. It shows a medium effect as eta squared between .14 to .06. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 3: Tranquillizers (M = 2.45, SD = .58) was significantly different from Group 1: Hallucinogens (M = 3.48, SD = .95) and Group 2: Stimulants (M = 3.21, SD = .96). Group 4: Multiple drugs (M = 3.11, SD = 1.08) did not differ significantly from other groups (see Table 38).

Table 38

Post-hoc Tukey HSD test comparing mean differences of FEV1 among four drug groups

	Group 1	Group 2	Group 3	Group 4
Group 1	-	.27	1.03**	.37
Group 2		-	.77*	.10
Group 3			-	-.66
Group 4				-

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

For standing long jump test, F (3, 91) = 10.56 and $p < .001$. The effect size, calculated using eta squared, was .26. It shows a large effect as eta squared > .14. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 1: Hallucinogens (M = 192.80, SD = 41.35) was significantly different from Group 3: Tranquillizers (M = 122.67, SD = 32.54) and Group 4: Multiple drugs (M = 153.43, SD = 35.53). In addition, Group 2: Stimulants (M = 174.64, SD = 45.07) differ significantly from Group 3: Tranquillizers (see Table 39).

Table 39

Post-hoc Tukey HSD test comparing mean differences of standing long jump test among four drug groups

	Group 1	Group 2	Group 3	Group 4
Group 1	-	18.16	70.13***	39.38*
Group 2		-	51.98***	21.22
Group 3			-	-30.76
Group 4				-

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

For hand grip test, F (3, 103) = 11.51 and $p < .001$. The effect size, calculated using eta squared, was .25. It shows a large effect as eta squared > .14. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 3: Tranquillizers (M = 47.19, SD = 14.92) was significantly different from Group 1: Hallucinogens (M = 77.06, SD = 16.10), Group 2: Stimulants (M = 75.03, SD = 19.98) and Group 4: Multiple drugs (M = 62.83, SD = 18.80). Group 4 also differ significantly from all other groups (see Table 40).

Table 40

Post-hoc Tukey HSD test comparing mean differences of hand grip test among four drug groups

	Group 1	Group 2	Group 3	Group 4
Group 1	-	2.03	29.87***	14.23*
Group 2		-	27.84***	12.20*
Group 3			-	-15.65*
Group 4				-

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

For sit-up test, F (3, 100) = 3.73 and p = .01. The effect size, calculated using eta squared, was .10. It shows a medium effect as eta squared between .14 to .06.. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 3: Tranquillizers (M = 24.31, SD = 6.94) was significantly different from Group 1: Hallucinogens (M = 35.43, SD = 11.07) and Group 2: Stimulants (M = 31.85, SD = 10.32). Group 4: Multiple drugs (M = 30.58, SD = 9.67) did not differ significantly from other groups (see Table 41).

Table 41

Post-hoc Tukey HSD test comparing mean differences of sit-up test among four drug groups

	Group 1	Group 2	Group 3	Group 4
Group 1	-	3.58	11.12*	4.85
Group 2		-	7.54*	1.26
Group 3			-	-6.28
Group 4				-

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

The rest of the fitness tests do not have significant mean differences. Their mean scores among four groups are similar. Descriptive statistics of these fitness test items are listed in Table 42.

Table 42

Descriptive statistics of fitness test items with similar mean scores among drug types

Fitness Test Item	*Group*	*n*	*M*	*SD*
BMI	Group 1	28	22.95	4.74
	Group 2	39	23.71	4.02
	Group 3	15	22.23	3.56
	Group 4	25	24.06	4.44
	Total	107	23.39	4.25
FEV1/FVC Ratio	Group 1	28	.88	.11
	Group 2	39	.85	.12
	Group 3	15	.90	.13
	Group 4	24	.92	.09
	Total	106	.88	.11
Step test	Group 1	28	108.57	16.39
	Group 2	38	107.42	20.57
	Group 3	14	106.07	14.04
	Group 4	24	115.21	14.50
	Total	104	109.35	17.47
Sit-and-reach	Group 1	28	28.85	9.18
	Group 2	39	30.92	8.61
	Group 3	15	34.07	7.59
	Group 4	25	28.13	9.94
	Total	107	30.17	9.05
Stork Stand Balance Test	Group 1	28	101.79	32.10
	Group 2	39	110.95	21.22
	Group 3	15	102.80	31.63
	Group 4	25	100.29	33.16
	Total	107	104.92	28.75

Additional survey for deeper understanding the reasons of continuation and discontinuation of sport training

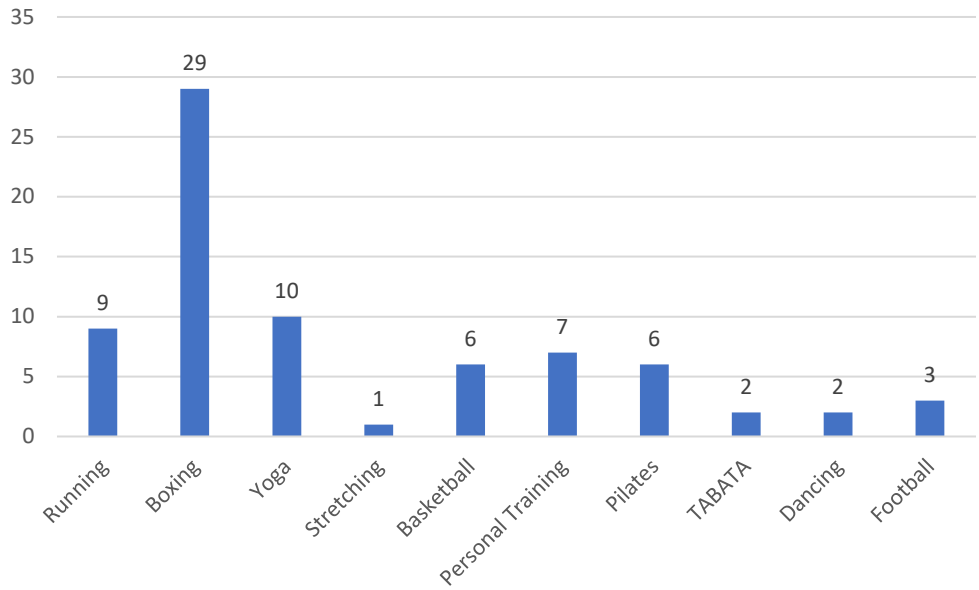
To understand the reasons why some of the participants dropped out of the sports training programs while others continued to participate in sports, the research team conducted a survey in March 2022 for further investigation (see Appendix 6A and 6B).

Reasons for dropping out of sport training programme

The research team received 71 responses out of 91 participants who dropped out of the programme regarding their reasons to drop out from the programme, with 44 males (62%) and 27 females (38%). Some participants took part in more than one type of sport training, and the top three sports courses were boxing ($f = 29$), yoga ($f = 10$), and running ($f = 9$) (see Figure 16).

Figure 16

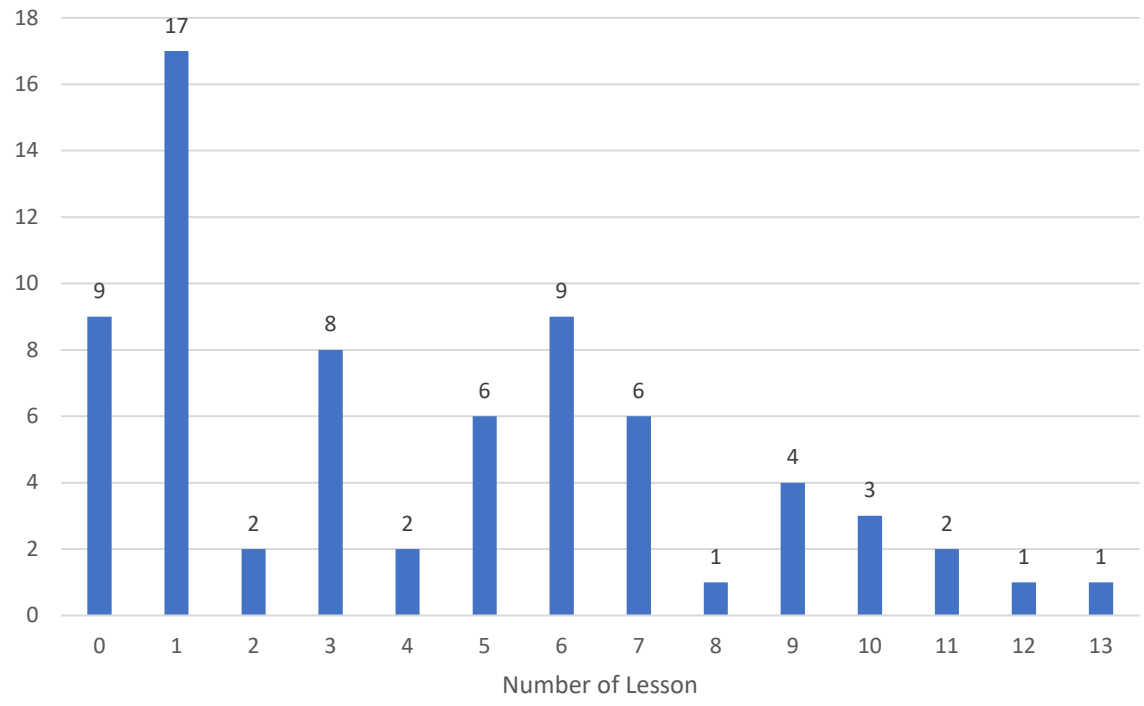
Types of sport training courses attended by participants who did not complete the post-test session (n = 71)



For the number of lessons taken by the participants, most participants completed only one lesson (n = 17) before dropping out, followed by 0 lesson and 6 lessons (n = 9). Some participants had attended 10 lessons or more, but they failed to participate in the post-test session. Some even continue to attend lessons without completing the post-test as the sport training lessons were ongoing and held regularly after completing the research-related sport training programme (see Figure 17).

Figure 17

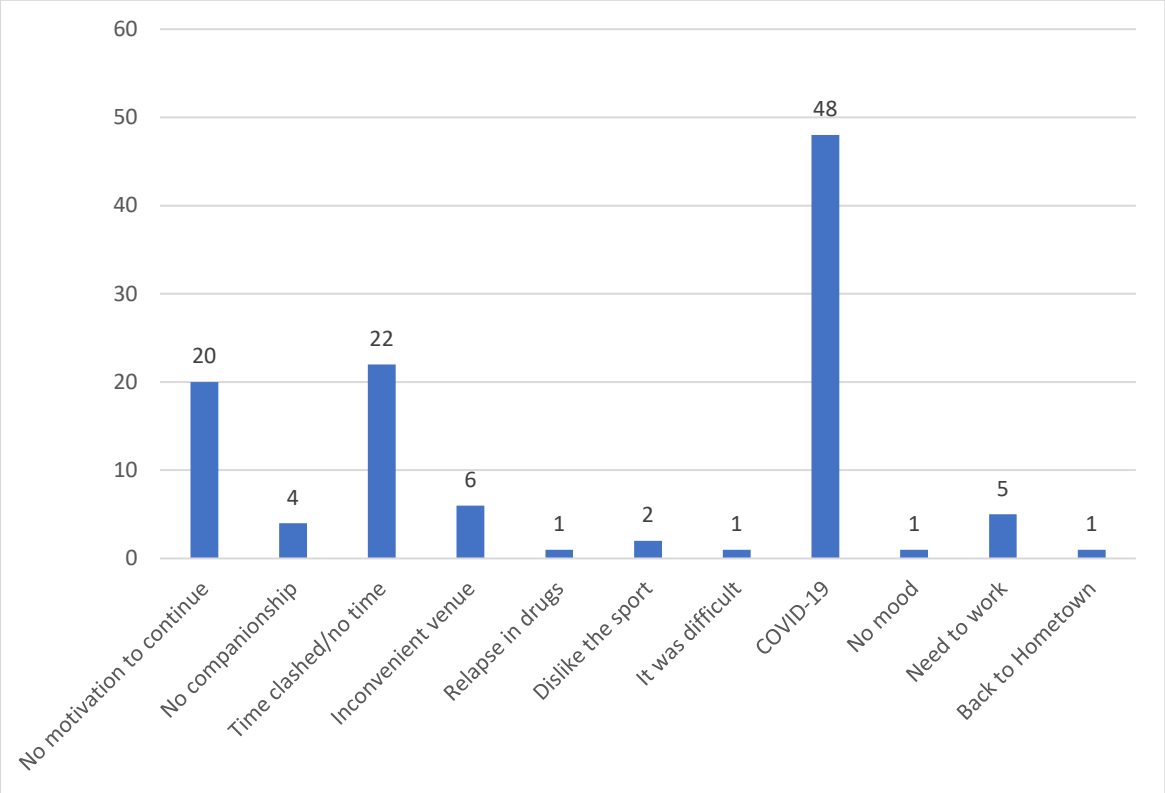
Number of sport training lessons attended by participants who did not complete the post-test session (n = 71)



Most participants stated the outbreak of COVID-19 as the main reason for dropping out of the sport training programme (f = 48). Other reasons for the participants to quit the sport training are time clash (f = 22), lack of motivation to continue (f = 20), inconvenient training venue (f = 6), need to work (f = 5), and lack of companionship (f = 4) (see Figure 18).

Figure 18

Reasons for dropping out of sport training by participants who did not complete the post-test (n = 71)

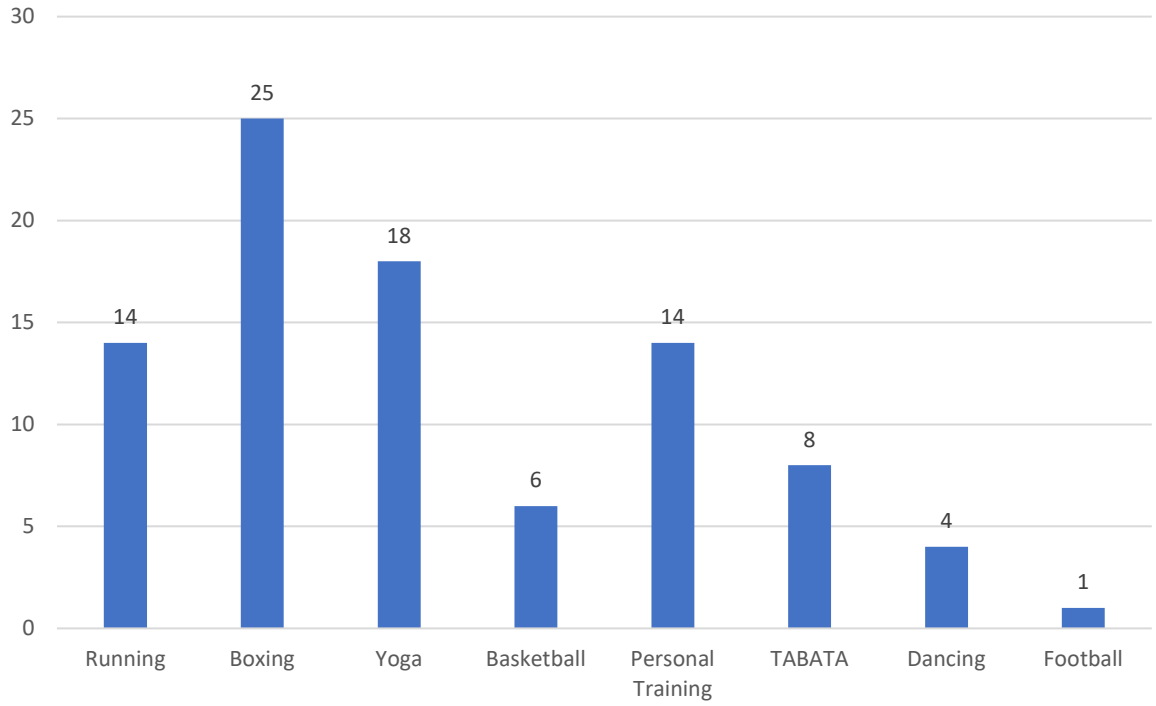


Participants who completed the post tests

In order to understand the exercising habits of the participants who completed the sport training programme, we designed another section for the survey (see Appendix 6B). Of the 78 participants who completed the project, 64 of them responded to the survey, with 34 males (53%) and 30 females (47%). While some participants had participated in more than one type of sport training, the most popular sport activities are boxing (f = 25), followed by yoga (f = 18), running (f =14) and personal training (f = 14) (see Figure 19).

Figure 19

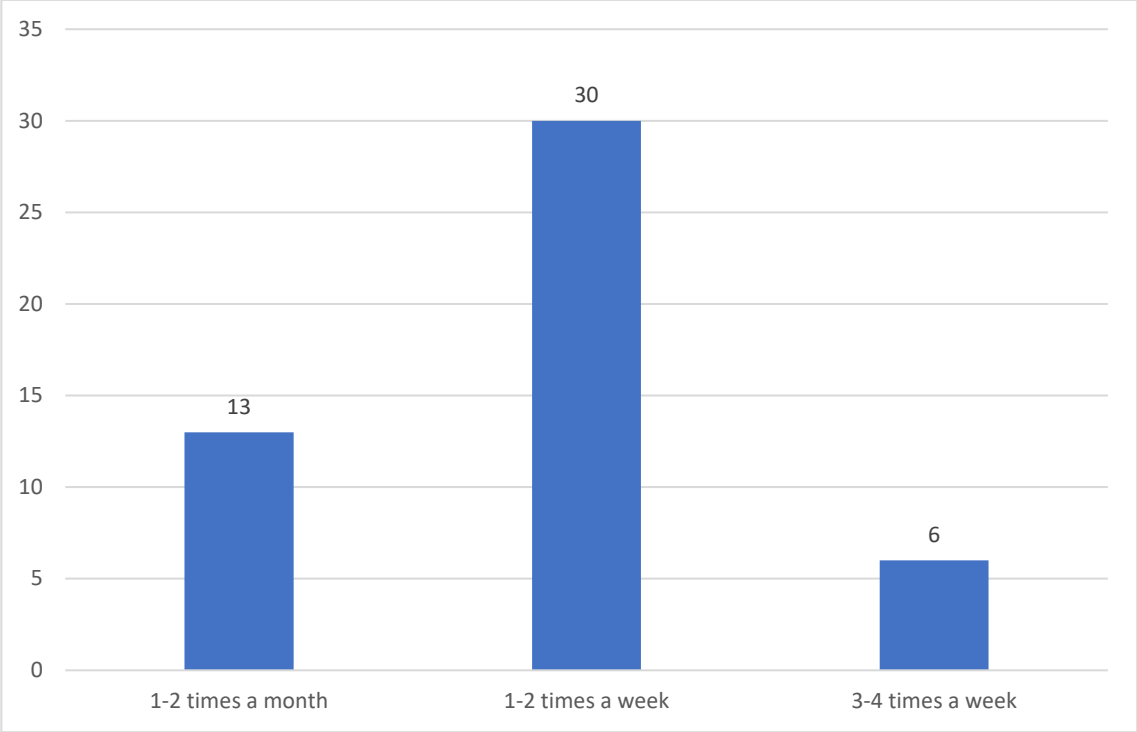
Types of sport training attended by participants who completed the post-test session (n = 64)



There were 49 participants (77%) continued the habit of doing exercise till the end of 2021, before the outbreak of the 5th wave of COVID-19 in Hong Kong. Among the aforementioned 49 participants, most of them had maintained a frequency of one to two times a week of exercise (n = 30), while some worked out once to twice a month (n = 13), and three to four times a week (n = 6) (see Figure 20).

Figure 20

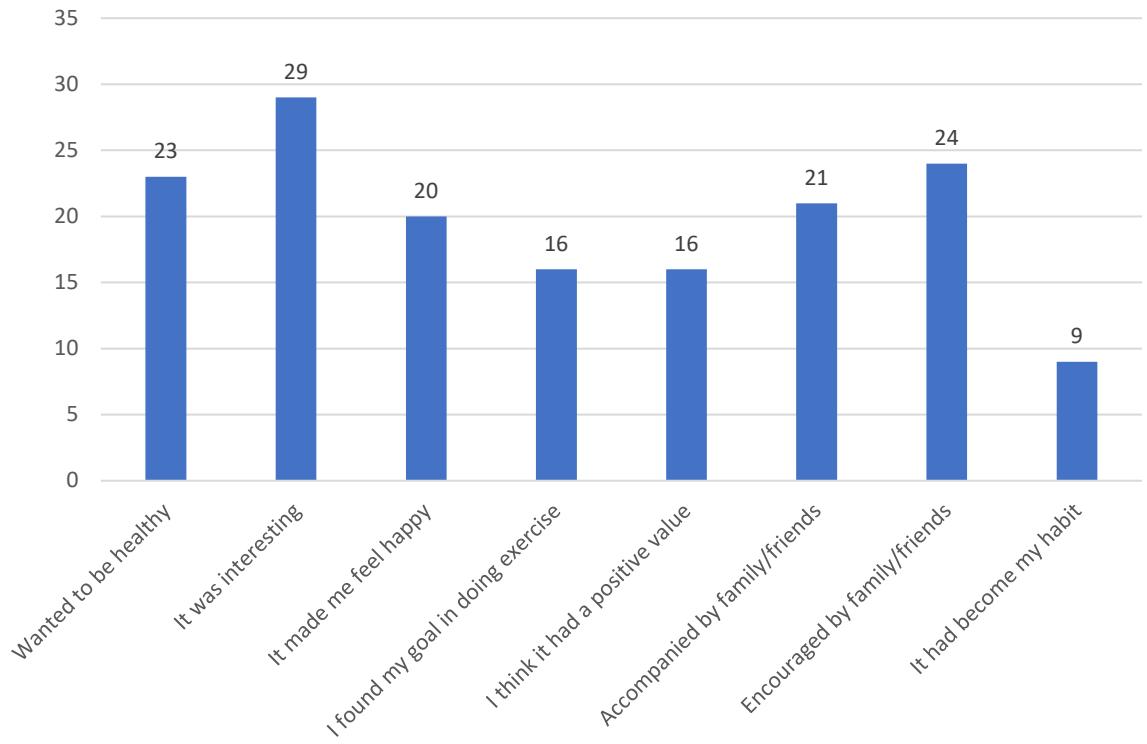
Frequency of doing exercise of participants who completed post-test before the 5th wave of COVID-19 (n = 49)



Participants stated that their sport participation motivates were: it was interesting (*f* = 29), encouraged by family members or friend (*f* = 24), wanted to be healthy (*f* = 23), accompanied by family or friends (*f* = 21), exercising made them happy (*f* = 20), exercise helped them found their goal (*f* = 16), and exercise had a positive value (*f* = 16). In addition, some of the participants stated that they kept doing exercise because it had already become their habit (*f* = 9) (see Figure 21).

Figure 21

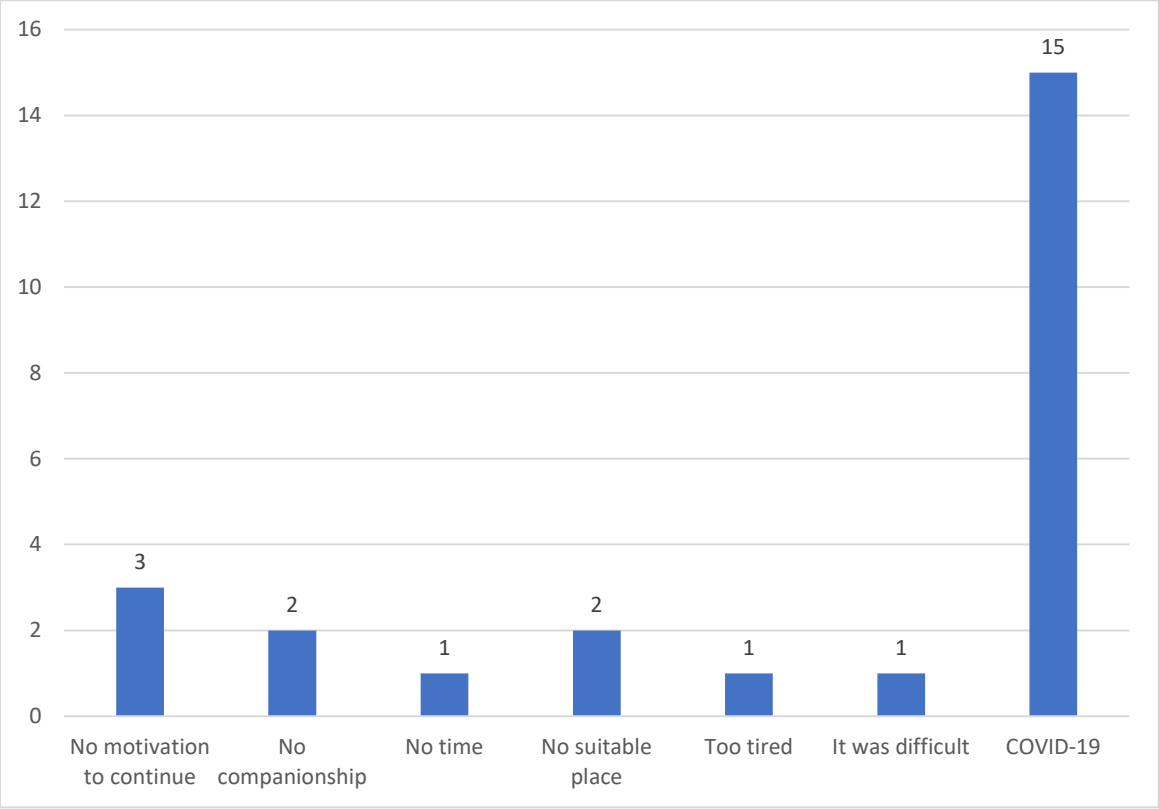
Reasons for continuing the habit of doing exercise by participants who completed post-test (n = 49)



And for those who did not keep up with the habit of doing exercise, all of them regarded the outbreak of COVID-19 as one of the reasons for quitting exercise ($f = 15$). Apart from this, most participants found themselves lacking the motivation to continue ($f = 3$), no companionship ($f = 2$) and no suitable place for them to exercise ($f = 2$) (see Figure 22).

Figure 22

Reasons for giving up the habit of exercise by participants who completed post-test (n = 15)

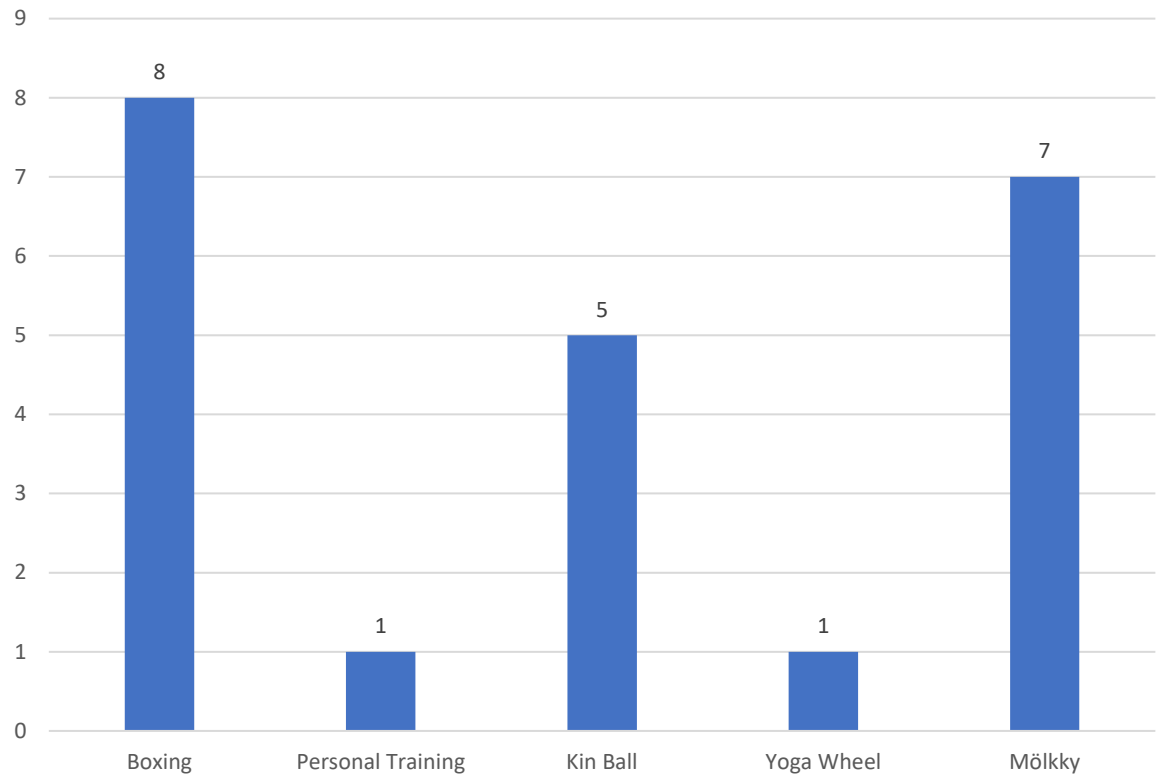


Career in Sport

One of the objectives of this project is to encourage participants to develop a career in sport. Therefore, we asked the participants whether they successfully achieved a sport coaching certificate or not after the training. Result showed that 22 participants (45%) did get a sport coaching certificate, while 27 participants (55%) did not. Among the 22 participants who gained a sport coaching certificate, the sport types are as follows: 8 participants in boxing, 7 participants in Mölkky, 5 participants in Kin Ball, 1 participant in personal training and 1 participant in Yoga Wheel. All 22 participants conveyed an expectation to develop their careers to become sport coach in future. (see Figure 23).

Figure 23

Types of sport coaching certificates gained by participants who completed post-test (n = 22)



Among the 27 participants who did not get a sport coaching certificate, 5 (19%) said they were planning to get one in the future, while 22 (81%) did not plan to do so.

Qualitative results

An in-depth analysis of how the participants and staff members of the project perceived the effectiveness of the exercise training programme was examined through a series of one-on-one interview held from October 2020 to September 2021. A total of three groups of interviewees, namely, drug abusers (n = 7), social workers (n = 4) and sport training coaches (n = 2), were invited to participate in the interviews, mostly via Zoom in the midst of the prolonged threat of COVID-19 throughout the year. Of the total 13 interviews, only 3 were conducted via face-to-face method.

Background of the interviewees

Tom, Amy, Jo, Grace, Mark, Alan and Thomas served as the primary participants of this in-depth interview and pseudonyms are used in this analysis. All of them had participated and completed different exercise programmes organised by TWGHs at different centres and locations in different periods. Exercise programmes included yoga, Pilates, boxing, soccer, running, floor curling and dance. The participants were free to choose which exercise progamme(s) they were interested to partake. Each programme consisted of 10 weekly sessions, duration of each session was around 1 hour (Interview questions: see Appendix 5, Part 1A).

On the other hand, Roger, Kin, Gigi and Ellen were the social workers who provided coordination and administrative support in this project. Roger and Ellen were from TWGHs. Gigi worked in a rehabilitation hostel and Kin was from Counselling Centre for Psychotropic Substance Abusers. Ian and Connie were sport training coach and dance instructor respectively in this project. All of them participated in Zoom interview to share insights on this study, except Gigi, Ian and Thomas, who participated in the interview face-to-face with the interviewer (See Appendix 5, Part 2 for interview questions).

The social workers played a very important role as staff members and observers, taking care of the administrative and coordination works while serving as the observers to witness the growth and transformation gradually taking place in the participants. Therefore, their observations and insights are of high value to this study. For the background of the interviewees, please see Table 43 below.

Table 43

Background of the interviewees (N = 13)

Name	Gender	Category
Amy	Female	Drug Abuser
Jo	Female	Drug Abuser
Grace	Female	Drug Abuser
Mark	Male	Drug Abuser
Tom	Male	Drug Abuser
Alan	Male	Drug Abuser
Thomas*	Male	Drug Abuser
Ian*	Male	Coach
Connie	Female	Coach
Roger	Male	Social Worker
Kin	Male	Social Worker
Ellen	Female	Social Worker
Gigi*	Female	Social Worker

**Interview conducted via face-to-face method*

The selected participants and their selected sports

Tom, Amy, Jo, Mark, and Alan were all community participants. Tom joined the running, boxing and soccer programmes, and subsequently became a certified coach in boxing after the completion of the programmes. Amy joined the running and yoga groups, and was planning to take an examination to become a fitness coach. Jo participated in personal fitness programme. Grace and Thomas were the only two participants from a rehabilitation hostel. Grace learnt floor curling and Pilates in this programme, while Thomas participated in basketball, stretching and fitness trainings. Mark was another community

participant who joined the dancing programme, and Alan became a boxing coach after the completion of the sport training. In the interviews, all of them provided personal feedback regarding various aspects of the project.

What were the drug-abusers looking for in the training?

In the beginning, the participants (except Grace whose participation was compulsory) joined the exercise programmes with various expectations, and most of them were health-driven: "I wanted to do some exercise and understand myself through sports" (Tom), "to turn exercise into a habit" (Jo), "to improve physical fitness" (Amy, Jo, Thomas), "to have fun" (Tom, Amy), and "to understand my body condition" (Thomas). In regard to physical fitness, they looked forward to improving vitality (Tom, Grace), cardio-respiratory endurance (Amy, Jo and Grace), muscle strength (Jo, Grace, Alan), flexibility and general health and fitness enhancement (Jo, Grace, Thomas). They also wanted to improve their body shapes (Grace) and reduce stress (Tom, Grace).

Other participants held expectations more than just health improvement – "I wanted to do some exercise and through it to understand myself," Tom said, who had successfully recovered from drug addiction. During the rehabilitation period, he, like some other participants, developed an interest to learn new skills which would be valuable in social life or interaction – communication skill (Tom, Alan), social skill and interpersonal skill (Tom, Jo). In fact, communication skill is essential when it comes to knowledge sharing, especially for Tom, who was enthusiastic to become a coach after the boxing training. He said,

> 「因為會同佢（別人）溝通㗎嘛，咁識得表達咗就自己嘅諗法或者想講嘅嘢嘅時候就自然對社交方面會有得着㗎喇……啫係喺同唔同人溝通嘅時候……可以令到自己更加識得去表達自己嘅嘢囉。」（Tom）

(English translation: as I need to communicate with people, I will naturally get rewarded socially when I improve in expressing myself or sharing my thoughts through interacting with various people.)

This enthusiasm is also shared by Amy, who, nevertheless, felt rather difficult due to her poor health condition:

「希望可以學到一種技能啦，啫係將佢可以學以致用囉，啫係譬如有機會係都會想深入啲去練習嗰個技能，跟住而去……啫係可能希望有啲機會可以教吓人囉。」（Amy）

(I hope I can learn a skill, and apply what I have learned. If there would be any opportunity, I would like to practice and polish the skills, and may wish to teach people someday.)

Survivors in the making: overcoming internal and external challenges

1. Internal challenges

「因為我覺得做運動或者做……做運動囉都係會有啲挑戰囉……舒服嘅話就唔叫做運動㗎啦，係唔係？」（Thomas）

(I think doing exercise would be challenging… if it is comfortable, it would not be called exercising, right?)

The road to recovery for drug abusers is always rugged with challenges. Physical and psychological struggles came hand-in-hand, adding to the external challenges as a result of the outbreak of COVID-19. In fact, the learning process had been hard in the beginning, especially for participants whose physical capacity was relatively undesirable as a result of drug addiction. Like Thomas, many participants in this project were still recovering from the negative impact of addiction, their health condition was relatively poor (Tom, Amy, Thomas). As Tom said,

「開頭啱啱做運動嘅時候，可能自己個身體肌肉呀各方面嘅……肌肉呀，譬如氣呀各方面唔係咁好啦，咁就會唔係好……有諗過放棄呀，唔係好想郁、再去呀咁樣囉。」（Tom）

(When I first started the training, my body, including the muscles and my cardiovascular functions, was weak… I thought of giving up and quitting the training.)

Physical limitation impacts the degree of participation and commitment of the participants. It takes time and patience to adapt to the demand of engaging in physical activities, in order to make progress gradually. In fact, Amy even had to suspend the training due to health issue. She said,

「醫生同我講話有機會係因為我劇烈運動，啫係可能跑步呀咁樣，劇烈得滯，咁樣令到嗰個腎結石……係囉有呢個腎結石囉，啫係佢話扽咗出嚟咁樣囉。跟住我嗰排都會……都減少咗跑步囉變咗。」（Amy）

(The doctor explained that the misplacement of my kidney stones might probably be the result of my participation in rigorous exercise. It was too intense and so I had not done too much running at that time.)

Psychologically, it was not easy either. Grace, unskilled in sports, reported that she had suffered from bouts of negative emotions and had almost given up until she was encouraged by fellow participants. Alan, being a non-native Cantonese speaker, was frustrated in expressing himself and said effective communication had been an issue. Tom worried about his ability to catch up with the lessons due to poor health. Some participants also suffered from negative self-image, self-doubt and low motivation for physical activity. The negative emotions eventually hardened the training even more. Roger explained,

「去喺一個公眾嘅地方去表現自己，咁佢哋其實就會覺得唔習慣嘅，同埋佢會害羞喎，咁亦都擔心佢如果有埋呢個被害妄想嗰啲狀況呢，會更加覺得係唔係人哋歧視佢呀，人哋啲目光注視佢呀，咁令到佢其實做呢啲運動嘅動機其實唔係唔算好。」（Roger）

(They did not feel comfortable in the public and would be shy. I worried that if some of them were paranoid, they would believe that they were being discriminated and scrutinized. It would not be a positive motivator for them to do exercise.)

2. External challenges

The outbreak of COVID-19 had turned the world upside down. While its aftermath is still unpredictable, it has already caused a lot of new challenges to everyone in the project. As the project was being held in the midst of the pandemic, both administrative and research teams were frustrated by the additional difficulties in coordination and management, including programme re-scheduling (Roger, Ellen, Kin and Gigi). The pandemic was an external factor beyond the control of everyone, and even if the participants were motivated, they felt a little helpless.

Some participants expressed how difficult it was to engage in the training as the result of COVID-19 (Jo, Mark, Ian, Connie, Roger and Kin), in particular, using online method (Zoom) added new challenges during the learning process:

「最大問題我諗係疫情囉，因為本身係面授㗎嘛，但係因為疫情我哋透過 Zoom 去上咁，但奈何中心嘅規格都有啲問題。（溝通上會有啲阻礙）係呀。同埋訓練嘅內容都唔同咗囉，因為可能你透過 Zoom 咁可能有啲訓練嘅本身可能你已經 SET 好咗有啲嘅訓練嘅流程，咁但係可能因為 Zoom 進行唔到，咁就要轉另一啲訓練嘅 Programme 囉。」（Jo）

(The biggest difficulty is the COVID-19. Originally the training was to be conducted face-to-face. Due to the pandemic, we changed to Zoom lessons, and there was some issue concerning the equipment in the training centre also. (Was it difficult to communicate?) Yes. And the contents of the training were changed, some planned rundown of the training could not be executed via Zoom and thus we had to change the programme.)

And it also impacted the operation of the training programme when it comes to venue management:

「咁疫情嘅時候其實運動場都封咗啦，咁所以呢啲……喺呢啲地方……啫係嗰個場地上面唔可以……啫係我哋冇辦法可以去行到呢一樣嘢囉。」（Kin）

(All sport arena were closed during the pandemic, and therefore we failed to execute our tasks.)

Roger gave a more in-depth explanation in regard to the impacts of the pandemic on the participants, especially physiologically and psychologically:

「疫情就令到佢啫係出唔到去做運動啦，出唔到去跑步啦，咁喺屋企又冇心機做啦，咁到最後就個狀態又差咗啦，咁跟住就算可能佢之後返返嚟跑呀，可能已經隔咗大半年嘅時間再開返組喇，咁嗰個狀態都返唔到去嗰個時候咁樣啦，咁就變相其實就可能重新做過十次運動再做後測囉。」（Roger）

(The pandemic stopped them from going outside to exercise or jog, and they were not motivated enough to do it at home. Eventually their state of mind was weakened. Even if they return to training later, their condition would be far behind what they were used to be, since it had been over half a year before resuming the training. In other words, they have to start the training and physical fitness tests all over again.)

As the pandemic brought forth a lot of "new practice" and "new normal", in future, more preparation in crisis management is definitely a must for the design of a project in order to facilitate the implementation of activity in times of adversity or uncertainty.

The road for transformation

「對於我嚟講，我就覺得好大，因為好大幫助，因為你本身吸毒嘅人呢，吸毒嘅人啲身體係好差嘅……但係做咗運動之後你個人又唔同咗㗎喇，你個人會精神好多，同正常人冇乜分別囉。啫係可能要……仲有啲時間需要調理囉，因為都食咗咁多年毒品，你一兩個月係冇可能會恢復到咁多嘅。但係你長時間去 keep 住去做運動，同埋去鍛鍊呢就一定會改善好多嘅我覺得。同埋自信心呀各方面都會返嚟，呢啲咁樣。啫係我自己睇法囉。」（Thomas）

(To me, it is very helpful, because the health condition of a drug addict is very poor… However, after starting to exercise, you will become different, feeling much more vital like regular people… it may take some while to make improvement because you have been taking drugs for so many years, it would not be possible to recover very quickly. However, I think if you keep on doing exercise, you will definitely get improvement. In addition, everything would also be improved. And you will have your self-confidence back. This is what I think.)

Likewise, most of the selected participants during the interviews expressed how effective physical activity had helped to transform their life, whether it was physical, mental, psychological, or overall wellness. If drug abuse itself is a destructive behaviour that breaks oneself into pieces, sport or physical activity, on the contrary, is one of the remedies that can help the victims put all the broken pieces together, even though it would take quite a lot of discipline and persistence. On the road of recovery and rehabilitation, starting from purely for fun or for doing some physical activity, the exercise training turned out to be a catalyst for

the participants to take back the control in many aspects of their lives — physical, mental and self-development — a transformation in and of oneself.

1. A boost of physical health through positive self-understanding

「我依家我……如果喺呢度呢，我每一日瞓三四個鐘呢，都……個人都幾精神。但係如果喺屋企呢，嗰陣時食緊毒呢， 瞓三四個鐘係完全唔得㗎個人，係好攰㗎個人。」（Thomas）

(Now I have been here, sleeping three to four hours a day, and feel quite vital. But when I was at home taking drugs, sleeping for only three to four hours a day would be completely impossible, I would feel very tired.)

Well-known for its positive impact on maintaining or improving health as a whole, the exercise programmes provided a good opportunity for the participants to open a new door in their lives - to learn a new skill and knowledge on physical activity and understand their health condition (Ian). As Roger said, it was an “eye-opening” experience for the participants to finally understand something better than drug or substance that could make oneself truly happy, something so much more healthy and positive than the act of addiction.

Indeed, the training programmes were all well received, as the participants told of getting many improvements in their physiology and wellness, including better sleep quality (Amy, Mark, and Thomas), feeling happier (Mark, Thomas), better stress management (Amy, Jo and Grace), better muscles strength (Amy, Jo and Alan), and better respiratory capacity, which was originally ruined by drug addiction (Tom, Jo, Mark, Alan and Thomas). Regular physical activity is effective for improving digestive function and, non-pharmacologically, sleep quality (Substance Abuse and Mental Health Services Administration, SAMHAS, 2014), which is essential for recovery and vitality. Thomas even exclaimed in the interview how much improvement he received within short period of time after the training:

「睡覺都瞓好咗嘅……（以前）食嘢食少少就飽㗎喇，就完全食唔到嘢，依家就……依家戒咗呢，就戒咗成個半月冇食呢，啫係日日都食三四餐㗎，好開胃㗎個人。係喇，咁所以肥咗成……成……差唔多十幾磅㗎。個半月咋，肥咗十幾磅。」（Thomas）

(I can sleep better now… It was easy to feel full after eating just a little bit of food and I was unable to eat anymore. After the rehabilitation and got sober for half of a month, now I can eat three to four meals a day and appetite has been very good. Now I have gained some weight, over 10 pounds within one and a half months.)

In fact, all can be traced back to “self-understanding”, especially after the physical fitness tests were taken. The participants were awakened to the vulnerability of their health condition and understood how addiction to substance had damaged their health. As Ellen explained:

「咁但係啫係透過呢啲嘅測試呀，呢啲嘅運動之後呢其實某程度上都令到佢哋了解清楚其實毒品對我嘅身體有啲咩嘢影響而運動對於我嘅身體又可以有啲咩嘢影響，咁就令到佢哋唔會再……啫係咁容易可以去……咁容易就食返咁樣囉。」（Ellen）

(The physical fitness tests, to a certain degree, helped them understand how drugs impacted their health, and how exercises impacted their health, therefore they would not relapse so easily.)

In other words, the exercise training itself had become a bridge for rebuilding and reinventing, slowly assisting the participants to regain the control over their bodies and health. Most importantly, they learnt how important it is to stay away from destructive behaviours, including smoking and drinking:

「少咗欲望去做其他嘢囉，做啲唔好嘅嘢，去飲酒呀，去周圍玩呀咁囉……因為有啲更加好嘅，譬如佢哋啲活動真係更加好喎，咁呀所以令到我更加想去做呢啲活動多於其他嘅外出嘅嘢囉，社會上面嘅嘢囉。」（Mark）

(Now I have less impulse to do negative things, like drinking or goofing around… because there is something better than that. For example, the activities (Tung Wah's) are better, and so I want to join them rather than doing other things.)

More positive thoughts were also significantly highlighted by the participants:

「睇法積極咗啦，無好似以前咁咁易放棄啦……日常生活中囉……所有事啦。」（Tom）

(I became more positive and would not give up so easily like I did.)

「諗嘢會 positive 啲。因為當嗰個人唔明嗰陣時我會……我會用……啫係總之會……我同佢溝通會……盡量好啲同佢溝通囉。」（Alan）

(My mind is more positive now. If someone cannot understand what I mean, I would try my best to communicate with him/her properly.)

2. Motivation and higher achievement

"It is not easy for me to succumb to the temptation of taking drugs now." (Thomas)

As the improvement started to take place, so was the incentive to go further. Some of the participants, who initially did not expect much from joining the training, started to notice the difference and changes taking place in their body and mind. As it turned out, they were more motivated to fully embrace the activities with a sense of commitment. As Roger said,

「個適應嘅能力呀，或者見到自己有進步呀，咁個 case 都會想嚟多啲囉。」（Roger）

(The client will be more committed if they are able to adapt or they can see themselves making progress.)

「首先因為吸毒會令到人嘅身體會慢咗呀，或者唔健康呀，咁你做運動係一樣最快令到人睇到自己嗰個質素改變咗嘅。」（Tom）

(First of all, drug addiction slows down the functionality of the body, or worsen one's health. Physical activity helps us see how health has improved quickly.)

Thomas gave more reflective review on his rapid improvement on general health and vitality, which motivated him to let physical activity become part of his daily routine:

「已經見到自己個身體呢處於一個好嘅狀況，咁同埋舒服嘅。你覺得舒服，病啦，感冒都少咗呀。以前都會冇做運動嘅時候，可能一兩個月呀，或者落一落雨呀，傷風感冒都會有……有時候會咁樣嘅。但係做咗運動之後呢，你發覺明顯冇咁易病呀嗰啲呀，真係㗎……願意去做運動嘅，因為嚮往嗰種生活……因為冇人，冇人會……嚮往咁攰嘅生活嘅。」（Thomas）

(I can see my health is now in a good condition, and it feels good. You feel good and illness like cold happens less and less often. In the past, without the training of physical activity, I used to get sick every other months or after a rainy day. Having started to do exercise, I found that it is less easy to get sick… I am willing to do exercise now, because I long for that lifestyle. I don't think anyone would long for a life with so much tiresome.)

Some of them even slowly went into a journey of self-discovery, seeing a bigger picture of their abilities and potentials, especially better self-control, persistence and willpower. And they even set higher goals (Jo, Amy, Mark) for achievement as self-understanding grew:

「咁跟住又有搵到啲目標，呀我原來……同埋突破吓，我未跳過呢種舞，咁突破吓自己，咁一來突破吓，二來搵到個目標原來好……所以就覺得都好好喇咁囉，有個運……有個呢啲活動。咁跟住又有搵到啲目標……」（Mark）

(And I found some goals for myself, and to breakthrough. I never tried this type of dance before, so I can make a breakthrough, and also find a goal. It is good to have this kind of activity, and find some goals…)

「想會定立返個目標畀自己囉，啫係可能之前可能係跑十公里咁樣，咁依家都會想……啫係有個目標係想跑得更長，啫係可能跑半馬咁樣。」（Amy）

(I want to set a goal for myself. It is like running 10-km marathon, now I would feel like having a goal to run longer, such as running a half-marathon.)

「做運動要做到出汗啦，跟住自己要有個目標，減到肥呀，或者減到脂肪呀，自己體力好咗呀，跟住嗰種……嗰種開心都好開心嘅，啫係見到自己有啲進步嘅。」（Thomas）

(To do exercise is to sweat, then to set a goal, such as to lose weight or to reduce body fat, or to become physically stronger. That sort of joy will make you happy because you can see yourself making progress.)

It was like a snowball effect taking place. As the self-image improved, the participants were moved by a sense of satisfaction and self-assurance (Connie), which were enough to motivate them to go further, creating an incentive for improving self-esteem and sense of responsibility for the wellness of one's own:

「例如佢有參加我哋跑步組啦，咁佢哋完成咗佢哋一啲嘅目標，例如佢哋嗰個配速上面，喺個配速上面可以達到佢自己原本嘅目標，又或者佢哋一齊參加個比賽，完成咗個比賽嘅時候，其實多咗好多對自己嘅肯定嘅。咁喺呢個位上面其實喺佢平時嘅生活呀或者工作上面呀，其實睇到佢對自己嘅肯定同埋自信都多咗嘅。」（Kin）

(For example, they join the running progamme and meet the target in, for example, speed improvement, or to complete a competition; they would find a better sense of

self-affirmation. If we apply it in daily activities or at work, we can actually see how their self-confidence has increased.)

「比以前有耐性，我以前冇乜耐性嘅……啫係依家透過呢啲活動呀，做吓運動呀呢啲嘢，自己個心會……啫係得到有種磨鍊咁囉好似……當運動好似人生……一種磨鍊緊自己咁，一種磨鍊咁囉。」（Thomas）

(I am more patient than before… now I regard doing exercise like a training in life, it is like life itself, a sort of training of yourself.)

3. Better social and interpersonal skills

Not only does physical activity demand participants' persistence and willpower, it also requires team-spirit. In this project, the participants commonly shared how the trainings helped them improve (1) communication skills (Tom, Grace, Mark), (2) interpersonal skills (Amy, Jo, Grace, Mark, Alan and Thomas), (3) self-confidence (Amy and Thomas), and, (4) better social lives (Tom, Amy and Mark). When all these positive traits are put together, it becomes obvious that the participants have already walked into a process called "empowerment".

All of these were clearly observed and recognized by the staff and the coaches. As sport nurtures team spirit and sportsmanship, the most distinctive improvement observed was a leap of participants' interpersonal skills. As Roger explained:

「咁另外嘅好處就係佢哋可以喺個組入面呢識到啲……唔同嘅朋友呀……但係依家呢佢就可能會識到一啲……啫係多啲嘅朋友呀，去一齊……啫係正面啲一齊去做運動呀，或者我哋試過有啲 case 呢真係會帶佢哋自己嘅工作上嘅朋友呢嚟到一齊跑步都有嘅，咁成個嘅……反應呀其實都幾正面嘅。」（Roger）

(Another advantage is that they can make new friends in the exercise groups, and afterwards they can do exercise together. We also had seen some participants invited their friends to attend the running classes. It was quite positively received.)

Grace and Mark also told of how their relationship with fellow participants and friends had improved:

「大家一齊合作呀，合作關係好啲呀，同埋大家溝通都會好啲囉。透過運動跟住大家團結咗囉……咁經過玩地壺嘅時候，咁我哋就會有溝通，跟住大家就可能會個友情就可能會升咗呢 (level) 囉，啫係比起之前會好啲囉。」（Grace）

(We worked together and built up a relationship. Communication was better. Through exercising, we became closer. When we played floor curling, we needed to communicate, and therefore our friendship became better and stronger.)

「同埋係認識咗朋友啦，社會有……之前就比較收埋自己啦，又自閉啲啦，自己又鍾意留喺屋企啦，咁跟住呢度啲朋友呀，同埋社工呀，又好好喎，咁所以呢我就好有興趣去參加呢度嘅運動啦、活動啦咁囉。」（Mark）

(I made new friends… In the past I rather kept to myself, and reclusive, preferred to stay at home. The friends and social workers I met here were very nice, therefore I am interested to join the exercise training in here.)

4. Power and stronger support of group activity

In fact, the risk of relapse would be high when drug abusers are alone, especially that they could not receive immediate assistance or support to refrain from doing something harmful to themselves. Mutual or group support in group activity, on the other hand, can enhance drug-abusers' sense of belonging even when they are in times of trouble:

「我覺得如果好似坊間嗰啲，其實都係困死你喺入面，跟住可能……啫係冇太多好戶外或者係一齊，整體去一齊做一樣嘢去戒毒嘅話，可能你個人生就係自

已一個好獨立嘅人去諗住戒毒囉……啫係如果去運動嘅時候，你就可以一齊去做呢樣嘢囉。咁喺入面你會領受到原來社會，啫係你踏出呢一個社會其實都唔係好難咋喎，同啲真係好健康嘅人一齊去做運動，其實都唔係一間好難嘅事囉。同埋做運動都係會令到自己呢開心啲嘅，同埋舒壓啲嘅。咁如果淨係齋戒毒，咁如果你又冇運動嘅時候，其實你嗰個健康呀，同埋情緒都唔會好好囉。」（Grace）

(I think that the rehabilitation services in the community are confining without too many opportunities for us to stay outdoor and go through the rehabilitation together. It is just yourself going through the recovery process alone. On the other hand, if you do exercise together, you would find that you are with someone, knowing that it is indeed not difficult to become a member of the society. You will find that it is not difficult to do exercise side-by-side with people who are very healthy. Also, exercising would make ourselves happier and less stressed. If we only take the regular rehabilitation services without sport or exercise, I don't think it would be too beneficial to health and emotions.)

Family support is the cornerstone when it comes to boosting the willpower for rehabilitation, not to mention how it would help improve mutual understanding and tighten the bond amongst the family members. In the project, family members of the participants were welcome to join the sport training classes, and it turned out to be well-received and successful. As Kin put it:

「其實屋企人呢對於吸毒者呢通常都有好多嘅質疑呀，或者有好多嘅……唔信任呀，咁佢話去做運動其實呢佢哋好多都唔覺得……你係唔係真係去做運動㗎？你嗰個時間去咗邊呀？咁樣。咁佢哋一齊嚟做呢，喺佢哋嘅面前做呢，啫係喺屋企人面前做呢，呢啲吸毒嘅朋友仔呢其實係可以話畀屋企人聽我係真係

有努力，我係有改變嘅。咁呢一個係一個好好嘅證據啦，亦都係一個好好嘅鼓勵啦。」（Kin）

(In fact, their family members are usually sceptical and they doubt how the clients spend time and whether they are really undergoing the rehabilitation through exercise. So if they do exercise together, the clients can show how much effort they spend to change themselves for self-recovery in front of their families. This is a positive evidence and encouragement.)

5. Empowerment - from beneficiary to benefactor

Passion is the fuel for more actions. As the interest for learning grows, so does passion, and a sense of commitment. Starting from purely for enjoyment to join this project, some participants ended up going into a transformation process without prior expectation. Motivated by the positive impact of sports training, Tom, Amy and Alan all expressed an interest to become a sport coach or fitness instructor to share what they learnt and experienced. Tom, who originally joined the exercise programme "just for doing some exercise", gradually stepped into a self-discovery journey. Benefitted from what he learnt in the trainings as a beneficiary of the programme, he subsequently started a new career and became a certified boxing instructor, looking forward to help fellow drug victims step onto the path of recovery. He mentioned:

「想做運動……跟住再……再……同埋幫到……幫到啲戒毒人士囉。用自己嘅經驗囉……啫係去幫吓佢哋，講下自己嘅經驗，分享下咁樣……因為都玩咗 boxing 都幾年啦，咁我自己都覺得自己係鍾意咗呢個運動啦，咁又……啫係想繼續更加加深認識呢樣嘢啦。同埋我覺得考呢個教練牌會容易啲……更加容易去鼓勵人，同埋幫到人哋去做到呢件事囉。」（Tom）

(I want to do exercise… then I can help other drug-abusers using my own experience, to help them, through telling and sharing. After all, I have been practicing boxing for a few years already, and I can feel how I like this sport that I want to learn more. And I also think that it would be easier to encourage other people to do exercise if I get a certification in coaching.)

In addition, as supported by the project which provided resources for "further studies", i.e., physical fitness certification, the participants were empowered to go through the life-changing journey:

「有啲資源可以進修同埋可以轉化，啫係例如有個 client 佢……攞咗啲資源可以進修，去咗讀呢一個體適能嘅課程啦，咁喺工作嗰個 career path 上面其實就多咗選擇啦……咁喺角色上面其實由以往佢可能係……啫係一個受助者啦，又或者係一個叫做弱勢少少嘅角色啦，咁佢可以 empower 到變到一個……啫係可以有一啲能力感。」（Kin）

(Resources are available for transformation, for example, the client can use the resource for further studies, taking a fitness course, and then there will be a new choice in their career path. They are now empowered from being a beneficiary or dis-advantaged victim into a competent person.)

Sports as treatment and drug replacement: the very first-person insights

「但係我覺得運動始終都係追求有冇嗰種感覺囉，啫係覺得運動係冇害囉，一定百分之一百正確嘅。」（Thomas）

(I think that we just look for that kind of feeling in physical activity, that it is harmless, it is completely correct to do it.)

As someone who returned from darkness in life, the participants are definitely the most reliable persons capable to provide first-hand and poignant insights on drug abuse and

how effective sports are for speeding up the recovery process. In fact, during the interviews, both of the participants and working team had provided valuable insights on the relationship between drug abuse and rehabilitation, essentials for successful prevention against relapse.

1. Sports and exercise – powerful boost for building up willpower

If the reason for drug-takers getting addicted to the act of abuse is because it would help them feel less stressed, its lightening-up effect would only be temporary, short-lived or illusional, a damaging escapism in and of itself. On the other hand, it is the result of having gained more self-understanding and willpower through the exercise training that the participants started to awaken to the powerful transformation taking place in themselves, contrasting to how drug addiction had darkened their personal life. As Thomas confessed how he gained new hope and determination in changing his life through the training:

> 「我以前吸毒呢，就好多次都係因為同屋企人嘈交呀，同老婆嘈交呀，各方面啦，因為啲錢銀問題呀，工作上嘅壓力呀，咁自己就有時唔去面對啦，跟住面對失敗嘅時候，又冇同人講呀，咁自己收收埋埋，咁就開始行咗嗰段吸毒嘅路喇。一吸毒就好多年咁樣長期咁樣累積過嚟㗎，就發生好多事啦，所以我想透過喺呢度戒毒跟住就……做吓運動呀，做吓其他嘢呀，咁鍛鍊返自己個……心理囉、個心態，啫係唔好咁易受誘惑囉。啫係有咩嘢壓力要去面對，要自己一定要去面對，唔可以柄埋一邊，跟住又去吸毒呀，嗰啲咁囉，啫係以前係咁樣㗎。」（Thomas）
>
> (I used to had rows and conflicts with my family, and my wife, because of financial issues and pressure at work. I did not want to face the problems, and when I was overcome by failures, I did not tell anyone and kept to myself. It led to my addiction to drug eventually. The addiction went on for many years while there had been many things happened sequentially. It finally made me want to quit and do something else,

such as doing exercise and train up my psychology and state of mind, for example not to succumb to temptation so easily. I need to be able to deal with pressure, rather than escaping and resorting to drugs like I did in the past.)

On the contrary, as Thomas said, exercise serves like a powerful purifier. It helped the participants to de-stress and lighten up the troubled inner emotions, at the same time, improving concentration and mindfulness – utterly a new lifestyle. In fact, with persistence, a healthy dose of exercise is a perfect replacement of drug or substance for physical and mental health. As Jo said,

「咁運動唔一定係跑步，可能踢波咁樣，咁有時有啲比賽，咁就的確自己嗰個目標就係好明確，咁就……你就唔覺意就會……啫係將自己投入咗去啦，咁就對……戒毒都有幫助嘅。啫係你有個目標畀自己去做，咁同埋你做完運動可能你開心咗啦，因為無論係生理上又好，釋放咗啲物質又好，或者係你見到自己嘅進步都會開心，咁你就會好似想 keep 住落去。」（Jo）

(Exercise is not limited to running. Like soccer, sometimes there would be competitions, then one would be easily immersed in the sport because he/she has a clear goal. It would be helpful for drug rehabilitation. In other words, you have a goal to work onto. Moreover, you feel happier after the exercise, whether it is physical or emotional. You feel happy to see yourself making progress, and therefore you want to keep going.)

「我覺得係有幫助嘅，但係係要 keep 住囉，啫係因為可能做運動嘅時候，你喺入面都可以領略到一啲嘢，然後……啫係可能嗰樣嘢可以令到你覺得吸毒其實都……啫係……點講呢？可能吸毒都唔係一個咁大嘅好處，可能有時你做運動你發現原來你自己人生都可以好開心喎，啫係冇嗰樣毒品嘅時候都可以好開心去做任何一樣嘢㗎喎，咁可能都有啲幫助嘅。」（Mark）

(I think it is helpful, but it takes persistence. When you are doing exercise, you may find something meaningful… you may find something other than drug-taking. When you do exercise, you may find something that makes you happy in your life, something other than drug-taking. Then it should be helpful.)

Even if exercise cannot help relieve the stress completely, it can help an individual spend time more effectively and positively: "because it tires you out, and you are so tired to think of doing something else" (Mark), "because you won't have any more time to take (drug)" (Alan).

2. Preventing drug relapse

Although exercise plays a very positive role in drug rehabilitation, whether it would be successful or not still depends on wish and willpower of drug abusers themselves. If they do not want to end the vicious circle nor improve their lives, all the support efforts will eventually become useless. As Tom and Mark reflected:

「運動戒毒唔可以話 100%一嚟就做到，但係我覺得比……啫係……戒毒人士已經係要多啲人去支持呀或者點樣，等佢哋見到一個自己有個進步呀，有個改變呀，啫係呢樣嘢就會長期 keep 到囉。但係其實如果你困埋佢喺個地方，譬如你同……可以簡單啲講，同坐監冇咩嘢分別嘅話，其實你之前走去做任何嘢……啫係因為你係斷絕咗嗰樣嘢而入面係攞唔到嗰樣嘢咋嘛……你出到去你接觸返嘅時候，你就有機會去做返（再吸毒）。而唔係……啫係唔係話佢冇鼓勵，只不過個鼓勵作用唔……冇實質上有行動嘅佢咁大囉。」（Tom）

(Using sport for rehabilitation cannot be 100% successful, but drug-abusers do need support so that they can see improvement and changes in themselves to keep going. On the other hand, if you are confined into some specific place… simply speaking, it is no difference than being in a jail… you are forced to separate from the substance

there… when you are discharged and free later, you would be prompt to using drugs again. It does not mean using sports as treatment is not encouraging at all, however, it is not as powerful as taking the initiative.)

「要佢自己睇佢自己個心點樣諗囉……同埋要有規律呀，同埋唔係返一堂放幾堂咁樣，堂堂你要堅持住咁，同埋肯去堅持呢個辛苦啦，總之係……係體力上呀，同埋各樣那樣嘅嘢都要堅持住囉。」（Mark）

(It relies on what the drug-abusers think. It also takes discipline and persistence to refrain from skipping lessons. You must be willing to endure the hardship and persist. Whatever it is, you have to be persistent.)

From this point of view, for the treatment on drug addiction, boost of intrinsic motivation is essential to help drug-abusers strive for rehabilitation and self-improvement. It calls for a synergy of exercise intervention, goal-setting and psychological counselling to help them broaden the perspective and bring hope for the future, so that they could take the initiative for positive changes. For example, closer-bond between the drug-abusers and social workers is like a long term relationship to be built on mutual trust and communication, which takes time, effort and consistent support. As social worker Roger conveyed:

「或者有啲真係 relapse 咗啦，不過好少部分啫係到之後真係 relapse 咗……有一兩個，咁但係就算佢哋 relapse 咗，有啲都返返嚟，咁好靠就係……我哋社工同埋嗰個 client 嗰個嘅關係，同埋啫係之前可唔可以培養到呢個習慣呢。」（Roger）

(Some of them did relapse subsequently, but there were not too many. Even if they relapse, they would return to seek help from us, but it would depend on how solid our relationship with the clients used to be, and whether the clients have already developed a habit of doing exercise or not.)

3. Holistic approach for relapse prevention

There are always many factors leading to someone to fall victim into drug addiction, including internal and external issues. In the interview, Thomas shared poignantly how difficult his life was when he was trapped in the abyss of addiction, for which only a holistic approach, which consisted of physical training and psychological support, could help him, and possibly other drug abusers, to get rid of his troubled life and reinvent himself:

「我有……自己有嘗試過戒過毒嘅，戒過三四次到啦，都係戒咗三四日，之後又吸返，又食返……決定唔食，自己喺屋企，唔出街囉……我老婆都唔知㗎，冇同佢講㗎，自己戒嘅……係喇，跟住就選擇嚟呢度……」（Thomas）

(I did… I did try to stay sober for three to four times, for three to four consecutive days… then I took it again and relapsed… I decided not to take drugs, staying home… I tried to stay sober and my wife did not know it because I did not tell her… then finally I decided to come here.)

Thomas confessed his weakness in resisting against using drugs even though he initially chose to combat the addiction on his own. Being secluded without communication with family or friends, it was almost impossible as drug addiction takes a lot of efforts to overcome. In contrast, external and holistic supports from sport experts and social workers helped nurtured his physical and mental power. He continued to explain how he was saved after he sought professional supports during the rehabilitation process:

「有嘅有嘅，社工呀，護士呀，各方面都有幫助好多嘅……我覺得嚟到呢，啫係起碼……你唔使接觸嗰啲出面嗰啲誘惑先啦，啫係起碼知道入到嚟，正正經經……咁樣調理身體，戒毒，就冇得畀你胡思亂想呀、去賭錢呀……去吸毒又吸返呀……你會想自己快啲企返起身咁樣囉……□啲護士呀，社工）傾吓偈呀……

都係有問過我入呀，出返去有咩嘢打算呀，入嚟嘅時候係點樣入嚟呀，跟住有咩嘢動力令到你行呢一步呀咁，各方面都有問嘅……心理輔導……運動……缺一不可呀覺得。」（Thomas）

(There were social workers and nurses to support me in every aspect… I think to come here (for rehabilitation), you do not need to be in touch with the temptation out here, so you can seriously take good care of your health and quit drug-taking properly. In here there is no opportunity for you to over-think, gamble or relapse. You would only want to pick yourself up as quickly as you can… The nurses and social workers would discuss with me about what I would plan after leaving here, how it was when I first arrived here, what motivated me to have come so far now and many more. I think counselling and physical training are both very important and are indispensable.)

Physical activity serves as a fuel for building up physical and mental strength against addiction. On the other hand, psychological support from social workers or psychologists aiming for building up drug abusers' confidence, resilience, sense of hope and goal in life. They are complementary and require the synergy of, at least, two professions to become holistic, i.e. sport experts and social workers, which will further be discussed in the following section.

4. Call for synergy of professions

Participants in this project came from different backgrounds. They differed in both physical and psychological capabilities. To prevent relapse, it calls for a more tailor-made design of programme or training so that it would neither be too easy nor too intimidating for participants to partake and persist. As Roger explained:

「咁但係如果個教練……都試過有啲教練……真係做到好辛苦呀，呃……啲係譬如又係跑步組啦，開頭做一啲拆解嘅動作嘅，啲係做完已經仲攰過跑喇咁樣，

咁啲 case 可能第二次嚟嘅時候已經驚咗喇，已經唔再嚟囉，咁呢個都係其中一個因素會影響到囉。」（Roger）

(It happened before in the running programme, in which the exercise was too rigorous for the clients. Even in the beginning it was already too challenging for the clients and they felt exhausted immediately. Because it was too intimidating that they quit the training shortly. It really would affect the clients' participation.)

In the interviews, the working team looked forward to a sustainable knowledge transfer with the collaborations of universities or education institutions, so that fundamental knowledge in sport science and fitness are all shared in the working team, which hopefully would help to capture the potentials and weakness of the participants and enhance the effectiveness of using sports as treatment for drug rehabilitation. Roger further explained:

「因為我哋社工呢嗰個……體適能知識嗰方面好有限呀，咁但係我哋社工有時候要同 case 傾嘅時候，佢哋講到一啲飲食呀，或者運動前後嘅知識呀……我哋都想會唔會啲係多少少呢方面嘅資訊畀佢哋咁樣呢？咁樣囉。咁我哋就可能都會係可能靠你哋大學呢邊啦浸大呢邊提供一啲研究呀或者一啲資訊畀我哋啦，去畀返啲 case 啦。」（Roger）

(We, as social workers, do not know too much about fitness. However, sometimes we need to talk to our clients. When it comes to the topics like nutrition or what should be done before and after doing exercise, we would hope we knew more… I think we need HKBU for support in this area, so that they can provide more research studies or information to us, so that we can communicate with our clients in return.)

This project did not adopt a single give-and-take method to assist drug abusers in rehabilitation. On the contrary, it is mutually beneficial to all parties involved, even though the scope of works needs to be broadened in order to benefit more stakeholders in a more

sustainable basis. Roger told of the lack of knowledge of physical fitness that eventually became somewhat obstacles to him and his fellow staff in communicating with the participants and thus prevented them from offering more helpful assistance during the pre-test and post-test sessions. This calls for synergy for expert knowledge was supported by Ellen. In particular, sport psychology is suggested to be used in goal-setting for the drug abusers.

「啫係浸大都受過相關訓練咁樣啦，咁會唔會都可以由你哋去到講到譬如佢哋……啫係同佢哋一齊 set 一啲嘅運動目標，因為其實我哋可能同佢 set 呢真係好……嗰啲叫咩呀？好大路咁樣。」（Ellen）

(HKBU has professional sport training and it would be helpful if they provide knowledge support to the clients, such as goal-setting for sport. For us, we can only provide very general advice.)

It is worth mentioning that a total of 5 workshops on sport sciences, fitness and exercise instruction were organised during the implementation period. In the workshops, knowledge on physical fitness and wellness was shared to the working team (social workers). As the demand for more support on knowledge sharing has been highlighted, for relevant project or study in future, the scale of knowledge sharing could be further broadened.

Discussion

Studies on the utilization of sports and physical activity as intervention for drug rehabilitation has been a new field with limited reviews and literatures particularly in Hong Kong. The results of the current study would therefore serve as a new reference for similar studies and project management in future.

Effectiveness of the sports training programme to the drug abusers

In the present study, there were 169 participants who participated in the pre-physical fitness test. However, 91 of them dropped out of the training eventually and only 78

participants had completed the post-test. In other words, the number of dropout rate was 53.8%. For participants who attended all 10 physical training sessions and completed the post-physical fitness test analysis, significant improvements were found in the degree of motivation, several dimensions of wellness, physical fitness, life satisfaction, etc, after the completion of the sport training.

The findings of the current study, together with the perceived positive health improvement conveyed by the participants in the qualitative interviews, support that the sport training has successfully enhanced the attainment of a higher level of health and wellness among the participants.

More importantly, the results correspond to the 6 project outcomes, i.e. Drug Rehabilitation Domain – reduction in frequency of drug abuse (Outcome 1), Motor Domain – improving physical fitness and physical skill levels of drug dependent persons undergoing treatment through this fitness project (Outcome 2), Affective Domain – stress management (Outcome 3), Affective Domain – self-efficacy to avoid using drugs (Outcome 4), Cognitive Domain – life satisfaction (Outcome 5) and Cognitive Domain – wellness (Outcome 6) foreseen when the project started.

Level-up in physical fitness

Significant improvement in physical activity level (raising from "low" to "moderate" level) was found among the participants (27%) after the completion of the sport training programmes (Motor Domain - Outcome 2). Being physically active is beneficial to maintaining the capacity to refrain from relapse or the temptation of drug-taking as reflected by the participants in the qualitative interview.

In addition, significant improvements in flexibility (revealed in Sit and Reach test), balance (revealed in Stork Balance Stand Test), muscular strength (handgrip test and standing long jump test) and endurance (one-minute sit-up test) were also found among the

participants, all of which are the essential components for positive physical fitness and to maintain vitality of the participants or drug abusers.

Enhancement in self-anchoring and overall life satisfaction

Significant improvements in personal well-being, as shown in the life satisfaction index of the participants, revealed the positive impact of physical activity in major life aspects which are essential for resilience against drug use. The improvements include overall life satisfaction, daily life, health condition, life achievement (family and work), interpersonal relationship, sense of security, sense of belonging in community, and life security (Life Satisfaction - Outcome 5).

In addition, significant improvement in Self-Anchoring Scale with medium-to-large effect size also supports that physical activity brings higher life satisfaction among the participants which is essential for self-empowerment.

Perceived wellness and self-efficacy

One of the objectives in this project was to measure how effective physical activity can foster the rehabilitation process among the drug-abusers and it is hoped that by building up an active lifestyle, the frequency of drug usage among the participants would be reduced (Drug Rehabilitation Domain - Outcome 1).

The present findings as shown in the Perceived Wellness Survey reveal a significant improvement in four wellness dimensions of the cognitive domain (Wellness - Outcome 6), including psychological wellness, emotional wellness, physical wellness and intellectual wellness. Along with significant increase in wellness composite score revealed in the quantitative analysis, they show that physical activity as an intervention treatment for drug rehabilitation do create positive effects on the psychology and self-perception on the participants.

In addition, the significant increase in the score of drug avoidance self-efficacy revealed in the quantitative data analysis shows that the exercise programmes have successfully improved the level of self-efficacy among the participants against drug or substance abuse for releasing personal dissatisfaction or negative emotions (Self-efficacy to avoid using drugs - Outcome 4). The significant increase in overall scoring and large effect size show that participants are more capable to resist drug abuse. All of these are important indicators to show how effective physical activity can serve as a positive intervention against drug addiction when the drug abusers are in difficult situations.

Significant improvement in active coping scores

The present findings show a significant improvement in the active coping scores among the participants after the exercise programmes. As shown by the higher score and large effect size after the post-physical test was taken, the participants became more proactive and confident, willing to take challenges and overcome difficulties. The significant improvement in attitude and mental strength to cope with many life aspects shows participants' higher resilience against drug abuse, particularly, in times of stress and adversity.

Maturing in many social aspects for becoming a member of the community

In addition to the reflection and positive feedback given by the participants in the qualitative interview, the sport intervention is proven to be effective in enhancing participant's social skills, including interpersonal and communication skills, which are essential for enhancing an individual's self-esteem, sense of belonging in the community and life security, in return, it would improve life satisfaction of the participants who look for self-empowerment and healthier lifestyle.

Strategical goal-setting for boosting drug abusers' motivation in physical activity

The outbreak of COVID-19 and social distancing measures created plenty of external limitations for the participants during the training. On the other hand, the findings of the present study also show that low motivation in physical activity was one of the major hinderance that prevented the participants from fully taking the advantage of the sport intervention and attributed to the dropout of some of the participants.

As such, concerns over the prevention of drug relapse will take more effort and resources in social and family support in order to foster the rehabilitation process and make it more sustainable in the long run. Even though this project provided resources and support for the participants in pursuit of becoming a professional fitness coach after the sport intervention, a sense of achievement could further be boosted with aids of a more strategic design of lesson plan, the synergy of sport psychology and specific goal-setting tactics with aims to assist the participants to fully engage in the rehabilitation process.

Interdisciplinary staff empowerment through cross-industry collaborations

During the implementation period, a total of 5 workshops on physical fitness and wellness were held, with aims to deliver foundational fitness knowledge to social workers who were to participate in the project. It was hoped that knowledge on health and fitness shared among the working team would be helpful for project implementation, and to foster the communication between the participants and the working team.

However, while the workshops were well received, it was mentioned in the qualitative interviews that the knowledge or workshops were inadequate, and the lack of professional knowledge in fitness and sport psychology prevented the working team (i.e. social workers) from providing immediate and more in-depth advice to the participants and assistance to the research team.

In future, therefore, sustainable health promotion and delivery of fitness knowledge should be included to ensure effective communication between the drug abusers and working teams, while encouraging long-term interdisciplinary collaborations between educational institutions and social welfare organizations for empowering drug abusers with fitness and healthcare knowledge.

Limitations

Demand for higher motivation for physical activity among the participants

Initially the number of participants was 169, which was moderately high. However, there were quite a lot of them dropped out during the training. The reasons for quitting the training were attributable to many personal reasons, particularly low motivation.

On the other hand, participants' significant increase in intrinsic motivation, extrinsic motivation- integrated and external regulations as shown in the Chinese Sport Motivation Scale II (CSMSII) after the completion of the programmes reveals an interesting fact or phenomenon: while sport training takes effort to persist, especially at the initial stage where quitting among the participants is more common (which may take extrinsic motivation-external regulation to improve), its advantages will serve as new incentives (e.g. better health condition and fitness) that intrinsically motivate the participants for engaging in active lifestyle in a long-term manner. In other words, more studies on how to prevent abandonment, to boost higher attendance, to improve sport motivation, and how to lower the possibility of drug relapse should be encouraged. It would require more support and resources, of which inclusion of sustainable social and family support to foster the effectiveness of exercise intervention is necessary.

Negative impacts of COVID-19

According to the comments of the participants and staff in the qualitative interviews, the outbreak and prolongation of the COVID-19 spanning across the operation period of the

project created additional challenges in project management and contingencies (such as training schedules and teaching formats), leading to extra demands in effort during the implementation process. Some of the physical training sessions and physical fitness test sessions had to be suspended as a result of the social distancing measure; some were rescheduled and were changed to become online training. The inconvenience and limitation as a result of the pandemic further impaired the sport motivation that led to high dropout rate among the participants.

Low flexibility in training schedule and limitation in venues and sport equipment

Training schedule was reportedly less flexible for tackling contingencies and emergency. The participants had to travel to the venues to attend the lessons, and for some of them the commuting time was long and tortuous. In addition, many venues or public sport facilities were closed during the outbreak of COVID-19, which added to the difficulty of lesson planning or rescheduling.

In addition, according to the feedback of the participants and staff shared in the qualitative interviews, it was the locations of the venue, insufficiency of equipment (for both physical fitness tests and training) and limited space for movement complicated the sport training. Efficiency, convenience and ease of learning might affect the perception of the participants, which might in turn further affect their motivation and persistence for the training.

In need of more advanced equipment for physical fitness test

While sport training equipment in the training centres were reportedly limited where the participants did not have enough space nor time to practice during the training sessions, insufficiency of testing equipment in the venues where the physical fitness tests were conducted led to additional limitation in data collection.

Due to the lack of equipment for physical fitness test, it is reported that the research team in the university had to carry bulky testing equipment to and fro the venues for each and every data collection procedure. Even though this project received funding support for the procurement of training instruments, some physical fitness tests required the usage of more advanced testing instruments, which were relatively expensive and heavy for moving, packing and unpacking. As it turned out, most of the tests had become field-test oriented whilst more in-depth measurement on fitness level that required the usage of advanced and sophisticated equipment stationed in laboratory for testing had to be omitted. As a result, limitation in data collection was resulted**.**

Conclusion

This study is one of the few investigations of using sport as treatment and intervention for drug rehabilitation in Hong Kong. Many positive results are observed, particularly in such areas as physical fitness (e.g. higher physical level, muscular strength and endurance, balance and flexibility), life satisfaction, wellness (e.g. enhancement in psychological wellness, emotional wellness, physical wellness and intellectual wellness) and higher self-efficacy revealed in the qualitative results. However, as this area of studies is still relatively new and limited, more studies in future should be encouraged.

Recommendation

A research perspective – future studies on effectiveness of exercise for drug rehabilitation

Wider age range and diverse sample population

This project shows positive effect of physical activity for drug abusers for rehabilitation. As many significant improvements in physical and psychological health were found after the exercise programmes, the participants were able to attain a higher level of well-being and to reinvigorate in life. It is worth mentioning that all participants who joined

this study were under 40 years of age, there is still a high population among the drug abusers who are on the waitlist of becoming beneficiary of similar project in future. As physical activity is beneficial to the health of general public, it should be promoted and enjoyed by a wider population with diverse backgrounds, we highly recommend that a wider range in age groups (e.g. over 40 years of age to be included) along with more diverse cultural backgrounds (e.g. different ethnicities) for testing and comparison are explored in future studies.

Usage of more advanced and sophisticated testing instrument to widen the scope of studies

As reflected by the social workers highlighting the limitation during the implementation process, more testing equipment to be installed and equipped in the training venues and centres is recommended with aims to facilitate the testing and data collection process, plus generating more comprehensive details of the physical fitness among the participants before and after the exercise training, in order to inspire more perspectives for similar studies in future. At the same time, it would help to foster communication between the staff and drug abusers as immediate advice and assistance could be given to the latter for understanding their physical fitness condition as a result of drug addiction and exercise training.

In current study, data collection in regard to fitness aspects of the participants was mainly conducted using the field-test format. For example, the YMCA 3-minute Stepping Test was adopted in this study to measure the participants' cardiovascular fitness level. For more in-depth analysis, laboratory testing is highly recommended to be utilized in the training venues where more sophisticated laboratory and biomechanical equipment, including a Monarch cycle ergometer (Model 818E, Monarch, Varberg, Sweden) or an instrumented treadmill (AMTI, Watertown, MA) are to be equipped, while connecting to a volume of oxygen uptake (VO_2) metabolic testing system (Medgraphic Cardiorespiratory Diagnostics

UltimaTM CardiO2, US), the YMCA Sub-Maximal Cycle Ergometer Test is recommended to measure the energy expenditure and VO_2 intake during the cycling or running exercise, which is the maximum rate of oxygen consumption measurement during an incremental exercise. These validated measurements may provide a more reliable and comprehensive physical fitness data to researchers to understand the participants' physical fitness level. Albeit a little more costly for setting up, in the long run they would be highly beneficial for similar studies in the future.

A project management perspective – empowerment, efficiency and sustainability

Mixed modes and new aids in teaching and learning

With the rapid increase in the use of technology in wake of the COVID-19 crisis, many new opportunities in sport industry are observed. In order to benefit the participants with different needs, the adaptation of new medium, such as internet or video conferencing for sport and training should be welcome. The usage of online methods and electronic platforms for content development, plus further investigation on how "new sports" and mixed teaching and learning modes could be explored, so as to improve the flexibility of class and project management, and the measurement of the effectiveness of sport in overall wellness.

Tactical use of sport psychology and gadgets for motivation enhancement

Motivation, whether intrinsic or extrinsic, is a major factor which affects the degree of participation in sports and physical activity. In this project, low motivation resulted in high dropout rate of the participants, subsequently preventing the participants from fully taking the advantage of active and healthy lifestyle. Therefore, understanding the motives and constraints of the participants is essential to prevent high dropout rate and the risk of relapse in future projects. In particular, continued support to empower this area of study is necessary, particularly, the inclusion and utilization of sport psychology in the design of the exercise training programme, purposefully to focus on improving the participants' attendance rate and

motivation in physical activity in order to strengthen the willpower and resilience during the rehabilitation process. In other words, more diverse projects and project design on exercise and wellness, together with the investigation on how to increase participants' incentives for physical activity are recommended.

In addition, more creative implementation making the best use of sport psychology and sport technology for drug rehabilitation should be explored and executed. For example, the adaptation of portable devices such as wearable brands for tracking real time personal fitness condition, health and fitness tips, step-by-step goal setting, reminders, social networking and instant messages for self-affirmation, is highly recommended with aims to help the participants maintain a sense of achievement and high motivation for active lifestyle.

More sport variety for higher attendance rate and motivation

One way to improve motivation and attendance rate is through diversifying the types of sport training. The findings of this study show that after the completion of the training programme, participants' intrinsic motivation, extrinsic motivation -integrated and external regulations increased significantly which may lead to positive behavioural changes.

At the initial stage when training should be more demanding for participants whose physical and mental strength remains weak, the adaptation of creative tactics which belong to the scope of extrinsic motivation-external regulation is recommended, aiming to encourage participants to be more committed in the training. For example, by building up closer relationship with the coaches, and through provision of more team sports and competitions, the participants would receive more affirmation and support from team members, so that they would gradually feel more rewarded and intrinsically motivated for the training. As shared by most of them in the qualitative interviews, at the end of the training, the participants became more willing and motivated (intrinsically) to include physical activity as a part of their daily routine due to sheer enjoyment (motivation stems from pleasure).

This project provided a number of options of training programmes for the drug abusers to partake, many of them, including yoga, weight-training, running and boxing, could be classified as “individual sport”, i.e., participants could practice the sport on their own. This type of sport is more skill-oriented and its effectiveness for improving social interaction and communication is therefore limited. On the other hands, sports such as basketball and floor curling are competitive training which require teamwork and interpersonal skills among the participants. As drug abusers vary in their physical capacity, personal interests as well as expectation for the training, it is recommended that the types of sport programmes could be diversified so as to meet different demand and needs among the participants.

Staff development and structure enrichment across different sectors

During the implementation stage, a total of 5 training workshops on physical fitness and sport sciences were organised for the about 100 social workers. These workshops were well received and demand for more similar training was highlighted in the qualitative interviews among the social workers. We recommend that, in future, more training in the form of workshop, seminar or short course on fitness and health should be organised to all staff, so that more solid advice and immediate support in the aspect of physical health and fitness could be given to drug abusers undergoing the physical fitness tests and training.

Moreover, an additional permanent position to promote physical activities in the rehabilitation centres should be created in future, so that sport instructors or staff who are formally trained in sport and physical education could be deployed in the drug rehabilitation centre or social welfare organization for facilitating the operation process.

This inclusion of additional manpower coming from different field may help to share the workload of the social workers who are less familiarized with sport and fitness knowledge. Not only would it enhance efficiency, from a management perspective, the enrichment of the staff structure would also be more beneficial. The incumbent is to be

responsible for monitoring the work progress of the training programmes, coordinating with social workers and researchers to facilitate the general administrative works, including programme design, execution of programme procedures, provision of guidelines and fitness advice, assisting the social workers and other staff members in communication with the drug abusers undergoing intervention treatment, etc.

In addition, during the physical fitness test sessions, the social workers and project officers, who have undergone training of health and fitness, can assist the researchers to give immediate fitness or health advice to the participants. Not only would it facilitate the data collection process and share the workload of the research team, it would also help foster the communication among all members of the working teams. In addition, the social workers could also provide more feedback to the drug abusers on a regular basis. Therefore, sustainable collaborations with education institutions or sport associations are highly recommended.

Career development - sports as life changing mechanism

As revealed in the additional survey in which 22 participants had reportedly been awarded a sport coaching certificate and looked forward to a career in sport, sports have become a life-changing mechanism in this project which brought forth opportunities for those who were looking for a second chance in life after the pitfall and serve as a catalyst for self-empowerment against drug abuse. While career brings life security, sports bring hope to future career for oneself. Ongoing collaboration between sports intervention and drug rehabilitation is therefore highly recommended.

Synergy of industries – educational, governmental, sports and others

As the government plays a leading role in promoting healthy and active lifestyle, its support in drug prevention and healthy lifestyle is essential. In particular, sustainability in this area of research and studies helps to glue all stakeholders together. In order to support drug

abusers and their family members to benefit via participating in physical activity, it is highly recommended that cross-institution collaborations among the government (e.g. Beat Drug Fund of The Narcotics Division of the Security Bureau and Leisure and Cultural Service Department), educational institutes, sport industry (e.g. sport associations and organizations), social welfare organization (e.g. NGOs) and mass media (including traditional media and emerging social media), to be taken place on an ongoing and long-term basis, so that different resources and support could be delivered to people with different needs in a more effective and precise manner, at the same time enhancing public's awareness on the prevention of drug abuse through community-wide health promotion projects and campaigns.

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Appendix

Appendix 1 – PAR-Q & Consent Form

Part 1 - Physical Activity Readiness Questionnaire

體能活動適應
能力問卷 —PAR-Q
(修訂版　2017年9月)

體能活動適應能力問卷與你

（一份適用於 15 至 69 歲人士的問卷）

經常進行體能活動不但有益身心，而且樂趣無窮，因此，愈來愈多人開始每天多做運動。對大部分人來說，多做運動是很安全的。不過，有些人則應在增加運動量前，先行徵詢醫生的意見。

如果你計劃增加運動量，請先回答下列 7 條問題。如果你介乎 15 至 69 歲之間，這份體能活動適應能力問卷會告訴你應否在開始前諮詢醫生。如果你超過 69 歲及沒有經常運動，請徵詢醫生的意見。

普通常識是回答這些問題的最佳指引。請仔細閱讀下列問題，然後誠實回答：

請答「是」或「否」

是	否	
☐	☐	1. 醫生曾否說過你的心臟有問題，以及只可進行醫生建議的體能活動？
☐	☐	2. 你進行體能活動時會否感到胸口痛？
☐	☐	3. 過去一個月內，你曾否在沒有進行體能活動時也感到胸口痛？
☐	☐	4. 你曾否因感到暈眩而失去平衡，或曾否失去知覺？
☐	☐	5. 你的骨骼或關節(例如脊骨、膝蓋或髖關節)是否有毛病，且會因改變體能活動而惡化？
☐	☐	6. 醫生現時是否有開血壓或心臟藥物（例如 water pills）給你服用？
☐	☐	7. 是否有其他理由令你不應進行體能活動？

如果你的答案是：

一條或以上答「是」

在開始增加運動量或進行體能評估前，請先致電或親身與醫生商談，告知醫生這份問卷，以及你回答「是」的問題。

- 你可以進行任何活動，但須在開始時慢慢進行，然後逐漸增加活動量；又或你只可進行一些安全的活動。告訴醫生你希望參加的活動及聽從他的意見。
- 找出一些安全及有益健康的社區活動。

全部答「否」

如果你對這份問卷的全部問題誠實地答「否」，你有理由確信你可以：

- 開始增加運動量——開始時慢慢進行，然後逐漸增加，這是最安全和最容易的方法。
- 參加體能評估——這是一種確定你基本體能的好方法，以便你擬定最佳的運動計劃。此外，亦主張你量度血壓；如果讀數超過 144/94，請先徵詢醫生的意見，然後才逐漸增加運動量。

→ **延遲增加運動量：**

- 如果你因傷風或發燒等暫時性疾病而感到不適——請在康復後才增加運動量；或
- 如果你懷孕或可能懷孕——請先徵詢醫生的意見，然後才決定是否增加運動量。

請注意：如因健康狀況轉變，致使你隨後須回答「是」的話，便應告知醫生或健身教練，看看應否更改你的體能活動計劃。

不得更改問卷內容。歡迎複印整份問卷(必須整份填寫)

體能活動適應能力問卷來源：The Canadian Society for Exercise Physiology

本人已閱悉、明白並填妥本問卷。本人的問題亦已得到圓滿解答。

姓名:_____　　身分證明文件號碼:_____
簽署:_____　　日期:_____
家長或監護人簽署:_____　　見證人:_____
（適用於 18 歲以下的參加者）

備註：1. 你提供的資料，只作處理程訂康樂及文化事務署健身室設施或康體活動報名事宜之用，本署授權人員基於上述目的方可查閱。遞交問卷後，如欲更正或查詢個人資料，請與接受報名的分區櫃檯職員聯絡。

2. 如果在上述問卷中有一個或以上「是」的答案，即表示你的身體狀況可能不適合參與有關活動。故為安全起見，請你先行諮詢醫生的意見；並須在報名或租訂健身室設施時出示醫生紙，證明你的身體狀況適宜參與有關活動。如未能出示醫生紙，則須填妥「申請人聲明」，並於報名或租訂健身室設施時連同報名表一併遞交。

3. 如你拒絕填寫此問卷，有關的健體活動報名或租訂健身室設施申請將不獲受理。此問卷由填寫當日起計一年內有效；如在一年有效期後，健身室使用者須再次填寫此問卷。

如因健康狀況轉變，致使你隨後對上述的任何問題的回答轉為「是」的話，則本問卷即告無效。

Part 2 Consent Form for Physical Fitness Tests and Trainings

知情同意書

CROSS Fitness 2.0「□ 」□ □ □

為年輕成年人而設的社區續顧計劃

項目描述

此計劃為全港 40 歲以下，特別針對 21 歲至 35 歲年輕成年戒毒組群而設的社區運動康復計劃，提升戒毒者的運動能力，壓力管理，避免吸毒自我勝任感，提昇個人生活滿足感(包括生活質素) 及全人健康，使他們成為義工及教練達致充權及預防復吸，轉化個人及社工的身份，長遠維持個人無毒生活的目標。

運動康復研究計劃由東華三院越峰成長中心及香港浸會大學體育及運動學系合作進行。

研究目的是了解透過有系統的運動訓練對增強青少年的體適能狀況、自我效能感及遠離毒品方面的影響。是次計劃內所有收集的資料只會作統計及研究用途，任何可識別你個人身份的資料均會保密。在你決定參與前，請務必清楚瞭解本研究的目的和所涉及的事項，並請你仔細考慮後才決定是否願意參加本研究。

運動康復研究計劃步驟如下:

A. 運動前測試 (香港浸會大學體育及運動學系)

所有研究參與者需填寫問卷和接受體能測試，內容在附件一。整份問卷需時約 20 分鐘，體能測試需時約 40 分鐘。在體能測試前，需完成「體能活動適應能力問卷與你」問卷，需時約 2 分鐘。

B. 運動訓練 (東華三院越峰成長中心主辦，香港浸會大學體育及運動學系協助)

100 名年輕成年人參與運動培訓課程。運動培訓計劃的持續時間為 10 節 2 小時的訓練。

C. 運動後測試 (香港浸會大學體育及運動學系)

完成運動訓練課程後，參與者需填寫問卷和接受體能測試。內容與運動前測試相同，整份問卷需時約 20 分鐘，體能測試需時約 40 分鐘。

D. 採訪

部份參加者將會被邀請參加訪問，分享對此計劃的感受和意見。採訪所需的時間約 30 分鐘，採訪將由研究人員來進行，採訪內容將被錄音，以作逐字記錄，參與者有權拒絕錄音和/或採訪。

風險評估

參與研究過程中如果有以下任何不適，測試或訓練將會終止：（1）頭暈、噁心、胸口痛等不適，（2）心率增長超過 30%，若參與者出現疲勞和頭暈，將被要求終止測試或訓練。參與者亦可隨時終止測試或訓練。

緊急醫療措施

若參與者在測試或訓練過程中出現任何不適，請盡快通知研究人員、教練或社工。如果您在參與是次研究時發生其他疾病，本研究小組不會作補償安排。

研究效益

本研究計劃將能協助了解透過有系統的運動訓練對增強青少年的體適能狀況、自我效能感及遠離毒品方面的影響。

私隱保障

參與者有關資料只限研究人員查閱。整個研究過程中除了研究人員外，其他人士皆不可接觸有關資料。

機密性

研究數據（問卷，評估和訪談）將由東華三院越峰成長中心此計劃社工及香港浸會大學體育及運動學系此計劃研究人員保存於中心及學系辦公處內。研究數據文件不會顯示任何參加者的個人資料，只有研究人員會取得研究數據。這個研究數據只有禁毒委員會，東華三院及浸會大學本計劃相關人員可接觸。本研究報告不會顯示參加者的個人身份資料，僅用於科學研究。是次計劃內所有收集的資料只會作統計及研究用途，任何可識別你個人身份的資料均會保密。研究報告沒有任何可識別或顯示你個人身份的資料。研究項目完成後的 2 年，數據的紙質副本和數字將被切紙機破壞銷毀，電子副本將從電腦計算機硬盤和可移動電腦電子光盤中刪除。

聯絡資料

您若對於研究的任何疑問，請聯絡以下人仕：

東華三院越峰成長中心主任楊枏英女士女士或計劃經理鄭振昌先生，電話:2884-0282，

香港浸會大學體育及運動學系張小燕教授，電話：3411-5637。

若在本研究過程中您認為研究者沒有按照上述的協定進行研究，或您認為您的個人權利受到侵犯，您可以電郵聯絡大學研究倫理委員會，電郵地址為 hkbu_rec@hkbu.edu.hk，亦可以郵寄方式聯絡浸會大學研究院，地址為香港九龍塘香港浸會大學研究院。

參與條款

您明白參與是次研究乃是出於自己的意願，您可以在研究過程中退出而無需作出賠償。您的個人資料將在您退出後予以銷毀。

同意聲明

本人已閱讀並明白以上條文，並有機會發問。本人願意及決定參與本研究，並會獲得本同意書的副本。

_____	_____	_____
參與者/代理人姓名	參與者/代理人簽署	日期
_____	_____	_____
見證人姓名	見證人簽署	日期
_____	_____	_____
研究員姓名	研究員簽署	日期

－知情同意書完－

Appendix 2 - Questionnaire

Part 1 – Demographic Information

第一部份：基本資料
***請於適合的☐加上✓，並於填寫資時填寫準確的數目 (如應填寫 1 年/1 支，而非 1-2 年/2-3 支等)**

1. 性別
   ☐ (1) 男　　☐ (2) 女　　☐ (3) 不詳

2. 年齡
   ☐ _____歲

3. 就讀/在職情況：
   ☐ (1) 全日制學生　　☐ (2) 兼讀制學生
   ☐ (3) 全職(每週 44 小時或以上)　　☐ (4) 兼職(每週少於 44 小時)

   職業:_____ 工作年期: _____　　職業:_____ 工作年期: _____
   ☐ (5) 待業

4. 學歷：
   ☐ (1) 小學　　☐ (2) 初中 (F.1 – F.3)
   ☐ (3) 高中 (F.4 – F.6) / (F.4 – F.7)　　☐ (4) 大專
   ☐ (5) 大學或以上

5. 婚姻狀況：　　* **請圈出詳細分類**
   ☐ (1) 未婚　　☐ (2) 男朋友 / 女朋友
   ☐ (3) 已婚 / 同居　　☐ (4) 鰥 / 寡 / 離婚 / 分居

6. 共同居住嘅成員：（請填人數）
   ☐ (1) 父　☐ (2) 母　☐ (3) 兄　☐ (4) 姊　☐ (5) 弟　☐ (6) 妹
   ☐ (7) 祖父　☐ (8) 祖母　☐ (9) 外祖父　☐ (10) 外祖母
   ☐ (11) 男/女友　☐ (12) 其他 (請註明:

7. 平均每月個人入息：
   ☐ (1) 無收入　☐ (2) $4, 999 或以下　☐ (3) $5,000 – $9,999
   ☐ (4) $10,000 – $14,999　☐ (5) $15,000 - $19,999　☐ (6) $20,000 - $29,999
   ☐ (7) $30,000 或以上

8. 你是否有吸食香煙的習慣？
   ☐ (1) 沒有　☐ (2) 有，每天吸食_____支

9. 你是否有吸食電子煙的習慣？
   ☐ (1) 沒有　☐ (2) 有，每星期吸食 _____天

10. 你是否有飲酒的習慣？
    ☐ (1) 沒有　☐ (2) 有，每星期飲酒_____天

11. 你是否曾參與 CROSS Fitness 1.0 之活動？
    ☐ (1) 沒有　☐ (2) 有，曾參與 _____

Part 2 - Drug Abuse Situation Questionnaire

第二部份：
請細心閱讀各題，填上你認為最適合的答案。所有答案將完全保密。

***請於填寫資時填寫準確的數目 (如應填寫 1 次，而非 1-2 次)**

1. 在過去 3 個月內，你有多少次：	過去 3 個月內		
	從來沒有	間中有	經常有
A. 吸食大麻	☐	試過____次	每日_____次 / 每星期_____次
B. 吸食白粉（海洛英）	☐	試過____次	每日_____次 / 每星期_____次
C. 服食 Fing 頭丸（亞甲二氧基甲基安非他明）	☐	試過____次	每日_____次 / 每星期_____次
D. 吸食 K 仔（氯胺酮）	☐	試過____次	每日_____次 / 每星期_____次
E. 吸食冰（甲基安非他明）	☐	試過____次	每日_____次 / 每星期_____次
F. 服食忽得	☐	試過____次	每日_____次 / 每星期_____次
G. 服食五仔	☐	試過____次	每日_____次 / 每星期_____次
H. 服食藍精靈	☐	試過___次	每日_____次 / 每星期_____次
I. 服食白瓜子	☐	試過____次	每日_____次 / 每星期_____次
J. 吸食可卡因	☐	試過____次	每日_____次 / 每星期_____次
K. 服食咳藥水	☐	試過____次	每日_____次 / 每星期_____次
L. 吸食有機溶劑（天拿水）	☐	試過____次	每日_____次 / 每星期_____次
M. 服食其他毒品〔不包括吸煙或飲酒〕請註明：_____	☐	試過____次	每日_____次 / 每星期_____次

Reference: Beat Drugs Fund Evaluation Question Set No. 6 (Frequency of drug use in the past 3 months) (2010 Second Round)
Adopted from Evaluation Questionnaire of Project Astro Mind
Permission to use was granted by Prof. Daniel Shek of Hong Kong Polytechnic University

Part 3 - International Physical Activity Questionnaire

第三部份:

國際身體活動問卷

以下這些問題會問你在最近 7 天花在身體活動的時間，請回答每一個問題，如果你認為自己是一個沒有活動的人，那麼請想一想你在工作時的活動，又例如你在家裡或園藝的情況、從一個地方到另一個地方，及在你空閒時的運動或娛樂。

***請於填寫資時填寫準確的數目 (如應填寫 1 天/1 小時，而非 1-2 天/ 2-3 小時等)**

想一想在**最近 7 天**裡你做過所有**強而有力**的活動，強而有力的身體活動是指以費力的身體負荷且讓你呼吸較正常更為急促的活動。回想你所做過**每次至少 10 分鐘**的那些身體活動。

1. 最近 7 天裡，你花多少天做**強而有力的身體活動**，像是提重物、苦力、有氧運動或快騎腳踏車？

☐ 有強而有力的身體活動，每週_____天

☐ 沒有強而有力的身體活動 ☐ 跳到問題 3

2. 在參與強有力身體活動的那些日子，你通常花多少時間做強而有力的身體活動？

☐ 通常每天花_____ 個小時，_____分鐘

☐ 不知道/不確定

想一想**最近 7 天**你做過所有適度的活動，**適度的活動**是指以適度的身體負荷並且讓你呼吸比正常費力一些的活動。

3. 最近 7 天裡，你花多少時間做**適度的身體活動**，像是提輕的物品、正常的速度騎腳踏車或網球雙打？
   不包括走路。

☐ 有適度的身體活動，每週_____天

☐ 沒有適度的身體活動 ☐ 跳到問題 5

4. 在參與適度身體活動的那些日子，通常你花多少時間做適度的身體活動？

☐ 通常每天花_____ 個小時，_____分鐘

☐ 不知道/不確定

想一想**最近 7 天**你花多少時間在**走路**，包括工作、在家、從某地到某地、娛樂、遊戲或休閒時的走路。

5. 最近 7 天裡，你花多少天走路而每次至少走 10 分鐘？

☐ 每週_____天_____

☐ 沒有走路 ☐ 跳到問題 7

6. 在走路的那些日子，你通常花多少時間在走路？

☐ 通常每天花_____ 個小時，_____分鐘

☐ 不知道/不確定

最後的問題是在**最近連續 7 個非假日時間 [扣除週六與週日]** 你花多少時間在**坐著**，包括花在工作、家裡、
做作業及休閒時的坐著，這或許可以包括花在書桌、拜訪朋友、讀書或看電視的躺著或坐著。

7. 在最近七天裡，在你**非假日時間**，你總共花了多少時間坐著？

☐ 通常**每天**花_____ 個小時，_____分鐘

☐ 不知道/不確定

---

8. 過去一星期中，你有沒有因為**身體不適**或其他原因**暫停參與體能活動**？

☐ 有。如有，是什麼原因？

_____

☐ 沒有

9. 你認為你的身體健康是（把你認為合適的答案圈“○”出來）：

1	2	3	4	5	6	7
非常不好	不太好	不好	普通	好	很好	非常好

10. 你每晚的睡眠時間平均是：（請圈“○”一項）

(1) 9 小時或以上　(2) 7 至 8 小時　(3) 5 至 6 小時
(4) 3 至 4 小時　(5) 少於 3 小時

Reference: Booth, M.L. (2000). Assessment of Physical Activity: An International Perspective.

Part 4 - Simplified Coping Style Questionnaire

第四部份:
以下列出的是當你在**生活中經常受到挫折打擊**，或**遇到困難**時**可能採取的態度和做法**。請你仔細閱讀每一項，然後在右邊選擇回答。

題目		沒用過 (0)	偶爾使用 (1)	有時使用 (2)	經常使用 (3)
1	通過工作、學習或一些其他活動解脫	0	1	2	3
2	與人交談、傾訴內心煩惱	0	1	2	3
3	盡量看到事物好的一面	0	1	2	3
4	改變自己的想法，重新發現生活中甚麼重要	0	1	2	3
5	不要把問題看得太重	0	1	2	3
6	堅持自己的立場，為自己想得到的爭取	0	1	2	3
7	找出幾種不同的解決問題之方法	0	1	2	3
8	向親戚、朋友或同學尋求建議	0	1	2	3
9	改變原來的一些做法或自己的一些問題	0	1	2	3
10	借鑒他人處理類似困難情景的辦法	0	1	2	3
11	尋求個人嗜好，積極參加活動	0	1	2	3
12	盡量克制自己的失望、悔恨、悲傷和憤怒	0	1	2	3
13	試圖休息或休假，暫時把問題(煩惱)拋開	0	1	2	3
14	通過吸煙、飲酒、服藥或吃東西來解除煩惱	0	1	2	3
15	認為時間會改變現狀，唯一要做的便是等待	0	1	2	3
16	試圖忘記整個事情	0	1	2	3
17	依靠別人解決問題	0	1	2	3
18	接受現實，因為没有其它辦法	0	1	2	3
19	幻想可能會發生某種奇蹟改變現狀	0	1	2	3
20	自己安慰自己	0	1	2	3

Reference: Xie Y.N. Simplified coping style questionnaire. Chinese Mental Health Journal. 1999; supp 1:122-124.

Part 5 - Drug Avoidance Self-Efficacy Scale (DASES)

第五部份:
避免吸毒自我勝任感量表

以下 16 種不同的情境可能會觸發某些人士的**吸毒念頭**。 請細心閱讀各題，然後選出你認為最適合的答案。**這份問卷只作活動評估用途，所有資料絕對保密**。**啲嘢**泛指在沒有醫生指示下使用違禁或合法的危害精神毒品，例如 K 仔、大麻、『冰』、搖頭丸、咳藥水、天拿水等。	肯定會(能夠)	好可能會(能夠)	可能會(能夠)	很難說	可能唔會(唔能夠)	好可能唔會(唔能夠)	肯定唔會(唔能夠)
1. 試想你將會參加一個 Party，Party 上你會認識到一啲新朋友。你覺得啲嘢可以令你放鬆，令你更加有自信，你能唔能夠逃避啲嘢嘅引誘？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
2. 試想你啱啱搞壞咗一件好事，你自己一個人喺屋企覺得情緒低落，你能唔能夠逃避喺屋企啲嘢嘅引誘？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
3. 試想你喺屋企同男/女朋友鬧翻，此刻你覺得好嬲。你想同佢和好，但同時你亦想啲嘢，你能唔能夠抗拒啲嘢嘅引誘？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
4. 試想依幾日你冇乜嘢要做，而家你覺得好自在。阻止你啲嘢嘅唯一原因係你對自己承諾過你要戒毒 2 個月。而家仲差 3 個星期至到期解禁。你會唔會喺依個時候啲嘢？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
5. 試想而家係夜深，你屋企有毒品，啱啱你又剛唔著。之前你曾經決定唔再啲嘢。你能唔能夠抗拒用毒品嚟幫你剛覺嘅引誘？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
6. 試想聽日你開始返新工，今晚你同朋友出街玩，想開心下。你能唔能夠抗拒以啲嘢嚟助慶嘅引誘？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
7. 試想你喺屋企啱啱同男/女朋友鬧翻，此刻你覺得非常嬲。你好想用啲嘢嚟向佢報復。你能唔能夠抗拒啲嘢嘅引誘？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
8. 試想你同男/女朋友啱啱掟煲，而家情緒十分低落，你會唔會向啲嘢嘅引誘讓步？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
9. 試想你啱啱過見兩位朋友，佢哋以啲嘢嚟慶祝贏馬。你能唔能夠拒絕佢哋嘅慫恿，唔同佢哋一齊啲嘢？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
10. 試想你正在參加 Party，你覺得好緊張。其他人都好自在，好投入。你會唔會想用啲嘢嚟幫自己放鬆一吓？	7 □	6 □	5 □	4 □	3 □	2 □	1 □

以下 16 種不同的情境可能會觸發某些人士的**吸毒念頭**。 請細心閱讀各題，然後選出你認為最適合的答案。**這份問卷只作活動評估用途，所有資料絕對保密。啲嘢**泛指在沒有醫生指示下使用違禁或合法的危害精神毒品，例如 K 仔、大麻、『冰』、搖頭丸、咳藥水、天拿水等。	肯定會(能夠)	好可能會(能夠)	可能會(能夠)	很難說	可能唔會(唔能夠)	好可能唔會(唔能夠)	肯定唔會(唔能夠)
11. 試想你已經立志 2 個月內唔再啲嘢，但喺第 5 個星期你就失敗咗啦。你會唔會因為今次失敗而將錯就錯，啲得更多呢？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
12. 試想你已經差唔多可以戒毒戒到一個破記錄的時間，但尋晚你終於失守。你會唔會因為尋晚失敗咗，今晚再啲呢？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
13. 試想你而家自己一個人喺屋企覺得情緒低落，你能唔能夠抗拒出街啲嘢嘅引誘？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
14. 試想你嘅好朋友指責你反應遲鈍。你覺得好受傷，好想啲嘢，你能唔能夠抗拒啲嘢嘅引誘？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
15. 試想你嘅好朋友而家覺得好傷心。佢好想同你傾一啲沉重嘅心事。此刻佢好想以啲嘢嚟提升心情。你可唔可以唔同佢一齊啲嘢？	7 □	6 □	5 □	4 □	3 □	2 □	1 □
16. 試想今日係週末，你覺得好悶，冇嘢能夠叫你提起精神。你而家一個人喺屋企，依個時候你能唔能夠抗拒啲嘢嘅引惑？	7 □	6 □	5 □	4 □	3 □	2 □	1 □

Reference: Beat Drugs Fund Evaluation Question Set No. 3 (Self efficacy to avoid drug use) (2010 Second Round)

Part 6 - Self-Anchoring Scale & Personal Wellbeing Index

第六部份:

生活滿足感範疇

1. 以下的梯級是代表你現在的生活情況，梯級的上方是最理想的生活；下方是最不理想的生活，請在適當的地方**圈出最代表你現在的狀況**。

最理想的生活
10
9
8
7
6
5
4
3
2
1 **最不理想的生活**

	最不滿意 . . . . . 最滿意
2. 你對你整個人生及個人際遇，總括來說，有幾滿意呢？你會給予幾多分數呢？	0…1…2…3…4…5…6…7…8…9…10
3. 你對你的生活水平／指數有幾滿意呢？你會給予幾多分數呢？	0…1…2…3…4…5…6…7…8…9…10
4. 你對你身體健康狀況有幾滿意呢？你會給予幾多分數呢？	0…1…2…3…4…5…6…7…8…9…10
5. 你對你的個人成就 (包括事業、家庭等)，有幾滿意呢？你會給予幾多分數呢？	0…1…2…3…4…5…6…7…8…9…10
6. 你對你與其他人的相處關係有多滿意呢？你會給予幾多分數呢？	0…1…2…3…4…5…6…7…8…9…10
7. 你對自己的個人安全感有幾滿意呢 (例如覺得自己安全或有無安全感)？你會給予幾多分數呢？	0…1…2…3…4…5…6…7…8…9…10
8. 你對自己與社區的融洽程度有幾滿意呢 (例如你有沒有關注你社區所發生的事)？你會給予幾多分呢？	0…1…2…3…4…5…6…7…8…9…10
9. 你對你將來的人生保障 (例如醫療、經濟、社會、政治等) 有幾滿意呢？你會給予幾多分數呢？	0…1…2…3…4…5…6…7…8…9…10

Part 7 - Perceived Wellness Survey (PWS)

第七部份:

身心健康情況範疇

以下的句子可反映你的身心健康狀況。請仔細閱讀並詳細考慮，然後**圈出一個你認為最合適的答案**。
如你圈錯數字需要更改，請將錯誤劃上『X』，然後再重新圈出答案。謝謝！

	非常不同意	很不同意	不同意	同意	很同意	非常同意
1. 我向來都對自己的未來感到樂觀。	1	2	3	4	5	6
2. 我有時感到自己及不上大部分我所認識的人。	1	2	3	4	5	6
3. 我的家人在需要支援時，都會找我。	1	2	3	4	5	6
4. 我的健康限制了我過去的發展。	1	2	3	4	5	6
5. 我相信我這一生有一個真正的目標。	1	2	3	4	5	6
6.我經常會去找尋一些能激發我去思考與推論的活動。	1	2	3	4	5	6
7. 我甚少期望會有好事發生在我身上。	1	2	3	4	5	6
8. 一般來說，我對自己的能力很有信心。	1	2	3	4	5	6
9. 我有時不知道，我的家人是否真的會在我有需要時陪伴在我身邊。	1	2	3	4	5	6
10. 我的身體似乎能有效地抵抗疾病。	1	2	3	4	5	6
11. 我的前途黯淡。	1	2	3	4	5	6
12. 我會避免參與一些需要專注投入的活動。	1	2	3	4	5	6
13. 我經常樂觀地看事情。	1	2	3	4	5	6
14. 我有時會覺得自己一無是處。	1	2	3	4	5	6
15. 我的朋友都知道我是值得信任的，還會諮詢我的意見。	1	2	3	4	5	6
16. 我的體格極佳。	1	2	3	4	5	6
17. 我有時想不通生命有何意義。	1	2	3	4	5	6
18. 一般來說，我滿意從日常生活中獲得的智力挑戰。	1	2	3	4	5	6
19. 過去我一直期望得到最好的。	1	2	3	4	5	6
20. 我不敢肯定我的能力是否可以好好應付未來。	1	2	3	4	5	6
21. 過去我的家人一直支持我。	1	2	3	4	5	6
22. 跟我所認識的人比較，我過去的體格一直非常好。	1	2	3	4	5	6
23. 我對自己的未來懷有抱負。	1	2	3	4	5	6
24. 一般來說，我每天需要接收和處理的資訊數量恰到好處(不太多也不太少)。	1	2	3	4	5	6
25. 我過去甚少期望事情會如我所願。	1	2	3	4	5	6
26. 我瞭解自己,並且充滿信心。	1	2	3	4	5	6
27. 在過去我從來都沒有可以同甘共苦的朋友。	1	2	3	4	5	6
28. 我期望我的身體一直都是健康的。	1	2	3	4	5	6
29. 從前我覺得我的生命毫無意義。	1	2	3	4	5	6
30. 過去我一直認爲智力上的挑戰對我整體的健康十分重要。	1	2	3	4	5	6
31. 將來事情的發展一定不會如我所願。	1	2	3	4	5	6
32. 過去 我在面對陌生人時都甚具自信。	1	2	3	4	5	6
33. 當我有需要時，我的朋友總會在我身旁。	1	2	3	4	5	6
34. 我估計我的健康會轉壞。	1	2	3	4	5	6
35. 我感到我的生命總是有目標的。	1	2	3	4	5	6
36. 我的生命總好似欠缺了正面的精神鼓勵。	1	2	3	4	5	6

Part 8 - Chinese Sport Motivation Scale II (CSMSII)

第八部份：運動動力問卷

本問卷旨在評估你做運動的原因。您所提供的資料僅用作香港浸會大學統計或研究之用，將不會被用於其他目的。這份問卷的認同程度分為 7 個等級: 1=非常不同意 7=非常同意。
請圈出你對以下陳述的認同程度。本問卷答案沒有對錯，請您根據自己真實的感受作答即可。

	這份問卷目的是評估你對做運動的看法	非常不同意						非常同意
1.	因為如果我不參加這項運動，我會覺得自己不好	1	2	3	4	5	6	7
2.	我曾經擁有良好的理由參與這項運動，但現在我不知道應否要繼續參加	1	2	3	4	5	6	7
3.	因為我覺得學習如何改進是非常有趣的	1	2	3	4	5	6	7
4.	因為參與這項運動反映了最真實的自己	1	2	3	4	5	6	7
5.	因為如果我不參加這項運動，我關心的人會對我發脾氣	1	2	3	4	5	6	7
6.	因為我發現這是一種很好的方式來培養我自己所看重的素質	1	2	3	4	5	6	7
7.	因為如果我不參加這項運動，我會覺得自己的價值降低	1	2	3	4	5	6	7
8.	因為如果我不參加這項運動， 我關心的人會對我感到不滿	1	2	3	4	5	6	7
9.	當我發現新的方法提升運動專項能力，我會感到很愉快	1	2	3	4	5	6	7
10.	我不知道了， 我覺得我不能在這項運動上取得成功	1	2	3	4	5	6	7
11.	因為參加這項運動已成為我生命中不可缺少的一部分	1	2	3	4	5	6	7
12.	因為參加這項運動是一個自我提升的好方法	1	2	3	4	5	6	7
13.	我對參加這項運動的原因已不再清晰，我真不覺得我適合這項運動	1	2	3	4	5	6	7
14.	因為參與這項運動與我的價值觀相符	1	2	3	4	5	6	7
15.	因為參加這項運動，身邊重要的人會給我獎勵	1	2	3	4	5	6	7
16.	因為當我參加這項運動，我會對自己感覺更好	1	2	3	4	5	6	7
17.	因為學習更多關於這項運動的知識能給我帶來樂趣	1	2	3	4	5	6	7
18.	因為參加這項運動是發展我其他方面能力的好途徑	1	2	3	4	5	6	7

Reference: CSMSII

Part 9 – Physical Fitness Testing Log Sheet

第九部份： 體適能測試數據記錄表 Case no.: _____

1. **BMI 身體質量指數：** _____ = 體重_____(公斤) /身高_____(米)^2

2. **腰圍(cm)：** _____ **臀／髖圍(cm) ：** _____ **腰臀比例:**_____ **身體脂肪率：** _____%

3.

肺活量：	一秒鐘用力呼氣量 (FEV1) (L)	用力肺活量 (FVC) (L)
第一次		
第二次		

4. **Sit & reach test： 最佳成績**：_____cm

第一次：_____cm 第二次：_____cm 第三次：_____cm

5. **120 秒平衡力測試： 最佳成績**：_____秒

第一次：_____秒 第二次：_____秒 第三次：____

__秒

6b. **立定跳遠測試： 最佳成績**：_____cm

第一次：_____cm 第二次：_____cm 第三次：_____cm

7. **YMCA 3 min step test：** 復原心率每分鐘心跳_____下

8.

手握力測試：	左 (kg)	右 (kg)	
第一次			
第二次			
第三次			
最佳成績	(Left)+	(Right)=	kg (TOTAL)

9. **一分鐘 sit up 測試次數：** _____

問卷完成，多謝你的寶貴時間！

Appendix 3 – Testing Instruments Scoring Method

A. International Physical Activity Questionnaire

1. Calculation of MET-min per week
   - Formula:
     - MET level × minutes of activity/day × days per week
   - MET levels:
     - Walking = 3.3 METs,
     - Moderate Intensity Activities = 4.0 METs
     - Vigorous Intensity Activities = 8.0 METs
2. Categorization of three levels of physical activities
   - Low
     - No activities is reported; or
     - Some activity is reported but not enough to meet Categories 2 or 3.
   - Moderate

     One of the following 3 criteria
     - 3 or more days of at least 20 minutes per day; or
     - 5 or more days of moderate-intensity activity and/or walking of at least 30 minutes per day; or
     - 5 or more days of any combination of walking, moderate=intensity or vigorous-intensity activities achieving a minimum of at least 600MET-mintues/week.
   - High

     One of the following 2 criteria
     - Vigorous-intensity activity on at least 3 days and accumulating at least 1500 MET-minutes/week; or
     - 7 or more days of any combination of walking, moderate- or vigorous-intensity activities accumulating at least 3000 MET-minutes/week.

B. Perceived Wellness Survey- Calculation of Wellness Composite Score

1. Score each item from 1, “very strongly disagree” to 6, “very strongly agree.” No labels are applied to respond options 2-5. Items 2, 4, 7, 9, 11, 12, 14, 17, 20, 25, 27, 29, 31, 34, 36 are reversely scored.

2. Sum all of the subscale means. The result is the Wellness Magnitude.
3. Divide Wellness Magnitude by 6. The result is called "xbar."
4. For each subscale, compute the following: (subscale mean – xbar)2. The result is called subscale deviation.
5. Sum all of the subscale deviations, then divide the total by 5 (n-1). The result is called the variance. Compute the Wellness Balance with the following formula [(square root of the variance) + 1.25]. The 1.25 is added to the denominator to prevent a Wellness Balance of 0 from creating an invalid Wellness Composite score.
6. Compute the Wellness Composite score with the following formula: Wellness Magnitude/Wellness Balance.

C. Chinese Sports Motivation Scales - II – Scoring Methods

- Amotivation: Sum of Items 2, 10 and 13
- Extrinsic Motivation - External regulation: Sum of Items 5, 8 and 15
- Extrinsic Motivation - Introjected regulation: Sum of Items 1, 7 and 16
- Extrinsic Motivation - Identified regulation: Sum of Items 6, 12 and18
- Extrinsic Motivation - Integrated regulation: Sum of Items 4, 11 and 14
- Intrinsic Motivation: Sum of Items 3, 9 and 17

Appendix 4 – Consent Forms for Interviews

Part 1 – Consent Form for Participants

知情同意書

CROSS Fitness 2.0「□ 」□ □ □

為年輕成年人而設的社區續顧計劃

(採訪: 項目參加者)

項目描述

此計劃為全港 40 歲以下，特別針對 21 歲至 35 歲年輕成年戒毒組群而設的社區運動康復計劃，提升戒毒者的運動能力，壓力管理，避免吸毒自我勝任感，提昇個人生活滿足感(包括生活質素) 及全人健康，使他們成為義工及教練達致充權及預防復吸，轉化個人及社工的身份，長遠維持個人無毒生活的目標。

運動康復研究計劃由東華三院越峰成長中心及香港浸會大學體育及運動學系合作進行。

研究目的是了解透過有系統的運動訓練對增強青少年的體適能狀況、自我效能感及遠離毒品方面的影響。是次計劃內所有收集的資料只會作統計及研究用途，任何可識別你個人身份的資料均會保密。在你決定參與前，請務必清楚瞭解本研究的目的和所涉及的事項，並請你仔細考慮後才決定是否願意參加本研究。

採訪

部份參加者在完成 1)運動前測試，2)運動訓練及 3)運動後測試將會被邀請參加訪問，分享對此計劃的感受和意見。採訪所需的時間約 30 分鐘，採訪將由研究人員來進行，採訪內容將被錄音，以作逐字記錄，參與者有權拒絕錄音和/或採訪。

研究效益

本研究計劃將能協助了解透過有系統的運動訓練對增強青少年的體適能狀況、自我效能感及遠離毒品方面的影響。

私隱保障

參與者有關資料只限研究人員查閱。整個研究過程中除了研究人員外，其他人士皆不可接觸有關資料。

機密性

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聯絡資料

您若對於研究的任何疑問，請聯絡以下人仕：
東華三院越峰成長中心主任楊枏英女士女士或計劃經理鄭振昌先生，電話:2884-0282，
香港浸會大學體育及運動學系張小燕教授，電話：3411-5637。
若在本研究過程中您認為研究者沒有按照上述的協定進行研究，或您認為您的個人權利受到侵犯，您可以電郵聯絡大學研究倫理委員會，電郵地址為 hkbu_rec@hkbu.edu.hk，亦可以郵寄方式聯絡浸會大學研究院，地址為香港九龍塘香港浸會大學研究院。

參與條款

您明白參與是次研究乃是出於自己的意願，您可以在研究過程中退出而無需作出賠償。您的個人資料將在您退出後予以銷毀。

同意聲明

本人已閱讀並明白以上條文，並有機會發問。本人願意及決定參與本研究，並會獲得本同意書的副本。

_____	_____	_____
參與者/代理人姓名	參與者/代理人簽署	日期
_____	_____	_____
見證人姓名	見證人簽署	日期
_____	_____	_____
研究員姓名	研究員簽署	日期

－知情同意書完－

Part 2 – Consent Form for Coaches and Social Workers

知情同意書 2

CROSS Fitness 2.0「□ 」□ □ □

為年輕成年人而設的社區續顧計劃
(採訪:教練及參加研究機構同工)

項目描述

此計劃為全港 40 歲以下，特別針對 21 歲至 35 歲年輕成年戒毒組群而設的社區運動康復計劃，提升戒毒者的運動能力，壓力管理，避免吸毒自我勝任感，提昇個人生活滿足感(包括生活質素) 及全人健康，使他們成為義工及教練達致充權及預防復吸，轉化個人及社工的身份，長遠維持個人無毒生活的目標。

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採訪

部份教練及參加研究機構同工將會被邀請參加訪問，分享對此計劃的感受和意見。採訪所需的時間約 30 分鐘，採訪將由研究人員來進行，採訪內容將被錄音，以作逐字記錄，參與者有權拒絕錄音和/或採訪。

風險評估

參加訪問過程中如果有任何不適，訪問將會終止，參與者亦可隨時終止。

研究效益

本研究計劃將能協助了解透過有系統的運動訓練對增強青少年的體適能狀況、自我效能感及遠離毒品方面的影響。教練及參加研究機構同工的意見，有助於改善將來的研究計劃。

私隱保障

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同意聲明

本人已閱讀並明白以上條文，並有機會發問。本人願意及決定參與本研究，並會獲得本同意書的副本。

_____	_____	_____
參與者/代理人姓名	參與者/代理人簽署	日期
_____	_____	_____
見證人姓名	見證人簽署	日期
_____	_____	_____
研究員姓名	研究員簽署	日期

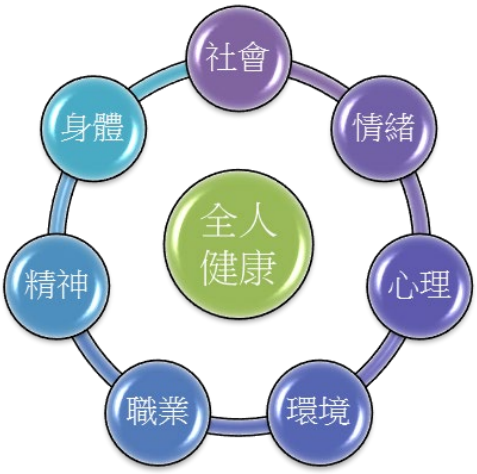
－知情同意書完－

Appendix 5 – Interview Questions

Part 1 – Interview Questions for Participants

1.1 你參加這次計劃的原因是甚麼？
Why do you join in this program?
1.2 你參加了哪項運動訓練？
Which sport training did you join?

2. 參加這次計劃前，
Before participated in the this program,
2.1 你期望自己有甚麼得著？
What do you expect from this program?
2.2 你希望哪方面的健康得到改善？
In seven dimensions of wellness, which dimension(s) you would like to improve?



2.3 你覺得你的健康有得到改善嗎？
Do you think your wellness had been improved?

3. 在這次計劃中，
During this program,
3.1 你最大的困難是甚麼？
What was the greatest difficulty you had to face?
3.2 有甚麼因素能夠令你未能繼續？
What caused you unable to attend?
3.3 有甚麼因素支持你繼續？
What was/were the factor(s) supporting you to continue?

4. 參加完這次計劃後，
After finished this program,
4.1 有沒有發現自己生理上有任何改變？
Do you have any physical change?
4.2 有沒有發現自己心理上有任何改變？
Do you have any mental/psychological change?

4.3 有沒有發現自己社交方面有任何改變？
Do you have any social change?

4.4 有沒有想改變的地方？
Is there anything you want to change?
4.5 你會否保持運動的習慣？
Will you keep the habit of exercising?

5.1 你認為運動對戒掉毒癮是否有幫助? 如有，有怎樣的幫助？
Do you think that physical exercises are useful for abstinence of drug? If yes, how?
5.2 如要在運動與戒毒治療中選一個，你會選哪一個？為甚麼？
If you have to choose between physical exercises and drug treatment, which one would you choose? Why?

6. 如舉辦類似的活動，
If we organize similar activities in the future,
6.1 你會否再次參加？為什麼？
Will you participate again? Why?
6.2 有沒有其他改善建議？如地點、時間、內容等
Is there any other suggestion for improvement?
(e.g. location, time, content, etc.)

Part 2 – Interview Questions for Coaches and Social Workers

1. From your observation, what is /are the benefits of this program to the participants?
從您的觀察來看，這項計劃對參與者有什麼好處？
2. From your observation, what is /are the constraints for the participants to take part in this program?
從您的觀察來看，參與者參加這項計劃的限制是什麼？
3. From your observation, which sport training(s) is/are the most popular among the participants?
從您的觀察來看，哪項運動訓練最受參與者歡迎？
4. Is there any other suggestion for improvement?
(e.g. location, time, content, etc.)
有沒有其他改善建議？如地點、時間、內容等
5. Other comments. 其他的建議.

Appendix 6 – Additional survey in March 2022

CROSS Fitness 2.0 Sport training – Survey with participants (A)

CROSS Fitness 2.0 運動課程 參加者問卷調查 (甲)

多謝你參加 CROSS Fitness 2.0 運動課程，我們邀請你填寫以下問卷，你的意見對將來舉辦同類活動非常重要。答案沒有錯與對，你的回覆只會作研究統計之用，不會顯示你的個人身份。希望你回答所有的問題，多謝你。

1. 請問你當時是參加哪項運動訓練呢？(可選多於一項)
   ☐跑步 [1] ☐拳擊 [2] ☐瑜伽 [3] ☐跳舞 [4] ☐伸展 [5] ☐足球 [6] ☐籃球 [7] ☐健身 [8]
   ☐普拉提 [9] ☐健球 [10] ☐地壺 [11] ☐TABATA 間歇訓練 [12] ☐VX 球 [13]
   ☐其他：_____(請說明)

2. 請問你當時完成了幾節運動訓練呢？(請填寫)
   _____節

3. 請問你為甚麼會中途退出運動訓練呢？(可選多於一項)
   ☐沒有動力繼續 [1]
   ☐沒有人陪伴 [2]
   ☐沒有時間/時間不合適 [3]
   ☐訓練地方太遠/不方便 [4]
   ☐身體不適 [5]
   ☐運動訓練強度太高/太累 [6]
   ☐抵受不住毒品的引誘 [7]
   ☐不喜歡這項運動 [8]
   ☐運動技巧難以掌握，感到困難 [9]
   ☐疫情關係，課堂取消 [10]
   ☐其他：_____(請說明)

4. 你的性別是？
   ☐男 [1] ☐女 [2]

5. 你的個案編號：_____

CROSS Fitness 2.0 Sport training – Survey with participants (B)

CROSS Fitness 2.0 運動課程 參加者問卷調查 (乙)

多謝你參加 CROSS Fitness 2.0 運動課程，我們邀請你填寫以下問卷，你的意見對將來舉辦同類活動非常重要。答案沒有錯與對，你的回覆只會作研究統計之用，不會顯示你的個人身份。希望你回答所有的問題，多謝你。

1. 請問你當時是參加哪項運動訓練呢？(可選多於一項)
   ☐跑步 [1] ☐拳擊 [2] ☐瑜伽 [3] ☐跳舞 [4] ☐伸展 [5] ☐足球 [6] ☐籃球 [7] ☐健身 [8]
   ☐普拉提 [9] ☐健球 [10] ☐地壺 [11] ☐TABATA 間歇訓練 [12] ☐VX 球 [13]
   ☐其他：_____(請說明)

2. 請問你在完成運動訓練後到 2021 年 12 月底為止還有保持運動的習慣嗎？
   ☐有 [1] ☐沒有 [2](請跳去第 5 題)

3. 請問你在完成運動訓練後到 2021 年 12 月底為止的運動頻率是？
   ☐每月一至兩次 [1]
   ☐每星期一至兩次 [2]
   ☐每星期三至四次 [3]
   ☐每星期五至六次 [4]
   ☐每天 [5]

4. 為甚麼你會保持運動的習慣呢？(可選多於一項)
   ☐因為想身體健康 [1]
   ☐因為做運動很有趣 [2]
   ☐因為做運動令我感到快樂 [3]
   ☐因為做運動令我找到目標 [4]
   ☐因為我覺得做運動有正面意義 [5]
   ☐因為有家人/朋友的陪伴 [6]
   ☐因為家人/朋友的鼓勵 [7]
   ☐因為做運動已是生活習慣 [8]
   ☐其他：_____(請說明)

5. 為甚麼你沒有保持運動的習慣呢？(可選多於一項)
   ☐沒有動力繼續 [1]
   ☐沒有人陪伴 [2]
   ☐沒有時間 [3]
   ☐沒有合適的地方/場地 [4]
   ☐身體不適 [5]
   ☐做運動太累 [6]
   ☐因為運動技巧難以掌握，感到困難 [7]
   ☐疫情影響，不方便做運動 [8]
   ☐其他：_____(請說明)

6. 你在完成運動訓練後，有沒有考取教練證書？
   ☐有 [1]
   (請回答下面問題 6.1)
   ☐沒有 [2]
   (請回答下面問題 6.2)

   6.1 a) 你考教練證書的運動項目是？
   _____(請說明)
   b) 你現在/未來有沒有打算以運動教練作為職業？
   ☐有 [1]
   ☐沒有 [2]
   (請到第 7 題)

   6.2 你未來有沒有打算考取教練證書？
   ☐有 [1]
   ☐沒有 [2]

7. 其他意見 (請說明)：
   _____

8. 你的性別是？
   ☐男 [1] ☐女 [2]

9. 你的個案編號：_____

Appendix 7 – List of Centres and Hostels

List of Counselling Centres for Psychotropic Substance Abusers

Hong Kong Christian Services – "Hero + " MSM Support Service

Hong Kong Sheng Kung Hui Welfare Council – Neo Horizon

Tung Wah Group of Hospitals – CROSS Centreå

List of Drug Treatment and Rehabilitation Centres and Halfway Houses

Barnabas Charitable Service Association Limited – Lamma Training Centre

Barnabas Charitable Service Association Limited – Ma On Shan Half-way House

Caritas Wong Yiu Nam Centre

Hong Kong Christian Service Jockey Club Lodge of Rising Sun

The Society for the Aid and Rehabilitation of Drug Abuser – Sister Aquinas Memorial Women's Treatment Centre

List of Hostels

Hong Kong Juvenile Care Centre

Research team members

Principal Investigator:	Prof. CHEUNG Siu Yin (Hong Kong Baptist University)
Co-Principal Investigator:	Ms. WONG Wing Shan, Jennifer
	(Hong Kong Baptist University)
Co-Investigator:	Dr. HA Chui Wai, Sophia
	(The Education University of Hong Kong)
	Mr. KONG Tsz Yeung, Alfie (Hong Kong Baptist University)
	Dr. LO Ki Chiu, Roger (Hong Kong Metropolitan University)
Project Officer:	Ms. MAN Ho Lam, Candy (Hong Kong Baptist University)
	Ms. CHAN Ho Mei, Phyllis (Hong Kong Baptist University)

Members from Tung Wah Group of Hospitals CROSS Centre

Supervisor:	Ms. CHAN Kit Wah, Jessica (Serving period: since 2021.7)
	Ms. YEUNG Nam Ying, Daphne (Serving period: 2019.4-2021.7)
Project Manager:	Mr. CHENG Chun Cheong, Jack (Serving period: since 2019.4)
Social Worker:	Mr. LEUNG Kai Ming, Mike (Serving period: since 2019.4)
	Mr. CHAN Chak Kit, Kit (Serving period: since 2019.7)
	Ms. WONG Ka Yan, Jenny (Serving period: since 2021.10)
	Ms. HO Kiu Yan, Chrissy (Serving period: 2019.10-2021.9)
	Ms. Li Hiu Ling, Emily (Serving period: 2019.4-2019.9)

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Barnabas Charitable Service Association Limited – Lamma Training Centre

Barnabas Charitable Service Association Limited – Ma On Shan Half-way House

Caritas Wong Yiu Nam Centre

Department of Sport, Physical Education and Health, Hong Kong Baptist University

Dr. Stephen Hui Research Centre for Physical Recreation and Wellness, Hong Kong Baptist University

Hong Kong Christian Services – "Hero + " MSM Support Service

Hong Kong Sheng Kung Hui Welfare Council – Neo Horizon

Hong Kong Christian Service Jockey Club Lodge of Rising Sun

Hong Kong Juvenile Care Centre

The Society for the Aid and Rehabilitation of Drug Abuser – Sister Aquinas Memorial Women's Treatment Centre

Tung Wah Group of Hospitals – CROSS Centre

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