

Chapter 3



A Gender-Responsive Treatment Facility in Correctional Services: The Development of Psychological Gymnasium for Women Offenders

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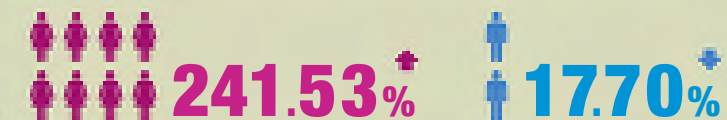
Abstract

With increasing evidence suggesting a disparity in female and male offenders in terms of rehabilitative needs, growing concern has been placed on the development of gender-specific services for female offenders. As such, a prison-based psychological gymnasium (PSY GYM), with distinctive features in integrating cognitive-behavioral and positive-psychology concepts to address female offenders' needs, was set up in 2011. The present study aims to introduce the concept as well as present findings to evaluate the overall effectiveness of PSY GYM. Nineteen Chinese female offenders participated in a 6 to 8-months intensive training programme at the Lo Wu Correctional Institution (LWCI) of the Hong Kong Correctional Services Department in Hong Kong. Psychometric inventories were used to assess their psychological distress and positive growth following the programme. Participants showed significant reduction in their depression, anxiety, and stress symptoms, and in their tendency to pay attention to negative information. Furthermore, their sense of hope, gratitude, and tendency to pay attention to positive information had remarkably increased. This indicated the effectiveness of PSY GYM in facilitating successful rehabilitation for female offenders.

Introduction

In 2015, the World Female Imprisonment List showed that female prisoners generally constitute between 2% and 9% of the total prison population across the world (Walmsley, 2015). There were only 18 penal institutions having a higher percentage, with Hong Kong the second highest (19.4%) in the world. The incarceration rate of females in Hong Kong has continued to grow over the last few decades; between 1986 and 2014, the female prison population increased by 241.53%, during which time male imprisonment dropped by 17.70% (Hong Kong Special Administrative Region, 2015).

Prison population between 1986 and 2014, by gender

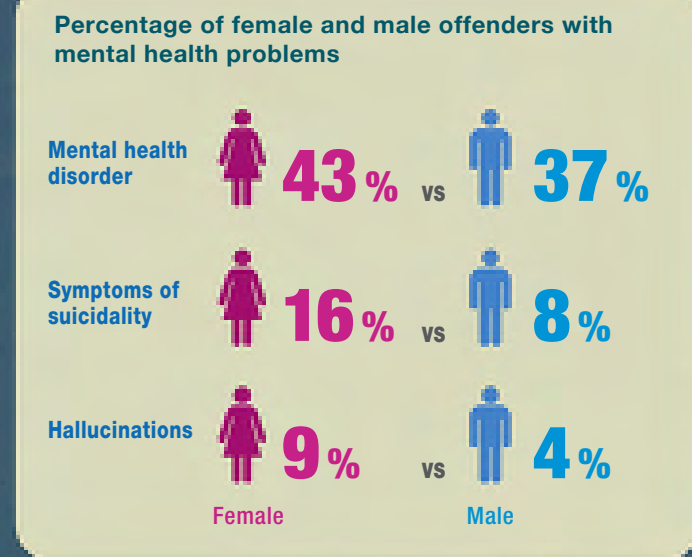


Despite the rapid growth of the female prison population, psychological treatments customized for female offenders are limited. Most prison-based interventions have been designed based on studies of male offenders in correctional settings (Kurten-Vartio, 2007; Lewis, 2006). However, studies on female offenders indicated that they have different psychological needs from male prisoners (e.g., Loper, Carlson, Levitt, & Scheffel, 2009; Salisbury & Van Voorhis, 2009; Sherman, 2001). For example, Salisbury and Van Voorhis (2009) summarized the gender-specific risk factors of incarcerated women: (a) abuse and traumatic experience, (b) serious mental health problem(s), (c) self-regulating problem(s) with substance abuse, (d) dysfunctional and abusive intimate relationships, and (e) parenting stress. Loper et al. (2009) reported that female prisoners had greater child care responsibilities than their male counterparts prior to incarceration. The study also revealed a significant association between parenting stress and depressive symptoms among female offenders but not male offenders.

Another gender-specific need in female offenders is mental health problems (James & Glaze, 2006). An Australian Institute of Health and Welfare (2013) study revealed that the proportion of female offenders (43%) who reported ever having a mental health disorder, including depression, anxiety, substance abuse disorders, personality disorders, and psychoses, was larger than that of male offenders (37%). Similar results were also found in the United Kingdom by The Offender Health Research Network (2010), which showed that at a specific period of time, the percentage of female offenders who had clinically significant symptoms of suicidality (16% vs. 8%) or clinically significant hallucinations (9% vs. 4%) was double that of male offenders. Furthermore, the rates of co-occurring diagnoses, such as depression and substance abuse, for female offenders were nearly 4 times the rates for male offenders (Blume, 1997). The higher prevalence of mental illness among female offenders would make them more likely to experience difficulty in adjusting to incarceration as compared with their male counterparts.

The above review shows that there are nongender-specific needs shared by both men and women. Services targeting these needs, such as substance abuse, parental needs, mental health needs, trauma, and dysfunctional relationships, are meant not only to

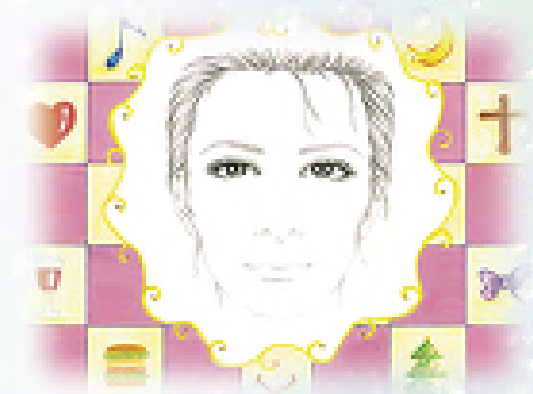
promote better prison conduct but also to prevent future offending (Van Voorhis, Wright, Salisbury, & Bauman, 2010). On the contrary, it is argued that women offenders, when compared with male offenders, have gender-specific needs, and programmes to target such needs are necessary. For example, it has been argued that a family relationship programme for women could help



them to avoid/terminate relationships with their abusive male partner; but for men, the focus may be on helping them to become a responsible partner and father (Holtfreter & Morash, 2003). It is therefore critical to develop gender-responsive interventions that would address the unique needs of female offenders. In addition, catering to their specific needs echoed the concept of gender mainstreaming advocated by the United Nations (Government of the Hong Kong Special Administrative Region, 2013), which is a global strategy aimed at promoting gender equality and women's advancement.

Psychological Intervention in Correctional Settings

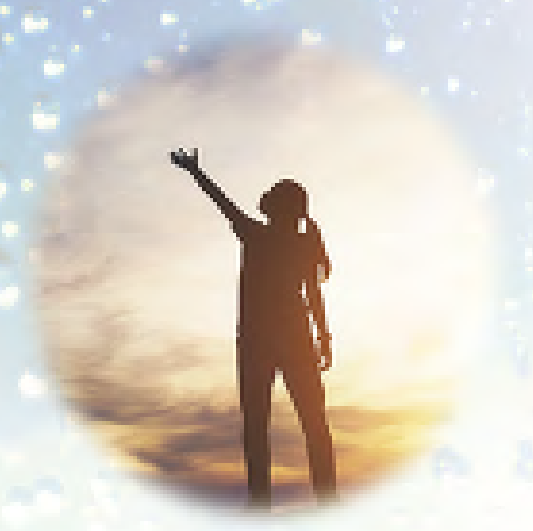
Cognitive-behavioral therapy (CBT) has been used as the primary intervention within correctional settings to influence criminal adjustment (Milkman & Wanberg, 2007) and has been adapted for a variety of penal settings and populations. Its effectiveness has been repeatedly demonstrated in clinical interventions for both young and adult offenders (Wilson, Bouffard, & Mackenzie, 2005). CBT has been shown to facilitate successful rehabilitation for criminal offenders (Bonta, 1997; Lipsey, Landenberger, & Wilson, 2007; Lösel, 1995) and in reducing recidivism and altering criminal behaviors (Landenberger & Lipsey, 2005; Pearson, Lipton, Cleland, & Yee, 2002; Wilson et al., 2005). Recently, efforts have been made to investigate the effectiveness of CBT on correctional rehabilitation from a neuropsychological perspective through identifying neural mechanisms that underline how CBT reduces recidivism - for example, antisocial attitudes (Vaske, Galyean, & Cullen, 2011). It is suggested that CBT effectively leads to increased activities in several brain regions associated with social skills, coping skills, and problem-solving skills (Vaske et al., 2011). In addition, empirical evidence has indicated that CBT is a critical component for effective treatments of psychological disorders (Butler, Chapman, Forman, & Beck, 2006). An updated meta-analysis showed that CBT is superior to other usual treatments in coping with depression (Watts, Turnell, Kladnitski, Newby, & Andrews, 2015).



Despite its well-established efficacy, some positive-psychology literature (e.g., Karwoski, Garratt, & Ilardi, 2006) has suggested the enhancement of CBT by its integration with positive psychology. While CBT primarily deals with immediate symptoms and dysfunctional cognitions, mounting evidence suggests that the absence of negative characteristics does not equal the presence of positive ones, such as strength, hope, optimism, and gratitude (Duckworth, Steen, & Seligman, 2005). Moreover, the absence of positive characteristics has been found to constitute an independent risk factor for distress (Joseph & Wood, 2010). The prison environment often breeds negativity and removes positive thoughts. For example, the relatively monotonous prison environment may over time decrease offenders' sensitivity toward positive stimuli, leading to a decrease in positive cognitions (e.g. hope, optimism).

The absence of negative characteristics does not equal the presence of positive ones, such as **strength, hope, optimism, and gratitude**

Interventions that focus on removing negative cognition without building on positive cognition may not be able to cater for the total needs of offenders in prison. For instance, it is unclear whether CBT, which focuses heavily on reducing negative cognition, can adequately address the positive characteristics of mental health in correctional settings. Importantly, in an updated meta-analysis, Johnsen and Friberg (2015) found that the effects of CBT are falling. In their review, 70 eligible studies from 1977 to 2014 were examined. As measured by clients' self-reports and clinicians' ratings and remission rates (percentages of clients recovering), results showed that the effects of CBT declined linearly and steadily over that period. The remission rates were negatively related to the publication year, and the remission percentages ranged from as low as 14% to 100%. The decline in the effectiveness of CBT was attributed to various reasons, including therapy fidelity, fading placebo effect, and technical factors. All these suggest room for improvement by developing new variations, additions, and ways of integrating common therapist and client-related factors in CBT interventions as suggested by Johnsen and Friberg.



With the continuing positive-psychology movement beginning in the early 2000s (Seligman & Csikszentmihalyi, 2000), the possibility of incorporating positive-psychology intervention (PPI) into traditional symptom reduction therapies to enhance treatment efficacy has been explored (Cheavens, Feldman, Woodward, & Snyder, 2006; Karwoski et al., 2006). Sin and Lyubomirsky (2009) performed a meta-analysis of 51 PPI studies conducted between 1977 and 2008 which involved 4,266 participants. Their study found that PPIs were able to reduce distress significantly and promote well-being, with hope, strengths, and gratitude identified as the most effective treatment components. PPI was also found to complement, rather than replace, traditional psychotherapy (Sin & Lyubomirsky, 2009). The PPI approach of “build what’s strong” not only augments the “fix what’s wrong” approach of

more traditional psychotherapy in alleviating negative emotions and distress but also promotes positive psychological well-being. It has been pointed out that prison-based interventions are more likely to be successful if they target factors that motivate offenders to change and provide a sense of hope for the future, as both can help them desist from reoffending (e.g., Caverley & Farrall, 2011), and that by focusing on offenders' strengths rather than overemphasising risk is an effective way to enhance motivation (Maruna, 2010). In this regard, PPI is particularly vital in offender rehabilitation.

Research on clinical applications of PPI in prisons is limited across the world. Most PPI interventions have been applied to clinically depressed samples in community-based treatments (Layous, Chancellor,

Lyubomirsky, Wang, & Doraiswamy, 2011; Proctor et al., 2011; Proyer, Ruch, & Buschor, 2013; Seligman, Rashid, & Parks, 2006). To the authors' knowledge, there is no PPI tailored for female offenders to date. This article aims to fill the above gap by introducing the Psychological Gymnasium (PSY GYM), a newly established gender-responsive treatment facility, for women offenders. In PSY GYM, both CBT and PPI are adopted. This pioneering approach in a correctional setting seeks to address both the rehabilitative needs of female offenders and facilitate their psychological well-being and reintegration into society. Preliminary results to examine the efficacy of the PSY GYM will be presented. In the next section, PSY GYM will be introduced with outcomes of a pilot research examining its efficacy.





Three signature features of programmes offered in PSY GYM

- 01 Gender-responsive approach
- 02 Therapeutic environment
- 03 Everyday life perspective

Method PSY GYM for Women Offenders

In view of the gender-specific needs of female offenders, the Hong Kong Correctional Services Department (HKCSD) set up an institution-based PSY GYM in 2011 at Lo Wu Correctional Institution (LWCI), which is the largest adult female correctional institution in Hong Kong, with a maximum capacity of 1,400 offenders. PSY GYM is a personal growth and emotion treatment center. Programmes offered in PSY GYM have three signature features. First, a gender-responsive approach is adopted. The programmes reflect an understanding of the realities of women's lives and address the multifaceted and complex issues faced by female offenders. The program content is designed based on the specific needs of female offenders, including emotional problems, self-regulation and self-harm issues, trauma and victimization, and dysfunctional relationships (Young, Waters, Falconer, & O'Rourke, 2005). Second, programmes offered in PSY GYM operate in a therapeutic environment. Participants live in a discrete unit that includes elements of a therapeutic community, which allows participants to form a supportive network. Evidence has shown that therapeutic communities can enhance the effectiveness of psychological interventions (Cullen, 1997).

This environment promotes mutual care and support, thereby encouraging participants to practice the skills learned in the group and develop desired behaviours. In addition, literature in environmental psychology has indicated that different environmental stimuli can affect both mood and behaviour (e.g., Knez, 2001; Leather, Beale, Santos, Watts, & Lee, 2003). Therefore, the environment is colourfully decorated to create a cozy, cheerful, personalized, and generally less institutional atmosphere. Finally, programmes of PSY GYM adopt an everyday life perspective. In a physical gymnasium, people are trained to strengthen different body parts with specific skills. Once they have learnt relevant skills, they can practice on their own and turn the use of skills into a habit. Similarly, PSY GYM aims to train participants to strengthen their psychological well-being with specific skills. They can continue to establish a habit of using their mood management and positive living skills. For instance, PSY GYM participants learn to look for positive messages from songs, movies, and newspaper articles. They are also trained to be mindful of positive sensations, thoughts, and feelings in their daily lives. Upon identification of positive experiences, they record these experiences in a diary as instructed for review and future consideration. Written comments are given weekly to reflect their progress and recognise their changes, if any. The goal of these activities is to integrate attention and behavioural skills into daily life activities. With continuous practice, it becomes a habit for participants to be mindful of positivity and it facilitates cultivation of adaptive cognitions, emotions, and behaviors.

PSY GYM offers a range of structured programmes for female offenders with moderate to high rehabilitative needs. All programmes are developed and delivered by a team of clinical psychologists who are familiar with both CBT and PPI. Admission to programmes is based on gender-specific risk and needs assessment results conducted by clinical psychologists. Upon admission to PSY GYM, participants first attend an orientation programme, namely, the Women Offender Orientation Programme (WOOP), and then participate in the intensive programme, the Moderate Intensity Programme (MIP). During PSY GYM intervention, participants do not receive other psychological interventions.

The two objectives of WOOP are as follows: (a) to help participants adjust to the new environment in PSY GYM and (b) to foster rapport and cohesiveness among participants and promote their motivation to lay a good foundation for MIP. WOOP usually lasts for 2 to 4 weeks. Upon completion of WOOP, motivated participants enrol in MIP which aims to utilise CBT and PPI approaches in achieving two goals: (a) promotes recovery through ameliorating psychological distress and criminality and (b) facilitates personal growth by nurturing and utilizing strengths, hope, and gratitude for long-term psychological well-being. MIP usually lasts for 6 to 8 months, during which one to two 2.5-hr sessions are scheduled each week. It consists of a total of 37 group sessions conducted by clinical psychologists. Booster sessions and individual follow-up sessions conducted by clinical psychologists are available after completion of MIP.

Participants

Nineteen Hong Kong Chinese adult female offenders at the LWCI, Hong Kong, were recruited and participated in the study at two separate time points: The first group (n = 10) participated in the programme from March to November 2011 and the second group (n = 9) from March to November 2012. Demographic information was obtained from official records of the correctional institution and is summarised in Table 1. No significant differences were found between the two groups in basic demographic information and pre-treatment scores.

Priority was given to participants who were assessed to have a stronger motivation to change and higher readiness for group treatment in clinical interviews. Participants with moderate to high needs in the personal or emotional domain based on departmental generic risk and needs assessment were invited to attend individual interviews for more in-depth gender-specific assessment conducted by clinical psychologists.

All participants met the following criteria: (a) having moderate to high needs in the personal/emotional domain based on departmental generic risk/needs assessment, (b) having moderate to high needs in the gender-specific needs assessment, (c) no active psychotic symptoms, (d) able to comprehend written Chinese and understand Cantonese satisfactorily to ensure adequate comprehension of assessment questionnaires and treatment content, (e) length of remaining sentence that allowed for completion of the programmes, and (f) no serious disruptive, subversive tendency or other special problems that might adversely affect operation of the programmes. Consent for treatment was obtained before the programmes commenced.

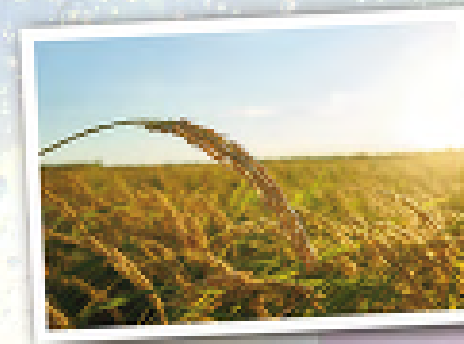


Table 1.

Demographic Characteristics of Participants (N = 19).

Demographic Characteristic	M (SD)
Age, years	38.05 (9.77)
Length of present sentence, years	5.10 (2.45)
	n (%)
Education	
Year 6	1 (5.26)
Year 7-Year 10	6 (31.58)
Year 11-Year 12	12 (63.16)
Conviction	
First conviction	18 (94.74)
Second conviction	1 (5.26)
Employment status before prison sentence	
Employed	14 (73.68)
Not employed	5 (26.32)
Offence type	
Drug offence	6 (31.58)
Property offence	7 (36.84)
Inchoate offence	4 (21.05)
Violent offence	1 (5.26)
Organised crime	1 (5.26)

Materials

All participants completed the following self-report inventories.

Depression Anxiety Stress Scales (DASS).

The 21-item DASS (Lovibond & Lovibond, 1995) assesses psychological distress with three 7-item subscales:

- (a) the Depression subscale, with items such as “I found it hard to wind down”;
- (b) the Anxiety subscale, with items such as “I found it difficult to relax”; and
- (c) the Stress subscale, with items such as “I was unable to become enthusiastic about anything.”

All items are rated on a 4-point Likert-type scale (0 = did not apply to me at all to 4 = applied to me very much or most of the time). Higher scores indicate higher levels of distress in corresponding subscales. The Chinese version (Taouk, Lovibond, & Laube, 2001) was administered with internal consistency reliabilities in the good to excellent rates found in the present sample for the Depression, Anxiety, and Stress subscales, Cronbach's $\alpha = .91, .84,$ and $.91,$ respectively.

Attention to Positive and Negative Information Scale (APNIS)

The 40-item APNIS (Noguchi, Gohm, & Dalsky, 2006) assesses one's tendency to focus on affective information (i.e. attention bias). There are two subscales: the Attention to Positive Information (API) subscale, which consists of 22 items with items such as “I realize and pay attention to moments when everything is going well,” and the Attention to Negative

Information (ANI) subscale, which consists of 18 items with items such as “I usually notice situations that made me feel bad in the past.” The API and ANI subscales tap participants' positive and negative attention bias, respectively. Items are rated on a 5-point Likert-type scale (1 = very untrue of me to 5 = very true of me). Higher scores indicate a stronger tendency to focus on corresponding kinds of information. The Chinese version (Chan, Ho, Tedeschi, & Leung, 2011) was used in the present sample. Good internal consistency reliabilities were shown for both the API and ANI sub-scales, Cronbach's $\alpha = .87$ and $.86.$

Satisfaction With Life Scale (SWLS)

The five-item SWLS (Diener, Emmons, Larsen, & Griffin, 1985; Pavot & Diener, 1993) assesses global judgement of life satisfaction (e.g. “In most ways my life is close to my ideal”). All items are rated on a 7-point Likert-type scale (1 = very untrue of me to 7 = very true of me). Higher scores indicate greater life satisfaction. The SWLS in this sample had excellent internal consistency reliability, Cronbach's $\alpha = .91.$

Gratitude Scale (GS)

The six-item GS (McCullough, Emmons, & Tsang, 2002) measures the disposition of gratitude (e.g. “I have so much in life to be thankful for”). Items are rated on a 6-point Likert-type scale (1 = very untrue of me to 6 = very true of me). Higher scores indicate a greater sense of gratitude. The internal consistency reliability in the present sample was adequate, Cronbach's $\alpha = .75.$

Hope Scale (HS)

A Chinese version of the 12-item Adult Hope Scale (C-HS; Snyder et al., 1991) was used to assess the trait of hope. It contains four agencies (e.g., “I energetically pursue my goals”) and four pathway items (e.g. “I can think of many ways to get the things in life that are important to me”) which are presented with four distracter items. Each item is rated on an 8-point Likert-type scale (1 = very untrue of me to 8 = very true of me). Higher scores indicate higher corresponding pathways or agency component. Good to adequate internal consistency reliabilities were found in the present sample for both Pathway and Agency subscales, Cronbach's $\alpha = .84$ and $.79,$ respectively.



Procedure and Statistical Analyses

All participants completed the Self-reporting measures, administered by supervised clinical psychologists' assistants before and after their participation in MIP of PSY GYM. Data entry and analyses were performed using SPSS Version 21 (SPSS, Inc., Chicago, IL, USA). During the PSY GYM intervention, participants did not receive other psychological interventions. Changes in each measure (pre- and post-treatment) were assessed using paired-sample t tests. Treatment effect sizes were calculated using Cohen's d statistic (Cohen, 1988; Pallant, 2007).

Because of the small sample size and the preliminary nature of this study, reliable change and clinical significance calculations (Jacobson & Truax, 1991) were conducted on the DASS subscales. Although DASS-21 is not a categorical measure of clinical diagnoses, cut-off scores recommended by Lovibond and Lovibond (1995) were used for conventional severity labels (normal, mild, moderate, severe, and extremely severe). Changes were considered statistically reliable if the change scores exceeded 1.96 times of standard error of difference. A post-treatment score lower than pre-treatment score represented a decrease in symptoms, thus indicating a positive change. Bowen (2012) provided six categories for change that might be useful:

- (a) normal (individual remained in a functional population),
- (b) recovered (change was positive, statistically reliable, and involved a change from a score above clinical cut-off to a score below the cutoff),
- (c) improved (change was positive and statistically reliable),
- (d) deteriorated (change was negative and statistically reliable),
- (e) regressed (change was statistically reliable in the opposite direction within a dysfunctional population), and
- (f) no change (change was not statistically reliable).

Participants were classified according to the above six categories. The percentage of participants across categories was used to examine clinical change. Pearson's correlation analyses were conducted to examine the relationships among measures. Because of our small sample size, a more conservative Type I error of 0.01 was adopted for the pre- and post-intervention comparisons.

Result

Pre- and Post-treatment Comparison

Paired-sample t tests were conducted to compare the pre- and post-treatment scores of the psychological measures to assess treatment effectiveness in reducing pathological symptoms and enhancing positive well-being. **Results indicated that most post-treatment scores were significantly different from the preintervention scores.** The treatment effect sizes were medium to large (see Table 2).

DASS-21.

The total scores at pre-treatment and post-treatment were significantly different with a moderate effective size, $t(18) = 5.99$, $p < .001$, 95% confidence interval [CI] = [17.84, 37.11], $d = .67$. Post-treatment scores of Depression subscale were significantly lower than pre-treatment scores, $t(18) = 4.63$, $p < .001$, 95% CI = [5.00, 13.31], $d = .54$. Similarly, post-treatment scores of Anxiety and Stress subscales were significantly lower than pre-treatment scores, $t(18) = 5.71$, $p < .001$, 95% CI = [5.72, 12.38], $d = .64$ and $t(18) = 5.12$, $p < .001$, 95% CI = [5.46, 13.07], $d = .59$, respectively. **In sum, participants' depression, anxiety, and stress symptoms were improved after attending the programme** (see Table 2).

All post-treatment scores indicated significant improvement in hope, gratitude, API, and reduced ANI (see Table 2), as described below.

Attention biases

API scores increased significantly from pre-treatment to post-treatment, $t(18) = -4.62$, $p < .001$, 95% CI = [-0.51, -0.19], $d = .54$, whereas ANI scores decreased significantly from pre-treatment to post-treatment although the effect size was small, $t(18) = 3.14$, $p = .006$, 95% CI = [0.14, 0.73], $d = .35$. These findings indicated that **participants showed more API and less to negative information after completing MIP.**

Table 2.
Descriptive Data of Clinical Measures, Comparison of Mean Differences for Pre- and Post-intervention and Treatment Effect Sizes.

Measure	M (SD)		Difference (pre – post)	t value	Effect size	Power
	Pre-treatment	Post-treatment				
DASS						
DASS-D	13.37(11.00)	4.21 (6.73)	9.16 (8.62)	4.63***	.54	.54
DASS-A	15.05(8.28)	6.00 (6.33)	9.05 (6.91)	5.71***	.64	.64
DASS-S	18.74(10.05)	9.47 (10.26)	9.26 (7.89)	5.12***	.59	.59
Total	47.16(26.72)	19.68(21.02)	27.47(20.00)	5.99***	.67	.67
APNIS						
API	3.78(0.39)	4.14 (0.41)	-0.35(0.33)	-4.62***	.54	.54
ANI	3.86(0.47)	3.42 (0.54)	.44 (0.60)	3.14**	.35	.35
GS	28.05(5.96)	32.21 (3.39)	-4.16(6.09)	-2.98**	.33	.33
CLSS	16.32(7.93)	21.58 (7.03)	-5.26(8.08)	-2.84*	.31	.31
HS						
Agency	20(5.74)	24.26 (4.84)	-4.26(4.57)	-4.07**	.48	.48
Pathway	21.16(5.89)	24.42 (4.59)	-3.26(5.39)	-2.64*	.28	.28
Total	41.16(10.82)	48.68 (9.03)	-7.53(8.87)	-3.70**	.43	.43

Note.
DASS = Depression Anxiety and Stress Scale (21 items); DASS-D = Depression Anxiety and Stress Scale–Depression subscale; DASS-A = Depression Anxiety and Stress Scale–Anxiety subscale;
DASS-S = Depression Anxiety and Stress Scale–Stress subscale; APNIS = Attention to Positive and Negative Information Scale (40 items); API = Attention to Positive Information subscale (22 items); ANI = Attention to Negative Information subscale (18 items); GS = Gratitude Scale (six items); CLSS = Chinese Life Satisfaction Scale (five items); HS = Hope Scale (12 items); Agency = Agency subscale (four items); Pathway = Pathway subscale (four items).
*p < .05. **p < .01. ***p < .001 (two-tailed).

Life satisfaction

Life satisfaction tended to increase from pre-treatment scores to post-treatment scores again with a small effect size. However, the difference was not significant at an alpha level of .01, $t(18) = -2.84$, $p < .05$, 95% CI = [-9.16, -1.37], $d = .31$. This suggested that participants' global judgement of their life satisfaction had increased after attending the PSY GYM programme.

Gratitude

Results indicated that the post-treatment scores had significantly increased, albeit with a small effect size, when compared with the pre-treatment scores, $t(18) = -2.98$, $p < .01$, 95% CI = [-7.09, -1.23], $d = .33$. This suggested that PSY GYM programme had enhanced participants' sense of gratitude.

Hope

The total hope scores at pre-treatment and post-treatment were significantly different, $t(18) = -3.70$, $p < .01$, 95% CI = [-11.80, -3.25], $d = .43$. Post-treatment scores of the Agency subscale were significantly higher than pre-treatment scores, $t(18) = -4.07$, $p < .01$, 95% CI = [-6.47, -2.06], $d = .48$. Although the post-treatment scores of the Pathway subscale were higher than the pre-treatment scores, the difference was not significant according to the Type I error of 0.01 adopted by the current study, $t(18) = -2.64$, $p < .05$, 95% CI = [-5.86, -0.66], $d = .28$, indicating the participants' sense of hope, including both their perceived capability to derive pathways to realistic goals and goal-directed energy, had increased after completing the programme.

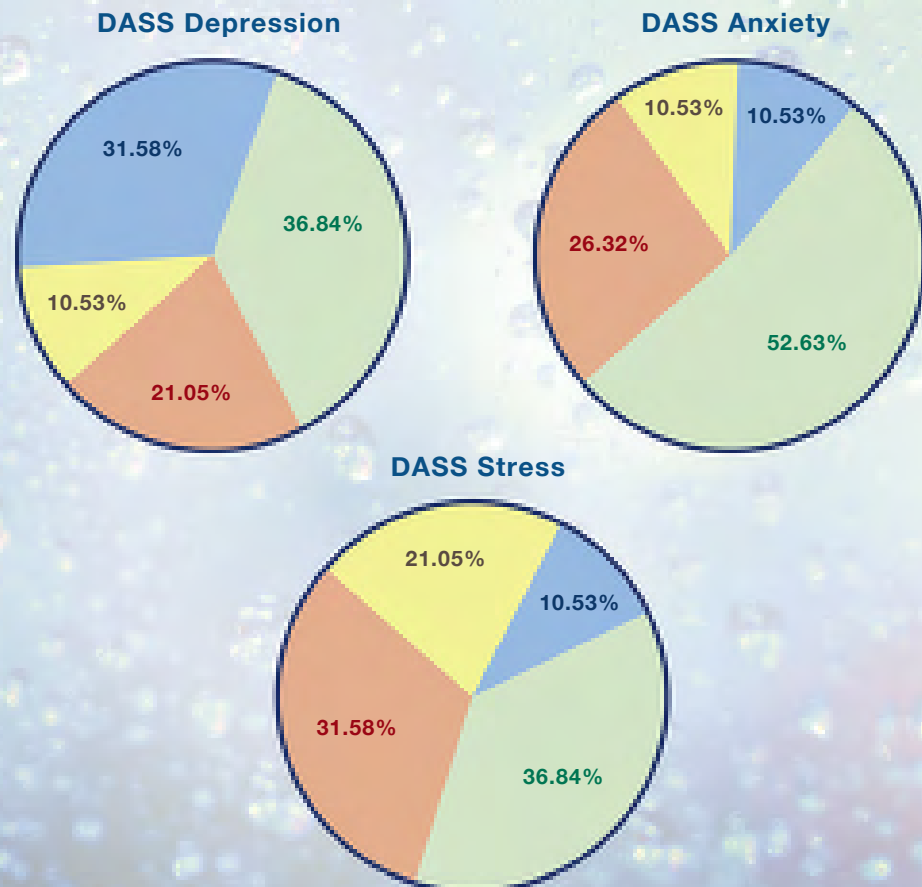


Table 3.
Rates of Clinical Improvement from Pre- to Post-treatment for the Three DASS Subscales (N = 19).

Measure ^a	N	Normal	Recovered	Improved	Deteriorated	Regressed	Unchanged
DASS Depression	19	6 (31.58%)	7 (36.84%)	4 (21.05%)	0	0	2 (10.53%)
DASS Anxiety	19	2 (10.53%)	10 (52.63%)	5 (26.32%)	0	0	2 (10.53%)
DASS Stress	19	2 (10.53%)	7 (36.84%)	6 (31.58%)	0	0	4 (21.05%)

Note. DASS = Depression Anxiety and Stress Scale.

^a DASS Depression cutoff = 9, reliable change = 3.88 scale points;
DASS Anxiety cutoff = 7, reliable change = 3.11 scale points;
DASS Stress cutoff = 14, reliable change = 3.55 scale points.



Clinically Significant Changes

Results showed that no participants exhibited a deterioration/regression of symptoms in all three DASS domains post-intervention. More than half of the participants (52.63%) changed from a clinical to a normal anxiety level post-intervention. On the other hand, less than half (36.84%) exhibited a recovery clinical change (i.e., from clinical to normal) in terms of depression and stress after intervention (see Table 3).

Correlations

Table 4 presents the post-intervention bivariate correlations among clinical measures. Results showed that all measures of psychological distress were inversely positively correlated with measures of positive growth, with the exception of the relationship between Anxiety subscale and GS.

Discussion

The current study described a new gender-responsive treatment facility in a correctional setting and provided a preliminary evaluation to the effectiveness of PSY GYM, a positive-psychology/CBT-based intervention. Significant correlations between psychological distress and positive growth suggested that reducing psychological distress would lead to increase in positive growth while facilitating psychological growth would help to alleviate distress. Therefore, both symptom reduction (depression, anxiety, and stress) and growth cultivation (hope, gratitude, and positive attention bias) were important elements of the treatment agenda in PSY GYM. The pre- and Post-treatment analyses of the psychometric inventory scores indicated that **PSY GYM achieved its two proposed goals: (a) reducing symptomatology as shown in the reduction of depressive, anxiety, and stress symptoms, and negative attention bias; and (b) enhancing positive growth as exhibited in the increase in total hope, gratitude, and positive attention bias.**

Table 4.

Zero-Order Correlation Coefficients are Presented in the Lower Triangle of the Correlation Matrix (N = 19).

Measure	1	2	3	4	5	6	7	8	9	10	11
1. DASS-D											
2. DASS-A	.65**										
3. DASS-S	.74**	.72**									
4. Total	.88**	.086**	.94**								
5. APNIS-API	.61**	.48**	.69**	.68**							
6. APNIS-ANI	.46**	.71**	.62**	.66**	-.36						
7. GS	.65**	.54**	.63**	.68**	.81**	-.44					
8. CLSS	.65**	-.41	.46**	.56**	.60**	-.37	.62**				
9. HS-Agency	.78**	.62**	.70**	.78**	.73***	.53**	.80**	.75**			
10. HS-Pathway	.69**	.50**	.68**	.70**	.77**	.47**	.68**	.66**	.83**		
11. HS-Total	.77**	.59**	.72**	.77**	.78**	.52**	.77**	.74**	.96**	.96**	

Note.

DASS-D = Depression Anxiety and Stress Scale–Depression subscale; DASS-A = Depression Anxiety and Stress Scale–Anxiety subscale; DASS-S = Depression Anxiety and Stress Scale–Stress subscale; APNIS-API = Attention to Positive and Negative Information Scale–Attention to Positive Information subscale; APNIS-ANI = Attention to Positive and Negative Information Scale–Attention to Negative Information subscale; GS = Gratitude Scale; CLSS = Chinese Life Satisfaction Scale; HS = Hope Scale; Agency = Agency subscale; Pathway = Pathway subscale.

*p < .05. **p < .01. ***p < .001 (two-tailed).

These results could be attributed to the use of the combined treatment approach of CBT and PPI and the signature features of PSY GYM. The results, when combined, suggested that use of CBT can modify distorted cognitions associated with participants' emotional disturbances, such as depressive mood related to their status of being prisoners and their guilt and anxiety related to their roles as mothers, as reported in clinical interviews and during group sessions. On the contrary, PPI can equip participants with the skills to increase positive emotions, cognitions, and behaviours. For instance, participants learnt to pay attention to positive messages around them and "count their blessings" in life. They were able to set-up realistic goals and find pathways to achieve these goals at the end of PSY GYM programmes. Participants also identified their strengths in the programmes and learnt to utilize them appropriately in their daily life. In these ways, PSY GYM facilitated successful rehabilitation through helping participantstake steps from recovery to growth. In addition to the adopted treatment approach, particular features of PSY GYM were valued in various ways. First, the gender-specific content addressed participants' needs from a female perspective. For example, PSY GYM made use of real-life problems faced by the participants, such as separation from children and partners, to enhance understanding of their emotions; and, applied newly acquired skills in these difficult life situations as recorded in their diaries. Second, with the establishment of a therapeutic environment, participants formed relationships and built trust among themselves, which facilitated their learning in the group. In addition, interpersonal issues within the community were used as learning points for skills practice. Conflicts happening amongst themselves were brought upraised and openly discussed, and with participants were guided to conflict resolution skills in conflict resolution to handle the problems. Lastly, but not least participants learnt to observe, record, and savour positive experiences in a diary. Upon reviewing their diary contents, participants showed application of skills in their daily life activities, resembling activities designed in MIP. For instance, they looked for positive messages from the media and interactions with others. They also learnt to treasure and be grateful for the support they received. **To conclude, the uniqueness of PSY GYM in its treatment approach and signature features had contributed to its overall effectiveness in facilitating successful rehabilitation for female offenders.**

These encouraging results have implications for the rehabilitative services of female offenders. Firstly, the effectiveness of **PSY GYM, being a gender-responsive treatment facility, suggested that providing gender-specific treatments is likely to produce a better effect in rehabilitation**

for female offenders. Male and female offenders have different pathways to criminal behaviours. Studies have shown that female offenders' emotional problems, trauma and victimization, and dysfunctional relationships are significantly related to their prison adjustment and risk of general recidivism (van der Knaap, Alberda, Oosterveld, & Born, 2012; Van Voorhis et al., 2010). Attention to and resolution of their traumatic experiences and emotional problems are important for female offenders to achieve social independence, and their involvement in criminal behaviours can be reduced (Green, Miranda, Daroowalla, & Siddique, 2005). **By targeting participants' emotional problems, post-traumatic experiences, and relationship problems, the current study suggests that PSY GYM could significantly improve the emotional states of its participants. It is thus postulated that PSY GYM will contribute to improvements in their penal adjustment and a reduction in recidivism.** Further research could be conducted to support this postulation.

Secondly, the positive results in the present study imply that a combination of evidence-based treatments for remedial (CBT) and personal growth (PPI) is feasible and may enhance treatment efficacy (Cheavens et al., 2006; Karwoski et al., 2006). Programmes like PSY GYM could provide a protocol for future reference and further development.

Owing to its long programme duration and language barriers, offenders with short sentences and non-Cantonese speaking were not recruited into this study. To cater for the needs of these female offenders, the latest development in PSY GYM includes a trial run for a shorter version and an English version of programmes. A psycho-educational mass programme is also being developed to expand the service coverage. Furthermore, the publication of a book of educational material to be presented at an upcoming international conference is being prepared. In addition, continuous research is being undertaken, such as testing the effectiveness of shorter versions and comparing the effectiveness of CBT and PPI in the programmes, in the hope of contributing to the forensic field by building on the current findings.

Limitations of this study require caution in further understanding the effectiveness and future adoption of PSY GYM programmes. The reasons for caution include, firstly, that without a control group the extent to which the positive outcomes were solely due to the treatment effect is unclear, and a causal relationship cannot be concluded. Secondly, the sample size was small. According to the data in generic risk and needs assessment at LWCI, there were around 70 female offenders in need of intensive psychological services at any given time but only 19 females

took part in the study. In addition, motivated participants were given priority for their participation in PSY GYM, which might contribute to the favourable results it should be noted that the clinical significance in view of the relatively small sample size was examined, and the results basically converged with the statistical analysed results. Thirdly, PSY GYM has incorporated CBT and various positive psychological interventions, including hope, gratitude, and strength exercises, into MIP. The effectiveness could be attributed to the overall setup, content, and treatment activities of PSY GYM. Therefore, the core effective treatment components of MIP are unable to be identified at this stage.

To address these limitations, future studies can include a larger sample size and a wait-list control group to confirm the effectiveness of PSY GYM. Studies could be conducted to compare the two approaches (CBT and PPI) on their roles in offender rehabilitation. Research on individual components of CBT and PPI could also be done to identify factors which predict lower levels of psychological distress and higher levels of psychological growth among female offenders for development of more cost-effective treatment programmes. At present, all participants in the study have been discharged from prison, and the recidivism rate is zero. However, the relationship between the participation and reoffending rate is unclear, which requires further study.

Conclusion

PSY GYM is the first facility in Asia to pioneer a gender-responsive treatment approach for female offenders. It takes the initiative of a tailor-made treatment content that is specific to the gender role of female offenders, facilitates establishment of therapeutic communities among participants, and adopts an everyday life perspective in its treatment materials and activities. **It integrates two well-established approaches in psychotherapy, namely, a cognitive-behavioral approach and a positive psychological invention.** Pilot research data showed positive effects on all key outcome indicators, revealing its effectiveness in reducing clinical symptoms and promoting positive psychological well-being. A gender-responsive approach to offender therapy could be further developed to address specific needs of female offenders following more in-depth research in this direction.

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