THE MENTAL HEALTH OF ADOLESCENTS IN HONG KONG AND THE EFFECT AND PROCESS OF SANDPLAY THERAPY

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CERTIFICATE OF ORIGINALITY

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ABSTRACT

Adolescence is a period of development when there are rapid bio-physiological changes, psychosocial development and brain development, which contributes to the rapid rise of the prevalence of mental health issues such as depressive episode in this population (Urdan & Klein, (1998). Non-directive, client-centered psychosocial interventions such as expressive art therapies have been shown to be welcomed by youths with mental health issues. Sandplay therapy is a type of expressive therapy which requires little or no artistic skills for participants to freely express themselves through the use of sand, water, and figurines in a sandtray under the witness and support of a trained therapist.

Two related studies were conducted for a mental health project; the first study is a survey on the mental health of 2669 young adolescents and the related social and personal variables. It was found that the quality of marital relationship between parents had a significant effect on adolescents' emotion in both intact and non-intact families, after taking into account the effect of parent-child relationship. Personality and self-esteem were found to be strong predictors to the negative affects as well as to happiness. Family relationships affected adolescents' emotion more extensively than teacher-student relationship and peer relationship. Peer relationship was related to the positive emotional experience but was less related to negative emotions.

Non-clinical adolescents with severe mood disturbances were identified in study I and entered study II. Study II is an evaluation of two modalities of group intervention, cognitive behavioural therapy and sandplay therapy. 110 students were selected from 1840 students of 7 schools to participate in this second phase. Four schools (n=60) were randomly assigned to run sandplay therapy, and 3 schools (n=50) to run CBT; the students in each school were further randomly assigned into treatment group or waitlist control group. In study II, trends of decrease were observed in the internalizing problems in adolescents after receiving SPT. Participants who received longer (16 sessions) group

sandplay therapy showed continuous decrease in both internalizing problems and externalizing problems. With reference to the results of study I, preliminary analysis on the sandplay scenes were conducted. Participants who experienced more difficult family relationships may tend to express this in their first sandplay scene.

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Chapter 1: INTRODUCTION AND OVERVIEW FOR STUDY I AND STUDY II

"There is no health without mental health" The World Health Organization (WHO) announced in its report by Global Business and Economic Roundtable on addiction and mental health in 2011. The WHO (2001) suggests it is almost impossible to define mental health comprehensively, but in addition to an absence of mental disorders, mental health includes concepts on the "subjective well-being, perceived self-efficacy, autonomy, competence, intergenerational dependence, and self-actualization of one's intellectual and emotional potential, among others". Therefore, emotional states and regulation, self-efficacy, family relationships, and occupation and role development are concerned while understanding mental health.

Emotional regulation during early adolescence is a challenge for early adolescents because of the rapid biological changes, including brain development and hormonal changes, and social changes that occur during early adolescence. In recent years, there is a raising concern on the mental health of youth and some studies have found an alarming prevalence of emotional disturbance among adolescents in Hong Kong. There is a need of increasing our understanding on the causes of mental health problems in local adolescents and developing effective treatments.

Treatments to youth mental health issues include medication and psycho-social treatments. Studies on treatment to psychological disorders had often compared medication to cognitive behavioral therapy and had found comparable effects between the two (Weisz, Jensen-Doss & Hawley, 2006). However, there is a big concern on the side-effect of medication on children and adolescents. For example, the U.S. Food and Drug Administration issued a public warning on the use of SSRI antidepressant as it may increase suicidality in children and adolescents (National Institute of Mental Health, 2014).

Therefore, psycho-social treatments are more preferred than medication in children and adolescents.

Currently, the research on cognitive behavioral therapy is abundant; the measurement tools and treatment protocols are well-developed. It has been use in treating emotional issues including anxiety and depression in the youth population and found to be effective. But whether the cognitive behavioral approach has an advantage over other treatment approaches, and whether different treatment approaches favor different particular conditions, is still not clear. Various forms of expressive therapies are gaining popularity because there is a recognized need of the use of alternative therapies, particularly for younger people, who generally have lower cognitive and verbal abilities; these alternative therapies often involve the use of the right hemisphere (Stern, 2008) and intuitive expression (Rogers, 1993). Sandplay therapy is a type of expressive therapy with the spontaneous use of sand, water and figurines in a tray, without pre-set goals. The low skill or physical demands it requires compared to other forms of expressive medium such as drawing and dancing, makes it suitable for a wide population as an expressive medium. Sandplay therapy is less popular than art therapy and therefore the quantitative outcome study of sandplay therapy is even more scarce (e.g. von Gontard et al., 2010; Rousseau, Benoit & Gauthier, 2009) though the literature is rich in case studies to establish the therapeutic principles. A pre-post design was used in the most of the existing studies of sandplay therapy and a controlled design in outcome studies is needed for a stringent evaluation on it's effectiveness.

Two related studies were conducted for a project on early adolescents' emotion. In this thesis, literature review, methods and results will be presented separately for the two studies. Study I is a mental health survey, conducted in January 2011, which attempts to investigate and compare multiple factors related to the emotional well-being of early adolescents in Hong Kong. These factors included personal characteristics, family

relationships and family structure, social relationships and academic performance. The importance of these factors in predicting the positive and negative emotions of adolescents will be compared. The effects of family relationship and family structure on adolescents' emotion were investigated in more detail with a focus on inter-parent relationship and parent-child relationship, separately for intact and non-intact families. The details will be discussed in chapter 2. The findings help us understand the general mental condition of early adolescents in Hong Kong for large scale prevention work such as school and family policies making.

Furthermore, study I served as a screening for suitable participants for study II, and aid the analysis of the qualitative data. Adolescents with a high level of emotional disturbances were identified and invited to participate in study II to receive a group intervention. Chapter 3 of the thesis is on the evaluation study on the effect of two modalities of group intervention, sandplay therapy and cognitive behavioural therapy. This is the first study to quantitatively investigate the effectiveness of group sandplay therapy with a control treatment group and a randomization procedure. Preliminary analysis on the first sandplay scenes will be presented in chapter 3. Themes will be selected with reference to the factors identified in study I.

Chapter 2: STUDY I – MENTAL HELTH OF ADOLESCENTS IN HONG KONG

2.1 Background and literature review

2.1.1 Developmental changes of adolescents and the situation in Hong Kong

Research found that the probability of experiencing a major depressive episode increases with age and the change is most rapid during early adolescence (Lewinsohn, Rohde & Seeley, 1998), and the prevalence for female is around two times of that of male (Dahl, 2001). Even among adolescents without major depression, symptoms of depression during early adolescence strongly predict an episode of major depression in adulthood, and the depressive symptoms are relatively stable through adolescence (Pine, Cohen, Cohen & Brook, 1999). During early adolescence (10 – 15 years of age, Urdan & Klein, (1998)), there are rapid bio-physiological changes, psychosocial development and brain development, which contributes to the rapid rise of the prevalence of depressive episode in this population. There is a changing balance between the neuronal networks; while cognitive development is relatively stable and gradual through childhood and adolescence, the affective development is rapid during adolescence under the influence of hormonal changes at puberty (Giedd, 2008). Therefore emotional arousal and motivation are high and the cognitive network may not be competent enough to regulate (Sisk & Zehr, 2005). A local survey conducted in Hong Kong by Regeneration Society (2011) reveals that 32.5% of youth aged 12 – 25 investigated reached a clinical level of depressive mood. A more recent survey done by the Boys' and Girls' Clubs Association of Hong Kong found that among adolescents of 12-19 year old, over 50% were experiencing mild to severe depressive mood and 40% were experiencing mild to severe stress (The Oriental Daily, 2013, October 27). The factors related to local adolescents' emotion shall further be investigated.

The emotional well-being of early adolescents is related to various issues such as suicidal risk and motivation, as well as the future risk of mood and anxiety disorder in adulthood (Pine, Cohen, Cohen & Brook, 1999). Therefore, understanding the factors related to adolescents' emotional well-being provides information for early intervention. A study by Stewart, Betson, Lam, Chung, Ho & Chung (1999) investigated the effect of some social and demographical factors on 996 secondary school students in Hong Kong in forms 3 and 4. The results suggested that girls reported more depressive symptoms than boys, and that peer acceptance and a lack of parental understanding appeared to be strongest predictors for depressive mood. Another study by Tu et al. (2008) investigated the stress level and psychological adjustment in secondary school and university students. The results suggested that the secondary school students experienced highest stress in academic aspect, followed by relationship aspect. The current study investigated the effect of social/relational, demographical and personal factors on the mental health of adolescents.

2.1.2 Conceptualizing mental health

Two common constructs of negative emotion are anxiety and depression. Anxiety and depressive disorders have high co-morbidity of 30 – 70% (Brady & Kendall,1998) , and the correlation of self-report severity of the two mood states were found to be strong (0.50 – 0.80) in previous studies (Yang, Hong, Joung & Kim, 2006).

From a clinical perspective, the symptoms for generalized anxiety disorder in DSM criteria are simplified as: having excessive anxiety and worry, difficult to control the worry, restlessness, being easily fatigued, difficulty concentrating, irritability, muscle tension and sleep disturbance. On the other hand, a major depressive episode includes symptoms are simplified as: having depressed mood or loss of interest or pleasure, significant weight loss or weight gain , insomnia or hypersomnia, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or excessive or inappropriate guilt, diminished

ability to think or concentrate, recurrent thoughts of death, recurrent suicidal ideation of suicide.

Clark and Watson (1991) suggested focusing on distinguishing the similarities and differences in the characteristics of anxiety and depression. They suggested that depression is characterised by low positive affect, and anxiety is characterised by high emotional arousal, while the two share similar symptoms of negative affect. Cannon and Weems (2006) suggested that anxiety and depression co-occur because there are risks factors that are common to the two conditions.

On the other hand, Lovibond and Lovibond (1994) suggested three differentiated dimensions of internalizing affect, namely depression, anxiety and stress. They developed the Depression Anxiety Stress Scales (DASS) for measuring and differentiating these three constructs. In particular, the anxiety scale is characterised by the acute response of fear and situational anxiety, while the stress scale is characterised by a state of persistent arousal and tension. DASS was developed and validated across cultures and age groups, and a Chinese version has been used in Hong Kong and good psychometric properties were reported (Taouk et al., 2001).

Emotion is also assessed in a positive dimension, and the positive and negative emotions are not essentially exclusive or complimentary, because an increase in happiness does not necessarily reduce negative emotion, nor a decrease in negative emotion results in and increased positive emotion (Schimmack, 2008). Different combinations of the positive and negative emotions contribute to different states of mental health. Therefore in this study, a positive dimension on emotion will be included for understanding the mental health of adolescents, using a general measure of happiness.

In the current study, three specific states of negative affective states – depression, anxiety and stress, and a general positive affective state - subjective happiness, were measured, to provide a relatively comprehensive picture in understanding adolescents' mental health.

2.1.3 Family factors related to adolescents' emotion

Research has demonstrated parental conflicts affect children in different aspects, including social development (Reese-Weber, Bartle-Haring, 1998; Kinsfogel & Grych, 2004) and emotional well-being (Demo & Acock, 1988; Morris, Silk, Steinberg, Myers & Robinson, 2007). Both a direct and an indirect effect of interparental relationship on child's well-being have been proposed and studied. It has been suggested that conflicts between the parents have an indirect impact on children's well-being by adversely affecting parenting practice (Fauber RL, Long, 1991; DeBoard-Lucas, Fosco, Raynor & Grych, 2010) and parent-child relationship (Davies & Cummings, 1994). This is consistent with the family systems theory which proposes that the malfunction from one sub-system (e.g. marital subsystem) in the family can "spillover" to another sub-system (e.g. parent-child subsystem), and several studies have supported this (see the meta-analysis of Erel, & Burman, 1995). On the other hand, some authors suggested a direct effect of parent marital problems on child's mood, for example, Emery, Fincham, and Cumming (1992) suggested that the impact of interparental conflict on child adjustment is not completely mediated by parenting practice; the effect exists when parent-child interaction is absent. An experimental study by Lee, Ng, Cheung and Yung (2010) found that during parental conflict discussion, children experience physiological arousal in 80% of the time of interparental conflict, including moments of silence. This suggests how the quality of interparental relationship has a direct effect on the emotion of the child, specifically on their stress responses. Fewer studies investigated the effect of both parent-child relationship and interparent relationship together. Some adult-centred studies investigated parenting instead of parent-child relationship, and found that positive aspects in parenting can buffer the direct effects of interparental conflicts on children (El-Sheikh & Elmore–Staton, 2004; Skopp, McDonald, Jouriles & Rosenfield, 2007).

Two different displays of marital dissatisfaction are marital conflicts, characterized by the display of anger and hostility, and marital withdrawal, characterized by detachment and avoidance during marital discussions (Sturge-Apple, Davies & Cummings). Previous studies on intact families have focused more on marital conflicts, fewer studies investigated the effect of marital withdrawal. An infant study (Cox, Paley, Burchinal & Payne, 1999) found that marital withdrawal, but not marital conflict, predicted parental responsiveness to 3 - 12 months infants. Another study (Sturge-Apple, Davies, Cummings, 2006) suggested that marital withdrawal had a detrimental effect on kindergarten children's scholastic adjustment and internalizing and externalizing behaviours. In this study, the effect of marital conflicts and marital disengagement on early adolescents will be compared.

Earlier research on post-divorce family focused on the effect of divorce on children's well-being (Demo, Acock, 2007; Guidubaldi & Cleminshaw, 1985; Amato & Keith ,1991) and later on more studies focused on parental conflicts, which was suggested to be a more important predictor for children's development than family intactness (Emery, Fincham, Cummings, Mechanic & Hansell, 1989; Amato & Afifi, 2006). Post-divorce parental conflict was found to affect emotional and behavioural development in children and adolescents (Grych & Fincham, 2001; Sbarra & Emery, 2005; Houseknecht & Hongo, 2005, Kim, Jackson, Conrad & Hunter, 2008). Apart from direct interaction between parents, different styles of interparental relationship also manifest as different parenting cooperation styles in post-divorce family. Three different parenting cooperation styles between parents were identified and studied. Carr (2012) suggested that in post-divorce families, cooperative parenting is an optimal arrangement to the well-being of the children, with which the separated parents have integrated rules and routines in parenting, but it is a situation that is least common. Parallel parenting is the most common pattern with which the parents have different parenting practices and do not try to integrate. This is a most common pattern and children under this condition show few adjustment problems. With

conflictual parenting, parents attempt to influence the other's parenting, and messages are passed through the child. In the current study, we will investigate and compare the effect of parental conflicts and parental disengagement on adolescents' depressive and stress-related emotions while controlling for the effect of parent-child relationships for post-divorce families.

Ablow (2005) suggested that parents underestimate or overestimate the children's awareness of the conflict between them, and hence parents' reports on their children's awareness of interparental conflict may not be the most accurate. The author studied the effect of marital conflicts on young children's mood by measuring the subjective perception of the kindergarten children on parent's conflicts. The subjective perception of four to six years old children on the conflict situation between the parents was measured with simple items. It was also suggested that as the child actively interpret and respond to the environment, including interparental interactions (Grych, Seid & Fincham, 1993), therefore it is essential to understand the subjective appraisal of the adolescent on interparental relationship and hence the effect on their affect. In the current study, an adolescent-centred approach was taken; the subjective perception of the adolescents on parent's relationship quality was measured.

2.1.4 Individual and social factors related to adolescents' emotion

Building a model of factors predicting adolescents' emotion

Models on mental health and related variables have been built and tested using regression and path analysis. For example, a study by Steward et al. (1999) investigated the relationship between a board range of variables and depressive mood of teenagers in Hong Kong. Stepwise regression analysis was used use to build a cumulative model with various factors related to parent, peer and academic demand significantly predicting depressive symptoms. Another study (Lam et al., 2004) investigated the mediating effect of family

relations and depressed mood on the relationship between suicidality and cultural values for youth in Hong Kong. Another study by Sun, Hui and Watkins (2006) also investigated a model on suicide and depression in adolescents in Hong Kong by regression analysis. The model includes family cohesion, teacher-students relationships, teacher support and peer support. It was found that these factors were mediated by self-esteem. The authors further suggested a need to strengthen the family and school systems as an ecological support to adolescents. A Taiwan study (Lin, Tang, Yen, Ko, Huang, Liu & Yen, 2008) found that in a large sample of adolescents aged 13-15, parental marriage, rank and feeling in peer group, and academic performance significantly predicted severe depressive mood in an analysis using logistic regression. Previous local studies focused on depression and suicidality. In order to provide a broad picture on adolescents' emotional health, various dimensions of emotion – depression stress, anxiety and general happiness, were measured; other than the family factors mentioned in the previous section, the effect of various individual and social factors were also investigated in this study.

Self-esteem

In addition to family factors, various individual factors and social factors have been suggested to affect the metal health of adolescents. Numerous studies have been done to investigate the relationship between self-esteem and mood, and both directions of causality has been proposed. A recent meta-analysis (Sowislo & Orth, 2013) on 95 longitudinal studies found that the effect of self-esteem on depression is significantly stronger than the effect of the reverse direction, and the effect of self-esteem on anxiety is similar to the reverse. The authors also suggested high self-esteem may have positive influence on well-being.

Personality

Associations between particular personality traits and mental health have also been found. For instance, extraversion and neuroticism have been found closely related to happiness or

mental health (e.g. DeNeve and Cooper, 1998; Furnham & Cheng, 1999). In Furnham &Cheng (1999), a sample of 100 Hong Kong young adults was compared with a sample of 120 young adults in United Kingdom, and found that the pattern of regression of personality on happiness is similar between the two samples, that extraversion and neuroticism significantly predicted happiness. Bienvenu et al. (2004) investigated the associations between some affective disorder and personality traits in an adult sample in the USA. They found that a number of affective disorders, including major depressive disorder (MDD), generalize anxiety disorder and social phobia, were associated with high neuroticism; MDD and social phobia were associated with low extraversion. In a Chinese context, a study by Zhang, Wu and Pan (2013) found that extraversion, but not neuroticism, predicted mental health, and the relationship is partially mediated by active coping in a sample of undergraduate college students. Fewer studies have been done on adolescents on the relationship between their personality and mental health. In the current study, three personality traits – extraversion, neuroticism and psychoticism, were measured and investigated on a younger sample.

Teacher-student relationship and peer relationship

On the other hand, Erikson's theory on psychosocial development suggests that during adolescence (13-19 years old) is the period of identity development through the relationships outside the family, notably peers and role models. A longitudinal study by Reddy, Rhodes and Mulhall (2003) found that an increase in the perceived teacher support predicted and increase in self-esteem and decrease in depressive symptoms in a sample of grade six students in America. A study by Baker, Grant and Morlock (2008) found that the positive (higher warmth and lower conflict) teacher-student predicts school adaptation of kindergarten children. However, compared to elementary school, junior high school classrooms have less personal and positive teacher-student relationship (Eccles & Wigfield, 1997). On the other hand, research on the effect of peer rejection and withdrawal has been

done more extensively on children's externalizing behaviour than on the internalizing behaviour (Deater-Deckard, 2001). Comparison between the effects of peer relationship and teacher-student relationship on adolescents' mental health was seldom made. Therefore, in the current study, the subjective perception on peer and teacher-students relationship will be measured and investigated.

Academic performance

A longitudinal study by Bandura, Pastorelli, Barbaranelli and Caprara (1999) found that, in a sample of children (mean age = 11.5 years) in Italy, rather than the actual academic performances, beliefs in their academic inefficacy predict current depression and depression one year after. Low perceived academic efficacy also predicts depression two year after but was mediated by academic achievement, suggesting the relationship is mediated by academic achievement in a longer run. Therefore in the current cross-sectional study, the effect of student's satisfaction on their academic performance will be investigated to understand the direct effect of student's self-perception of academic achievement on different aspects of their affect.

Gender

Previous studies have shown that in adolescents, the prevalence rate of depression in female is higher than in male (e.g. Nolen-Hoeksema, Girgus, 1994, Parker & Brotchie, 2010). The difference seems to change and become more complicated when people grow up. In a study by Wong et al. (2006), it was found that among young adults, the male scored higher in depression and female scored higher in anxiety and stress scales using the DASS. This is possibly due the difference in development of the brain, as girls generally had an earlier puberty, there limbic area developed more rapidly during early adolescence making them more prone to emotional disturbances. With the knowledge on the difference in severity, it is worth to investigate whether male and female are equally sensitive to the

factors related to mood. Therefore the regression model will be run separately for male and female to see whether the factors that affect their mood will be same or different.

2.1.5 Hypotheses

1) The quality of marital relationship has direct effect on adolescents' emotion; the effect remains significant when the effect of parent-child relationship is taken into account.
2) The quality of interparental relationship affects adolescents' in both intact and non-intact families, and the pattern of the effect is different for the two groups.
3) Personality traits and self-esteem are significant predictors on adolescents' emotion.
4) Factors related to study, living habits, social relationship and family relationship have different patterns and strengths in predicting adolescents' emotion.
5) Factors predicting emotion are different among male and female.

2.2 Methods

2.2.1 Design and procedures

The data used in this study was drawn from a mental health survey conducted in seven secondary schools in Hong Kong in Jan 2012. The study has passed the ethical review of the Departmental Research Committee of Hong Kong Polytechnic University. Approval of data collection and informed consent was obtained from the school principals. The questionnaire was administered in a group setting during school time to all form 1 to 3 students. The students were informed that the objective of the survey was to understand the living conditions of junior students in Hong Kong.

2.2.2 Participants

A total of 2669 adolescents participated in the survey, 2571 (96.3%) of the participants returned complete and valid questionnaire. Among them, those who lost either parents because of reasons other than divorce or separation, such as death, are excluded, resulting in a final sample of 2507. The mean age is 13.39 (sd = 1.03; range: 12 – 16). 48.4% were

female and 77.9% had an intact family (lived with both parents who were married). 26.6% of the participants were single child.

2.2.3 Measurements:

Depression Anxiety Stress Scales 21, Chinese version

It is a 21-item set of self-report scales for measuring and discriminating the three negative emotional states: anxiety, stress and depression, and is suitable for screening in adolescents and adults. The version is translated by Chan (n.d.) and validated, the psychometric properties were reported in Taouk et al. (2001), and the scale was used in a large scale local survey by Wong et al. (2006). The scale is composed of 21 items on negative emotional states rated on a four point Likert scale on the frequency or severity. The current study will focus on analysing the total scores of the three subscales depression, anxiety and stress, as a general measure of negative mood state. The score of each subscale ranges from 0 to 42, with a higher score indicating a higher level of distress. Cronbach's alpha for all 21 items is .93 for the current sample. A three factor solution was found with exploratory factor analysis, which is consistent with previous studies. The numbers of items that load on the same factor are six (out of seven) for depression subscale, four for anxiety subscale, and six for stress subscale. Confirmatory factor analysis was also performed with AMOS Graphics to further examine the three factor structure. It was found that the three-factor model met the criteria of good-fit (Hu & Bentler, 1999) and fitted the data better than a one-factor model as reflected by the values of root-mean square of approximation (RMSEA) and comparative fit index (CFI). (One factor model: Chi-square = 2808, $p < .001$, $df = 189$, RMSEA = .073, CFI = .891; three-factor model: Chi-square = 2316, $p < .001$, $df = 186$, RMSEA = .066, CFI = .912). The authors suggested cut-off points separately for the three sub-scales, and the data will be analysed with reference to the cut-off scores.

Subjective Happiness Scale.

The scale measures the subjective happiness with four items on a seven point Likert scale (Lymbomirsky and Lepper, 1999). The total score ranges from 7 to 28 with a higher score indicating a higher level of subjective sense of happiness in general. It helps give a positive dimension on understanding students' mood in our study. Cronbach's alpha for the four items is .82 for the current sample.

School and social satisfaction

The following information related to school environment were collected: school banding, school grade, special educational needs, satisfaction on the relationship with teachers, satisfaction on the relationship with peers, satisfaction on academic performance,

Family relationships

The participants were ask to indicate the following family conditions: intact or non-intact family, the quality of interparent relationship they perceived (harmonious, conflictual or emotionally disengaged), and their satisfaction on the relationship with parents, with siblings (if applicable), rated on a four point Likert scale. The satisfactory ratings on the relationships with parents, and the quality of interparent relationship, were dummy scored and added together to form a composite score for regression analysis. In this study, the subjective perception of the adolescent on the interparental relationship is measured, instead of the parents' perception, because the child actively interpret and respond to the environment, including interparental interactions (Grych and Fincham , 1990).

Life style and living condition

Participants reported the time spent on study, digital entertainment, self-initiated leisure (arts, cultural and sports) activities and sleep per week. They also reported the years of residence in Hong Kong, and their satisfaction on financial state on a 4 point Likert scale.

Rosenberg Self-esteem Scale

The scale measures the positive and negative feelings towards the self and consists of 10 items rated on a 4-point Likert scale. The Chinese version has been developed and used in

local adolescent (Shek, 1993) and children (Tsang, 1997). The score ranges from 10 to 40. The Cronbach's alpha for the scale .81 for the current sample, which suggests the internal consistency among the items is good (George & Mallery, 2003)

Logical intelligence and test performance

Logical intelligence and test performance, which involve logical reasoning, motivation and attention, were assessed in general with a timed reasoning test of 15 items. The scale is composed of two types of questions, numerological reasoning and abstract reasoning. The items were selected from sample tests of the University of Kent (2011) and a sample paper for secondary school selection tests in England published by the IPS Education Publishing (2011). Sixteen items of appropriate difficulty were initially selected, all have good item facility and item discrimination on the current sample except one item, which has high item facility 88%. The Cronbach's alpha for the final 15 items is 0.70, indicating that the internal consistency is acceptable (George & Mallery, 2003).

Revised Junior Eysenck Personality Questionnaire

The abbreviated version was used to measure three dimensions of personality: extraversion- introversion, neuroticism-emotional stability, psychoticism-socialization. There is also a lie scale in the questionnaire whichis sometimes used as a measure of social desirability (e.g. in Barett and Eynseck, 1984). Extraverted people are more outgoing and sociable. People who are high in neuroticism tend to over-response emotionally and are more liable to emotional breakdown (Eynseck & Eynseck, 1968). People who are high in psychoticism tend are less obedient to social rules. The scale used the current study was translated from the English version reported in Francis (1992). Translation and back translation were done by psychologists and tested on local youths. The scale consists of a total of 24 items. Similar to previous studies, neuroticism and extraversion subscales have higher reliability than the psychoticism an lie scales. Cronbach's alpha on the current sample and other samples are reported in Table 1. on the next page. Similar to previous

studies, among the three major scales the reliability of the extraversion scale is the highest, while that for psychoticism was relatively low. The reliability of the Lie scale was particularly low in our sample, which may be due to a cultural difference on social desirability. Exploratory factor analysis found a six-factor model which explained 48% of the total variance. After rotation by Varimax, all six items for the extraversion scale loaded on the same factor, five items of the neuroticism scale loaded on the same factor, and four items of the psychoticism scale loaded on another factor. The factor loadings for the items in the lie scale scattered across several factors. The total variance explained by the three factors was 48%. The lie scale is not helpful in detecting social desirability and therefore it was not included in the analysis in this study. As the structure of the questionnaire is derived from theory, Vidotto, CIoffi, Saggino and Wilson (2008) suggested using confirmatory factor analysis in testing the structure of the three main factors. Confirmatory factor analysis was performed with AMOS Graphics of the four factor model and the model did not converge. A three-factor structure excluding the lie scale was then tested, RMSEA value showed moderate fit and CFI value show close fit. Hu and Bentler (1998) suggested using the fit indices to compare models instead of using standard values of good-fit. When compared to a one-factor model, the three-factor model showed better fit (One factor model: Chi-square = 2080, $p < .001$, df =135, RMSEA = .073, CFI = .65; three-factor model: Chi-square = 1341, $p < .001$, df = 132, RMSEA = .058, CFI = .781). The results of reliability test and EFA suggested the extraversion scale and neuroticism scale are good, and the psychoticism scale is weaker with our sample. CFA results suggested acceptable fit. No better structures of the EPQ had been suggested, in subsequent analysis, the original three factors will be used.

Table 1. Reliabilities of the subscale of the abbreviated or short version on EPQ in different populations.

	Corulla, 1990	Francis, 1996	Maltby & Tally,	Francis, 1992	钱, 武, 朱 & 张, 2000	The current sample

			1998				
N	1325	1597	213	132	8565		2629
Version	JEPQR-S	JEPQR-A	JEPQR-A	EPQR-A	EPQR-S (Chinese)		EPQR-A (Chinese)
Age	11-15	13-15	12-15	(undergraduates)	16-70		12-16
Location	England	England	USA	USA	Mainland China		Hong Kong
Cronbach's α					Male	Female	
Extraversion	.77	.66	.73	.81	.75	.75	.70
Neurotiscism	.79	.70	.76	.72	.78	.77	.53
Psychoticism	.71	.61	.64	.33	.60	.58	.46
Lie	.68	.57	.68	.59	.74	.75	.21

2.2.4 Analysis

SPSS 20 was used to perform statistical tests. For the family factors, multivariate analysis of variance (MANOVA) was first performed on all the valid cases to explore if there is any significant main effect of the variables of interest: gender, grade of school, family intactness, quality of interparental relationship and the satisfaction on the relationship with father and with mother. Dependent variables are the four emotion measures – depression, anxiety, stress and subjective happiness. To test hypotheses 1 and 2, multivariate Analysis of Covariance (MANCOVA) was then performed separately for intact and non-intact families to explore the differential effects of family relationships on adolescents in the two types of families. The independent variable under investigation is the quality of the relationship between parents – harmonious, conflictual or disengaged. The control variables are the adolescent's school year and gender, their satisfaction on the relationship with father, and that with mother. Dependent variables are the four emotion measures – subjective happiness, depression, anxiety and stress.

For all the individual and social factors, regression analysis was performed with the stepwise method to test hypotheses 3 and 4. 18 independent variables were included in the analysis as the predictor variables: (1) school grade: form 1, 2 and 3; (2) academic level of the school: band 1, 2 and 3; (3) having special education needs: 1 – no, 2 – yes; (4) satisfaction on the relationship with teachers; (5) satisfaction on the relationship with peers;

(6) satisfaction on academic performance; (7) years of residence in Hong Kong: 0, fewer than seven years or 1, seven years or more; (8) family intactness: 1, intact (parent married and live together) or 2, non-intact; (9) parents-child triad relationship: on a scale of 0 – 3, a positive relationship between a pair (e.g. father- mother, mother-child) as perceived by the child scores one point (10) satisfaction on family financial state; (11) time spent on study outside regular school time; (12) time spent on digital entertainment; (13) time spent on leisure-activities, including exercise, art and cultural activities; (14) time on sleep; (15) self-esteem: 10 – 40, higher score, higher self-esteem; (16) gender; (17) logical intelligence and test performance: 0 – 15 points, higher score, better performance; (18) the Revised Junior Eysenck Personality Questionnaire (EPQ) extraversion scale: 0 - 6 point scale, higher score meaning more extraverted; (19) EPQ neuroticism: 0 – 6 point scale, higher score means more emotionally unstable; (20) EPQ psychoticism: 0- 6 point scale, higher score means less obedient to social rules. Variables (4), (5), (6) and (10) are rated on 1 – 4 Likert scale, 1 meaning least satisfied. Dependent variables are scores of four measures of emotion: DASS depression scale, anxiety scale, stress scale and subjective happiness scale. Significance level is set at $p < .01$ because of multiple DVs and the large sample size to reduce type I error. (e.g. Lam 2004)

2.3 Results

Demographical information and comparisons on mean scores of self-reports are shown below in table 2 separately for male and female. There are significant differences between male and female in many of the measures. The distribution of the adolescents' scores in DASS 21 among different severity levels defined by Lovibond & Lovibond (1995), are presented in table 3 on the next page.

Table 2. Demographical characteristics, and means of emotional measures of early adolescents

	Male	**Female**		**Total**
n	1287	1244		2571
Demographical information				
Living in intact family	76.3%	78.3%		77.9%
With special education needs	9.2%	5.3%		7.3%
Living in Hong Kong for less than 7years	13.4%	14.4*		13.9 %
Single child	28.8%	24.2%		26.6%
Means			***F***	
Age	13.41 (1.03)	13.36(1.03)	1.43	13.39 (1.03)
Rosenberg self-esteem scale	27.41 (5.40)	26.67 (5.00)	12.02 ***	
Depression	7.96 (7.49)	9.24 (8.04)	14.84 ***	8.58(7.78)
Stress	10.90 (8.76)	12.55 (8.87)	20.18***	11.70 (8.85)
Anxiety	7.95 (8.59)	8.71 (8.56)	3.79	8.31 (8.58)
Subjective Happiness	18.68 (5.36)	18.46 (4.70)	1.18	27.06 (5.22)
Extraversion	3.93 (1.49)	4.25 (1.46)	28.01***	4.09 (1.48)
Neuroticism	2.22 (1.79)	2.96 (1.79)	106.14***	2.58 (1.82)
Psychoticism	1.28 (1.22)	1.08 (1.13)	17.42***	1.18 (1.18)

Table 3. The distribution of adolescents' scores in DASS 21 among different severity levels defined by Lovibond & Lovibond (1995).

		Normal	Mild	Moderate	Severe	Extremely severe
Depression	**Range of score**	**0-9**	**10-13**	**14-20**	**21-27**	**≥28**
	All (%)	63.1	11.4	16.4	4.7	4.4
	Female (%)	62.1	12.2	16.2	4.7	4.7
	Male (%)	63.9	10.7	16.5	4.7	4.1
Anxiety	**Range of score**	**0-7**	**8-9**	**10-14**	**15-19**	**≥20**
	All(%)	52.1	9.1	19.6	8.1	11.1
	Female (%)	48.8	10.3	19.6	8.8	12.6
	Male (%)	55.2	8.0	19.7	7.4	9.8
Stress	**Range of score**	**0-14**	**15-18**	**19-25**	**26-33**	**≥34**
	All (%)	67.8	11.7	11.2	7.1	2.1
	Female (%)	65.3	12.9	11.2	8.0	2.6
	Male (%)	70.2	10.7	11.3	6.1	1.7

2.3.1 Family factors and mental health

Multivariate Analysis of Variance (MANOVA) on all cases found that gender has a significant main effect on depression and stress at $p \leq .05$. Interparental relationship quality has main effects on all the four mood measures at $p \leq .001$. There is an interaction effect between family intactness and interparental relationship quality on subjective happiness and anxiety at $p \leq .05$. Family intactness and the grade of school do not have significant main effect on all the four emotion measures.

Multivariate Analysis of Covariance (MANCOVA) found that for adolescents in intact families (n = 1952), their satisfaction on the relationship with father and that with mother are significant covariates of all the emotion measures at $p \leq .001$. Gender is a significant covariate for depression ($p \leq .001$) and stress ($p \leq .001$), and females score higher on average. Grade of school is a significant covariate for anxiety and stress at $p \leq .01$, and for depression at $p \leq .05$. Adolescents at a higher grade had higher mood score on average. After controlling for the effect of the covariates there is a significant main effect of interparent relationship quality on all the emotion measures (SHS: $F(7, 1945) = 15.42$, p

≤ .001, partial η^2 = .02; Depression: $F(7, 1945) = 8.43$, $p \leq .001$, partial η^2 = .01; anxiety: $F(7, 1945) = 23.16$, $p \leq .001$, partial η^2 = .02, stress: $F(7, 1945) = 13.35$, $p \leq .001$, partial η^2 = .01). Post-hoc pairwise comparison was performed with the Sidak method of adjustment for multiple comparisons. Adolescents in the harmonious parents group (n = 1650) are significantly better than adolescents in the other two groups in all the four emotion measures (SHS, anxiety and stress at $p \leq .001$, depression at $p \leq .05$). There is no significant difference between the conflictual parents group (n = 213) and the disengaged parents group (n = 89) in all the four emotion measures.

For adolescent in non-intact families, gender, grade of school and the satisfaction on parent-child relationships were not significant covariates for all emotion measures, except that the effect of satisfaction on the relationship with mother on subjective happiness ($F(7, 548) = 4.50$, $p \leq .05$, partial η^2 = .01). There is a significant main effect of interparent relationship quality on all the emotion measures (SHS: $F(7, 548) = 12.81$, $p \leq .001$, partial η^2 = .05; Depression: $F(7, 548) = 10.69$, $p \leq .001$, partial η^2 = .04; anxiety: $F(7, 548) = 15.80$, $p \leq .001$, partial η^2 = .06, stress: $F(7, 548) = 12.23$, $p \leq .001$, partial η^2 = .04.)

Among the adolescents in non-intact families, 16.1% live with father and 51.1% live with mother. 27.1% live with neither parents, and 5.7% have mixed living arrangement. Further analysis on the adolescents living with either one parent in non-intact families (n = 315) was performed. The satisfaction rating on the relationship with custodial parent significantly correlated with all the mood measures at $p < .01$, while that with non-custodial parent does not correlate significantly with the mood measures (see Table 4 on the next page).

Table 4. Correlation between satisfaction on the relationship with custodial and non-custodial parents and mood measures.

Correlation coefficient	Satisfaction on the relationship with custodial parent	Satisfaction on the relationship with non-custodial parent
Satisfaction on the relationship with non-custodial parent	.028	/
Subjective happiness	.218**	.083
Depression	-.174**	.041
Anxiety	-.180**	.052
Stress	-.191**	.048
		** $p < .01$

Gender, age, the satisfaction ratings on the relationship with the parent that the adolescents live with (custodial parent), and the rating on the relationship with the non-custodial parent, were included as the covariates in ANCOVA. The satisfactory rating on the relationship with custodial parent is a significant covariate for all the four mood measures at $p \leq .01$, but that with non-custodial parent was not significant for all mood measures. The effect of the quality of parent relationship is significant for general happiness and anxiety at $p < .01$, and that for depression and stress is significant at $p < .05$.

To explore a gender difference, correlations and ANCOVA were separately performed for male and female. For male (n = 310), the parent-child relationships as well as the interparent relationships do not have significant correlation with or effect on the adolescents' mood. For female the correlations between the satisfaction on the relationship with custodial parent and mood outcomes are all significant at $p < .01$, but not for the satisfaction with non-custodial parents. Multivariate Analysis of Covariance (MANCOVA) found that for female in non-intact families (n = 269), their satisfaction on the relationship with custodial parent is a significant covariates of depression at $p \leq .05$, anxiety at $p \leq .001$, stress at $p \leq .01$ and subjective happiness at $p \leq ..001$. The effect of interparent relationship is significant on depression , stress and subjective happiness at $p \leq .01$, and on anxiety at $p \leq .001$.

The mood states of adolescents with different residential arrangement in non-intact families were also compared. Adolescents having different residential arrangements (with father most of the time; with mother most of the time, with neither parents, or half of the time with father and half of the time with mother) did not differ significantly in their mood states in terms of depression, anxiety, stress and subjective happiness.

2.3.2 Factors predicting adolescents' mental health

Evaluation of assumptions

1) The ratio of case to IVs is appropriate: for testing individual predictors, with a medium-size cases needed 104 + number of predictors. The current number of cases is well above this. 2) Absence of outliers in the solution: cases with standardized residuals in excess of +/- 3 are identified in the initial solution and excluded to perform a second analysis. 3) Absence of multicollinearity and singularity: there is no indication for the presence of multicollinearity and singularity, as none of the tolerance values of collinearity statistics approaches zero, also the highest correlation between the IVs is .374. 4) Normality, linearity, homoscedasticity and independence of residuals: Residual scatterplots of generally show a rectangular distribution with a concentration along the center.

Data pre-processing

No problem in the skewness and Kurtosis values of the three subscales of DASS was detected. Also, Tabachnick and Fidell (2007) suggested that the impact of skewness diminishes in a large sample. Still, three common transformation methods were applied separately: logarithm, square root and inverse, in hope to reduce the impact of floor effect. The transformed data did not show a better distribution than the raw data. (See Figure 1 for the distribution of the transformed data of the depression score in appendix). The skewness and Kurtosis are reported for the raw and transformed data in table 5.

Residual diagnosis

The residual plot (figure 2 in appendix) shows a near random pattern with a cut off at the negative quadrant of the regression model on depression, anxiety and stress. This is possibly caused by the floor effect of the measures. Regression analysis was run again for the transformed depression score, and the floor effect is still present in the residual plots. (See Fig 1 in appendix). Since the assumptions of regression are still met, the regression coefficients will be further be presented and discussed.

Regression tables

The regression coefficients are presented in Table 6 on the next page. Neuroticism and extraversion are found to be strong predictors for the negative affect as well as happiness. Similar to previous studies, psychoticism does not predict happiness, yet it predicts all the three measures of negative affect. Self-esteem, satisfaction on academic performance, and satisfaction on financial state predict happiness and all three measures of negative affect. Peer relationship predicts happiness but not the negative emotion states. Teacher-student relationship predicts happiness and anxiety but not depression or stress. A longer time of sleep improves negative affect while the time spent on leisure activities positively predicted happiness. Stress is predicted by study (time of study and special education needs) but not relationships (peer, teach-student, parent-child). Regression analysis was run separately for male and female (See table 7 an table 8 in appendix for detailed regression coefficients) and there are more factors significantly predicting subjective happiness for male and more factors significantly predicting negative emotions for female. See table 9 for the comparison.

Table 6. Regression coefficients and significance of variables on different mental health measures of all participants.

	Subjective Happiness Scale +		DASS depression		DASS anxiety ^		DASS stress	
Adjusted R^2	.361		.325		.428		.389	
	β	*t*	β	*t*	β	*t*	β	*t*
Neuroticism	-.182	-10.02***	.299	15.59***	.295	16.86***	.368	20.36***
Extraversion	.202	11.70***	-.124	7.10***	-.183	-11.18***	-.114	-6.82***
Psychoticism			.099	5.36***	.093	5.51***	.118	6.83***
Self-esteem	.159	8.3***	-.133	-6.83***	-.18	-11.02***	-.157	-8.43***
Satisfaction on grade	.086	4.84***	-.08	-4.38***	-.064	-3.764***	-.052	-3.02**
Satisfaction on peer relationship	.117	6.80***			-.035	-2.15		
Satisfaction on teacher-student relationship	.089	5.09***	-.038	-2.09*	-.069	-4.11***	-.061	-3.56***
Harmonious interparent relationship#	.076	4.37***	-.03	-2.17*	-.071	-4.09***		
Satisfaction on relationship with father					-.048	-2.73**		
Satisfaction on relationship with mother	.060	3.41***	-.052	-2.92**				
Satisfaction on financial situation	.141	7.98***	-.04	-2.22*	-.046	-2.71**	.047	-2.82**
Time on leisure activities	.048	2.91**						
Time on sleep	.152	.070	-.065	-3.77***	-.056	-3.52***	-.091	-5.54***
Special education needs#			.053	3.10**	.055	3.506***	.069	4.243***
Time on study			.036	2.21*			.058	3.57***
Time on digital entertainment			.038	2.20*				

Excluded variables: school grade, academic level of school, years of residence in Hong Kong, famil intactness, logical intelligence.

^ Family intactness: **β**=.034, *t* = -2.101 p =.036

+ Overall reasoning : **β**= -.05, *t*= 2-.92 **; form: **β**= .050, *t* = 2.98 **

*** $p \leq .001$; ** $p \leq .01$; n.s. = not significant

1= Yes, 0 = No

Table 9. Comparison between male and female on the factors predicting mood.

	Subjective Happiness Scale		DASS depression		DASS anxiety		DASS stress	
	M	*F*	M	*F*				
Neuroticism	***	***	***	***	***	***	***	***
Extraversion	***	***	***	***	***	***	***	
Psychoticism			***	***	***	***		***

Self-esteem	***	***	***	***	***	***	***	***
Satisfaction on grade	***	***	**	**		***		**
Satisfaction on peer relationship	***	***						
Satisfaction on teacher-student relationship	***			**	*	***		***
Harmonious interparent relationship#	**	***			**			
Satisfaction on relationship with father			**					
Satisfaction on relationship with mother	**			***		***		
Satisfaction on financial situation	***	***			**		*	
Time on leisure activities	*							
Time on sleep				***		***	***	***
Special education needs#				***	*	**	*	***
Time on study				*			*	**

Excluded variables: school grade, academic level of school, years of residence in Hong Kong, family intactness, time spent on digital entertainment, logical intelligence.

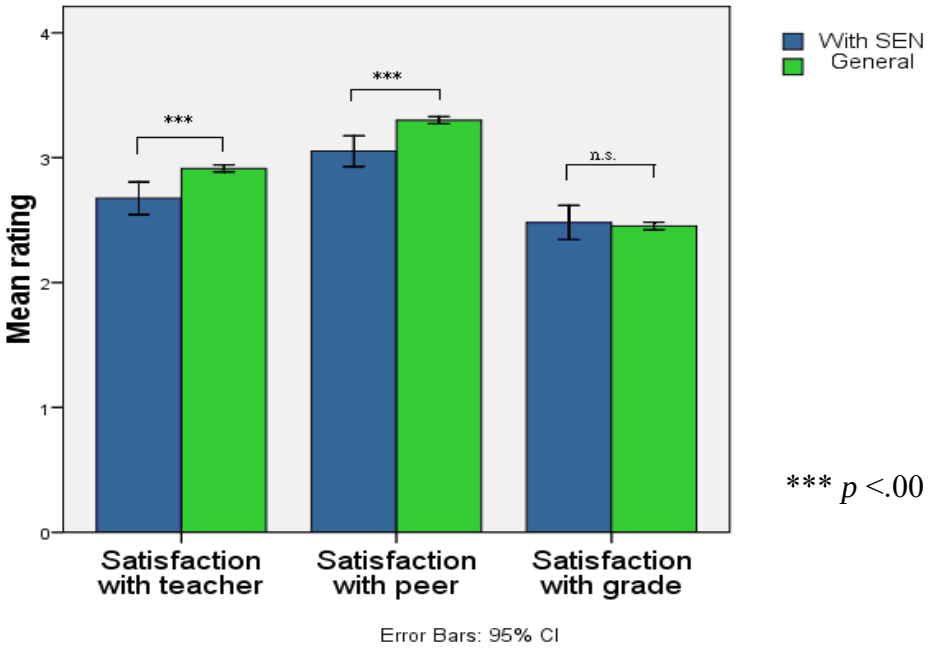
*** $p \leq .001$; ** $p \leq .01$; n.s. = not significant

1= Yes, 0 = No

Special educational needs

The presence of special educational needs predicts higher emotional disturbance. To further understand the adolescents with SENs, ANOVA was performed with the satisfaction on the relationship with teacher, with peers and on academic performance as the dependent variables and the presence of SENs as the independent variable. It is found that students with special educational needs reported significantly lower satisfaction on the relationship with teachers and peers than students in general (F (2656, 1) = 18.822, p <.001; F (2664, 1) = 21.402, p < .001, see figure 3 below), but the satisfaction in school performance was similar between students with SENs or those in general. The presence of SEN seems to affect the satisfaction on relationships in school rather than students' satisfaction on academic performance.

Figure 3. The comparison in school related satisfactory ratings between adolescents with special educational needs and adolescents in general.



*** p <.001; n.s. not significant

2.4 Discussion

2.4.1 Family and adolescent mental health

The survey has investigated the mental status including emotion, self-esteem, personality, family and social relationships, and living habits of a large sample of local adolescents. The results support hypothesis one that the effect of the quality of inter-parental relationship on adolescents' emotional well-being remains significant after taking into account the effect of parent-child relationship. The results also support hypothesis two that the quality of interparental relationship affects children in both intact and non-intact families, and the pattern of the effect is different for the two groups. In intact families, adolescents depression, anxiety and stress levels are significantly heightened, and their subjective happiness significantly reduced, when parents are in a conflictual or disengaged relationship; the two types of relationship do not differ in the extent of their adverse effect. The results demonstrate that adolescents are not only sensitive to parental conflict but also

parental disengagement. The effect of a conflictual or disengaged interparental relationship is diverse, affecting the depressive and stress-related dimensions of emotion.

For non-intact families, adolescents' satisfaction on the relationship with either parent does not have a significant effect on their emotion, rather, the satisfaction on the relationship with the custodial parent is related to adolescents' emotion whereas that with the non-custodial parent is not. The quality of interparental relationship has a significant main effect on adolescents' emotion after controlling for the effects of the covariates. These suggest adolescents may cope with the disturbance caused by interparental emotional disengagement or conflicts with an emotional cutoff with the non-custodial parent. A conflictual interparental relationship after divorce still significantly and directly affects adolescents' depressive and stress-related emotion, and that parental disengagement may help to minimize the divorce-associated tension experienced by adolescents in non-intact families, but the disengagement still specifically increases their depressive mood to an extend similar to a conflictual interparental relationship.

The results highlighted the importance of parents in maintaining a good couple relationship as well as a good relationship with children. The intactness of a family did not predict students' mood, but it is worth noting that both in intact and non-intact families, the quality of the relationship between parents affected the mood of the teenagers, and the patterns of the effect differ. Therefore it is important that parents settle their conflicts upon separation. These findings also support cooperative parenting; parents should recognize their limited partnership – to disengage in the marital relationship but maintain parenting cooperation, reduce interparental conflict, develop integrated parenting practices and maintain good parent-child relationships. Awareness in parents caring for the emotional needs of adolescents shall be raised. Instead of only focusing on parenting, parent education should cover issues on marital relationship that help parents understand that their marital quality

affects the emotion of their children, even till they reach adolescence. This helps increase the awareness in resolving marital conflict and the motivation in seeking professional help.

2.4.2 Factors predicting adolescents' mental health

The results of regression analysis supports hypothesis three and are consistent with previous findings that personality traits and self-esteem significantly predicts adolescents' positive and negative emotions. Being more extraverted, less emotionally over-responsive and less socially disobedient generally promotes emotional health. The results also replicate that of Fumham & Cheng (1999), with a larger sample size on early adolescents, that extraversion and neuroticism, but not psychoticism, predicts happiness. Early adolescents who are more extraverted and less emotionally over-responsive experience lower level of negative emotion and higher level of happiness.

Relationship

The results support hypothesis four that factors related to living habits, study, social relationship and family relationship are different in the pattern and strength in predicting adolescents' emotion. Family relationships affect adolescents' emotion more extensively than teacher-student relationship and peer relationship. This suggests that during early adolescence, most of the emotional needs are still tied to the family. A good peer relationship seems to contribute to the positive emotional experience to adolescents but not significantly related to their negative emotions. Mental health practitioner shall be aware of the need of family work on adolescents to facilitate their healthy psychosocial development (Erikson, 1950). With a supportive and harmonious family they will be able to extend their social network and establish significant relationship outside of the family during adolescence.

Living habits

Stress is not predicted by relationship factors but factors related to study. The more time adolescents' spent on studying outside regular school time, and the presence of special education needs significantly increase their stress. The time spent on leisure activities does not predict stress, but rather, the time of sleep predicts stress and the effect is stronger than in predicting depression and stress. This suggests adequate rest is important in reducing negative emotions, particularly stress; while leisure activity help increasing happiness and reducing depression. This is consistent with previous studies that suggested the importance of sleep and sleep disturbance in adolescent stress (Schraml, Perski, Grossi & Simonsson-Sarnecki, 2011). Studying and stressful demands were found to be associated with less sleep at night and higher levels of anxiety (Fuligni & Hardway, 2006), therefore adequate time of relax during the day and of sleep at night are essential for both of their psychological and physical health.A good balance among study, leisure and rest are needed in order to maintain a healthy emotion.

Special education needs

Adolescents with special education needs experience higher levels of negative emotions. They are less satisfied on their relationship with teachers and peers compared with general adolescents. Special needs include dyslexia, autism spectrum disorders, attention deficit/ hyperactive disorder, physical handicap, visual, hearing and speech problems. These conditions affect not only their study but also their social communication and participation, so that they may experience more difficulties in social relationships in school, and hence higher level of negative emotion. Therefore teachers and peers should recognize the needs and limitations of adolescents with SEN more globally, and adjust the expectations not only on the academic performance, but also on daily communication and everyday school life.

Gender difference

More factors are related to happiness for male, but more factors are strongly related to negative emotions for female. This may explain why female are more prone to negative mood. Female are sensitive to various factor even at early adolescence.

Numerous research studies had been done on examining the difference in prevalence of depression between male and female, and some possible causes were suggested. Review by Kuehner(2003) suggested that Artefact due to measurement of symptoms that is more common for female (crying, weight changes), symptom recall , but studies have not confirmed these. Genetic causes of the difference in prevalence is not confirmed, and one study found that the heritability of MDD was different when a boarder diagnostic criteria was use, but not when a narrower criteria was used. The gender difference may also be caused by sex hormones: relationship between rising levels of sex hormones and negative affect found in girls, more variance is explained when social factors and their interaction with hormonal factors are taken into account.

Nolen-Hoeksema and Girgus (1994) suggested three models of the gender difference in depression in adolescents. Model 1, male and female have the same cause for depression but F encounter more of these causes; model 2, causes for depression are different for male and female , the cause for female are more prevalent during adolescence; model 3, girls are more likely to carry risk factors for depression before early adolescence. Variables including personality, coping strategies, aggression, sexual abuse, gender-specific social expectation were investigated, but no family relationship and academic factors had been investigated in previous studies. But this study seems to confirm model 2, and model 3 is unknown.

2.5 Limitations and recommendations

Although the sample size of the study is relatively large and covers schools of different academic levels, however, the schools are not randomly selected and hence the sample is a

cluster convenient sample. This would limit the generalizability of the results. The current study is a cross-sectional design which has the advantage of larger sample, and allows us to examine how the variable predict various mood measures at a single time point. On the other hand, with a longitudinal design, we can look how different variables predict the changes in mood over a period of time. It also helps to answer more specific research questions related to changes that occur over a period of time, such as divorce and personality development.

2.6 Conclusions

In conclusion, the results suggest that family relationships are important source of emotional support at the stage of early adolescence. In particular, a harmonious interparental relationship is significant to adolescents' mood in both intact and divorced families. Instead of only focusing on parenting, parent education should cover issues on marital relationship that help parents understand that their marital quality affects the emotion of their children, even till they reach adolescence. Family relationship affects adolescents' emotion more extensively than teacher-student relationship and peer relationship. It is important to work on relationship factors, particularly the family relationships, with adolescent cases with emotional disturbances. Education on balanced living habits, such as adequate time of sleep and leisure, maybe done to further enhance the emotional health of adolescents.

Chapter 3: STUDY II – THE EFFECT AND PROCESS OF SANDPLAY THERAPY ON ADOLESCENTS WITH MOOD DISTURBANCES

3.1 Background and literature review

3.1.1 Group work for adolescents

Group work is often used in the school setting for children and adolescents to utilize peer support. Currently, the cognitive and behavioural approach is the most common to group psychotherapy for depression (McDemut, Miller and Brown (2001). The measurement tools and treatment protocols are well-developed and has been use in treating emotional issues including anxiety and depression in the youth population and found to be effective. There are plenty of foreign and local studies which suggest cognitive behavioural therapy (CBT) is effective to depression and anxiety compared to no treatment or treatment as usual (e.g. the TADS Team, 2007; Wong, 2008). On the other hand, it is not clear whether cognitive approach is better than other approaches, as current evidence show conflicting results. Some meta-analyses found that cognitive treatment is not better than other non-cognitive treatment in children, adolescents and adults (In-Albon & Schneider, 2006; Cuijpers, van Straten, Andersson & van Oppen, 2008) and some found advantages on cognitive approach over other approaches (Wampold, Minami, Baskin & Callen-Tierney, 2002). In their review of meta-analyses, Butler, Chapman, Forman & Beck (2006) suggested more research is needed for comparing CBT with other forms of therapy on some of the mood and anxiety disorders in adolescents due to small effect size found in their study.

Some non-cognitive, expressive psychotherapies have developed as some populations, such as children and young adolescents experience complex feelings and thoughts and often have difficulties in communicating these verbally (Landreth, Baggerly, & Tyndall-Lind, 1999). Drapper, Ritter and Willingham (2003) suggested that young people express their

experience not just verbally but may be better through activity such as play, art, or some other forms of metaphorical communication. From a neurological perspective, Stern (2008) suggested that words are not enough for in children's therapy, as words rely heavily on the left side of the brain which is more analytic and logical; therapist should use "languages" that employ the right side of the brain, such as body movements, metaphors, drawings and sculpture, with children.

There is a growing number of research on expressive form of therapy including art and music, and some good results has been found (see the review by Slayton, D'Archer & Kaplan, 2010; Maratos, Gold and Wang, 2008). Sandplay therapy is a form of non-verbal therapy which combines aspects of some other expressive psychotherapy, including playing, building, movement and sculpting. Compared to play therapy, sandplay therapy uses miniature figures instead of childish toys, this makes sandplay therapy generally appeals to not only children, but also to adolescent and adults. It also has minimal demand on skill and artistic sense to facilitate spontaneous expression, and therefore accommodates and appeals to more people. However, it is less researched on compared with art therapy and music therapy; more research is needed to evaluate and develop such unique form of psychotherapy.

3. 1.2 Cognitive behavioural therapy

Cognitive behavioural therapy (CBT) concerns the dysfunctional behaviors and cognitions which give rise to mood, anxiety and other psychosocial problems. It is a structured treatment involving the use of behavioural and cognitive techniques on elevating these problems. CBT has been shown to be effective as part of the treatment for preventing or treating mood and anxiety problems in children, adolescents(e.g. TADS Team, 2004, 2007) and adults (McDermunt, Miller & Brown, 2001), delivered individually or in a group setting (Otte, 2011, Driessen & Hollon, 2010). Standardized protocol for different age

groups and conditions were developed and evaluated. For example, the Treatment for Adolescents with Depression Study (TADS) (the TADS Team, 2007) developed a 12-week program and evaluated its effect on adolescents with depressive disorder with a randomized-controlled design. In a local study, a 10-session group CBT school based programme was found to effectively reduce the symptoms of depression in participants when compared to control group (Wong, 2008).

3.1.3 Sandplay therapy

In the 1920s, Lowenfeld, a paediatrician and psychiatrist, offered children a collection of miniature figures and observed that children naturally played with these figurines inside a sandtray. Through the play they resolved their emotional and interpersonal problems (Lowenfeld, 1979). Later on, Dora Kalff (1980), a Swiss psychoanalyst, refined the method and termed it sandplay, and established theoretical principles by linking the sandplay process with the theories of analytical psychology of Jung(1959).

Sandplay therapy (SPT) is a non-verbal therapy through-out which the client creates a series of scenes in the sandtray with a selection of miniature figures and toys. Feeling and thoughts are difficult to be expressed with language by the rational mind; through the process of sandplay, the client can express with three-dimensional images and movements. With the large variety of miniature figures and the sand which can be easily manipulated, the client can express freely with minimal demand on skill compared to some other forms of nonverbal therapy such as art or music therapy. The therapy takes effect under the witness of a supporting therapist. Generally, after completing the sandplay scene, the client will be engaged in a verbal communication related to the scene, to clarify personal meaning, integrate feeling and insights that emerged from the creation process (Camplbell, 2004). Sandplay therapy can be used as a stand-alone treatment or as part of the therapy. Generally, there is no standard frequency or the number of sessions for SPT as therapist

and the client will adjust according to the process and needs. For group sandplay (and it variatants) studies in Asia, 8 sessions twice a week (Zhan, Zhang, Haslam & Jiang, 2011) and ten sessions weekly (Jang & Kim, 2009) had been used. In overseas studies, it was suggested that in schoold setting, most children came to a stage of resolution (Carmichael, 1994) and teachers observed significant change in emotion and school participations after sandplay therapy of 8 – 10 session (Allan & Berry, 1987). Therefore the current study will test the effect of 8 sessions with reference to precious studies and addressing the limitation of the school setting (10 sessions will be too long to be finished in one term).

Key differences between CBT and SPT

The strengths for SPT are that it is not bounded by words, cognitive abilities, or even cultures, being non-verbal, 3-dimensional and therefore clients can express what cannot be described by words. It works at a deeper level directly, yet looks simple and interesting to clients. CBT requires certain cognitive ability and intelligence, relies on verbal expression, linear logic, mostly conscious; it aims at symptom reduction which is more superficial. However, there is stronger empirical support and the target of change is more observable (cognition and behavior) than SPT, in which the target for change is the personality and the unconscious mind.

Evidence the effectiveness SPT

A large number of case studies had been done to establish the therapeutic principles of sandplay therapy, but outcome study is scarce (Campbell, 2004). The two largest quantitative outcome studies of sandplay therapy were conducted in Germany (von Gontard et al., 2010) and in US (Rousseau, Benoit & Gauthier, 2009). The first study found that children with emotional and behavioral problems (n=56) improved significantly on anxiety and behavioral measures on the Child Behavior Checklist in a one-year program. The later study investigated 105 new immigrants with emotional disturbances on a 6-month

sandplay therapy program and found that Asian immigrant responded better than non-Asian immigrants to sandplay therapy. With this encouraging evidence, there is a great need of more empirical support for SPT in the local population.

On the other hand, Campbell (2004) suggested that play-base work is more focused on the practice at the level of emotion and symbolic expression. Other than the quantitative measures, the content of the client's sandplay process is important and as it helps the therapist understand the internal changes and stages of development, and contain the process better (Turner, 2005). However, there are few systematic analyses on the sandplay content. Therefore, this study attempts to give some preliminary analysis on the content of sandplay and increase the diversity of the research method for sandplay therapy and other expressive therapies as suggested by Woolfe (1996).

The first sandplay scene will be focused on because the beginning of the sandplay process usually gives information to the therapists on the prognosis of the clients (Friedman & Mitchell, 2007). As found in study I, family relationships is important factors affecting adolescents' emotion, they may express their concern on family relationships during the sandplay. Family relationships can be expressed as families of human or animals, for example, a pair of big and small turtles was commonly used by participants to represent a mother-child relationship. Baby, spider (which carries the meaning of bad wife who kills husband), and turtle (which carries the meaning of mother who abandon child) are also family related objects. In this study, whether the presence of family theme indicates poor family relationship was investigated.

On the other hand, Mitchell and Friedman (n.d.) identified twenty themes of wounding and healing in sandplay which is related to the therapeutic process. In this section, three themes will be investigated, they are the centered theme, chaotic theme and empty theme. In a centered theme, objects are balanced in the center of the tray. It may imply healing of psychological conflicts and potential for wholeness. A chaotic theme is disorganized,

fragmented or formless arrangement of object. It may reflect conflicted feelings, internal disorganization. An empty theme is characterized by lifeless feeling, lack of energy and reticence to use figures. It may possibly reflect depression, lack of freedom of expression. The theme in the center of the tray will be focused on as Turner (2005) suggests that the center of the tray and the act of centering is of great significance of the sandplay as they concern the archetype of the Self. The presence of these unorganized themes may be related to the self-report measures of internalizing problems and externalizing problems, and the treatment outcome may be different among those who created an organized theme or those who create an unorganized theme in the first tray.

Finally, the participants' feedback about their experience in the groups was also collected to give some directions for service improvement.

3.1.4 Hypotheses

1) After eight sessions of sandplay therapy, participants had a significant improvement in terms of the scores of Youth Self-Report (YSR).
2) After eight sessions of cognitive behavioral therapy, participants had a significant improvement in terms of the scores of Youth Self-Report (YSR).
3) The improvement of participants in terms of YSR is similar between the two groups.
4) The improvement in YSR scores is larger with longer SPT group intervention.
5) The participants who created an organized theme at the center of the first sandplay scene have a higher score in YSR scores before treatment, and the changes in pre-post YSR scores are different from those who created an unorganized theme..
6) The participants who created a family theme in the first sandplay scene have a poorer family relationship score.

3.2 Methods

3.2.1 Design and Procedures

Study procedures are shown in figure 4 in appendix. Group leaders were school social workers who have experience in group work in school setting. They received 12 hours of workshop training on the current CBT protocol. They also received 12 hours training on group SPT including experiential exercise, theory and skills. Trainers were Doctors in psychology specialized in CBT and SPT. The service type, sandplay therapy and cognitive behavioral therapy, were then allocated to the seven schools at random; four of the schools ran SPT group and three ran CBT group. Therefore each school runs one type of group to avoid the participants communicating and comparing to the other treatment modality. As the group leaders received both trainings and did not choose the modality by them, their preference and must be understood to see if they are suitable to use a specific modality. Truscot (2020) suggested the therapist should considered their confidence, their belief an interest in a particular theory of psychotherapy are important factors in becoming an effective psychotherapist. Therefore, after the training, feedback was collected from the social workers about their confidence in the therapy and in leading the group, and their interest in leading the group, as to see if there is any significant difference between group or discrepancy between leaders. The three items were rated on a 9 –point Likert scale. For the confidence in the therapy and their confidence in leading the group, there is not significant difference in rating between the two groups who were allocated to CBT or to SPT, and all scores were 5 or above, meaning that they had a neutral to positive confidence. The interest in leading the group is higher among the SPT group leaders then the CBT group leaders ($t(12, 1) = 3.27$, $p \leq .05$). This suggests that SPT may be more appealing to group leaders, and both modalities are acceptable or even positive for the leaders.

60 adolescents in the SPT group and 50 in the CBT group were invited and agreed to participate, and parent consents were obtained. A screening of current major depressive

episode, manic episode and suicidal risk left 53 in the SPT group and 44 in the CBT group. The design was comparisons between changes in YSR score between experimental and waitlist control groups, within the CBT and the SPT groups. Participants in the schools assigned to run SPT or to CBT were randomized into the experimental or waitlist control group. However, complete randomization was not possible due to some drop out of the control subjects who did not return questionnaire after the consent and randomization procedure. There was no significant difference between experimental group and waitlist control group for the SPT group, but CBT control group and experimental group had significant difference in the baseline scores of the three YSR scores (see table 10 for the baseline scores). The results will be interpreted with care due to the concerns arising from this methodological limitation.

Participants joined the group services of eight weekly sessions of 60-80 minutes each. There are two leaders who were school social workers, 8 adolescents, and an observer who was a psychology student. For the CBT group, the treatment protocol of the TADS Team (2007) was adopted and translated to an 8-session preventive CBT program for the local youth by a doctor in clinical psychology. For SPT, the guidelines and procedures for the research using sandplay therapy, provided by the Sandplay Therapist of America, were followed (Sandplay Therapists of America, 2011). In the sandplay group, each participant had their own tray of dry sand and had around 25 - 30 minute to create the sandplay scene. Miniature figures and water were provided to the group. After all participants in the group have finished creating their tray, each of them shared about their sandtray and their recent life. See appendix VII for the detailed group rundown. In the sandplay therapy group, the observer took pictures of each finished sandtray. Participants completed the pre-test by session one; and the post-test within one week after the last session. A questionnaire with open ended questions about the experience in the group treatment was enclosed in the post-test.

3.2.2 Participants

The participants were form 1 or 2 students recruited from seven secondary schools, who participated in a large scale survey and were identified to have emotional disturbances. Those who have a DASS total score at or above the 95%tile in the survey were invited to participate and consent was made with the parents. They were further screened with the Diagnostic Interview Schedule For Children (Version IV) Cantonese version for major depression episode (Ho, Hung, Lee, Tang & Leung , 1999), those identified having a major depressive episode were excluded and referred to school social worker. Suicidal risk was also assessed with the Beck Scale for Suicidal Ideation Chinese version (Chan, 2003) and those with suicidal plan or attempt were excluded and referred to school social worker. 110 adolescents were invited with parents consent obtained, and 97 of them passed screening; after randomization, 12 of them didn't join the service or the waitlist control group, or drop out from the school. The demography of the participants can be found in table 11. As interparent relationship and presence of SEN were found to predict the mood of adolescents in study I, they were included in table 11.

3.2.3 Measurements

Quantitative measures

Youth Self-report (YSR) (Age 11-18) was used to measure the behavioral and emotional problems in various aspects in adolescents. The internalizing scale includes three aspects of problems: withdraw behavior, somatic complains and anxious/depressed mood. The externalizing scale measures two aspects of problems: delinquent behavior and aggressive behavior. Other items in the scale measure aspects including social problems, thought problems and attention problems. Total problems scores are the sum of all the items. The Chinese version of the YSR was validated locally (Leung, 2006) and found to be test-re-test reliable with good to excellent intra-class correlation. The problem scales had moderate to high accuracy in predicting the respective clinical

status, suggesting moderate to good validity. The family relationship composite score is composed of three items used in study I, the quality of interparent relationship, satisfaction on mother-child relationship and the satisfaction on father-child relationship. It scored from 0 – 3, with 3 meaning better family relationship. Satisfaction on family relationship was measured in general with a single item, on a one to six Likert scale, before and after the SPT group.

Qualitative measures

After each session, the research assistant took pictures of the finished sand tray from five angles - aerial view, and at each of the four sides of the tray. Also, the research assistant would fill in a record form for each tray for the brief process of the building, use of sand and water, and the description of the miniatures used. A template of the recording form can be found in appendix Two aspects of the content are coded based on the pictures of the finished tray. (1) The theme at the center of the tray was coded as 0-organized or 1-unorganized (empty or chaotic). Empty theme and chaotic theme were identified according to the guidelines suggested by Mitchell and Friedman (n.d.): A chaotic theme is disorganized, fragmented or formless arrangement of object; an empty theme is operationally defined as no use of objects and no movement of sand. An organized theme is defined as having symmetric arrangement of objects, symmetric patterns or structure formed by sand will be considered as an organized theme. The center of the tray was determined by driving the tray into nine equal quadrants and the central quadrant was regarded as the center. (2) The presence of themes related to family relationship in the whole tray was coded as 1 and the absence of family related theme was coded as 0. After looking into the sand pictures, a doctor in psychology expertise in sandplay therapy suggested objects that could carry meaning related to family and family dynamics to be included in the analysis. These family related objects include human and animal figures of family (couples, mother child, father child), baby, spider (which carries the meaning of bad wife who kills husband), and turtle (which carries the meaning of mother who abandon

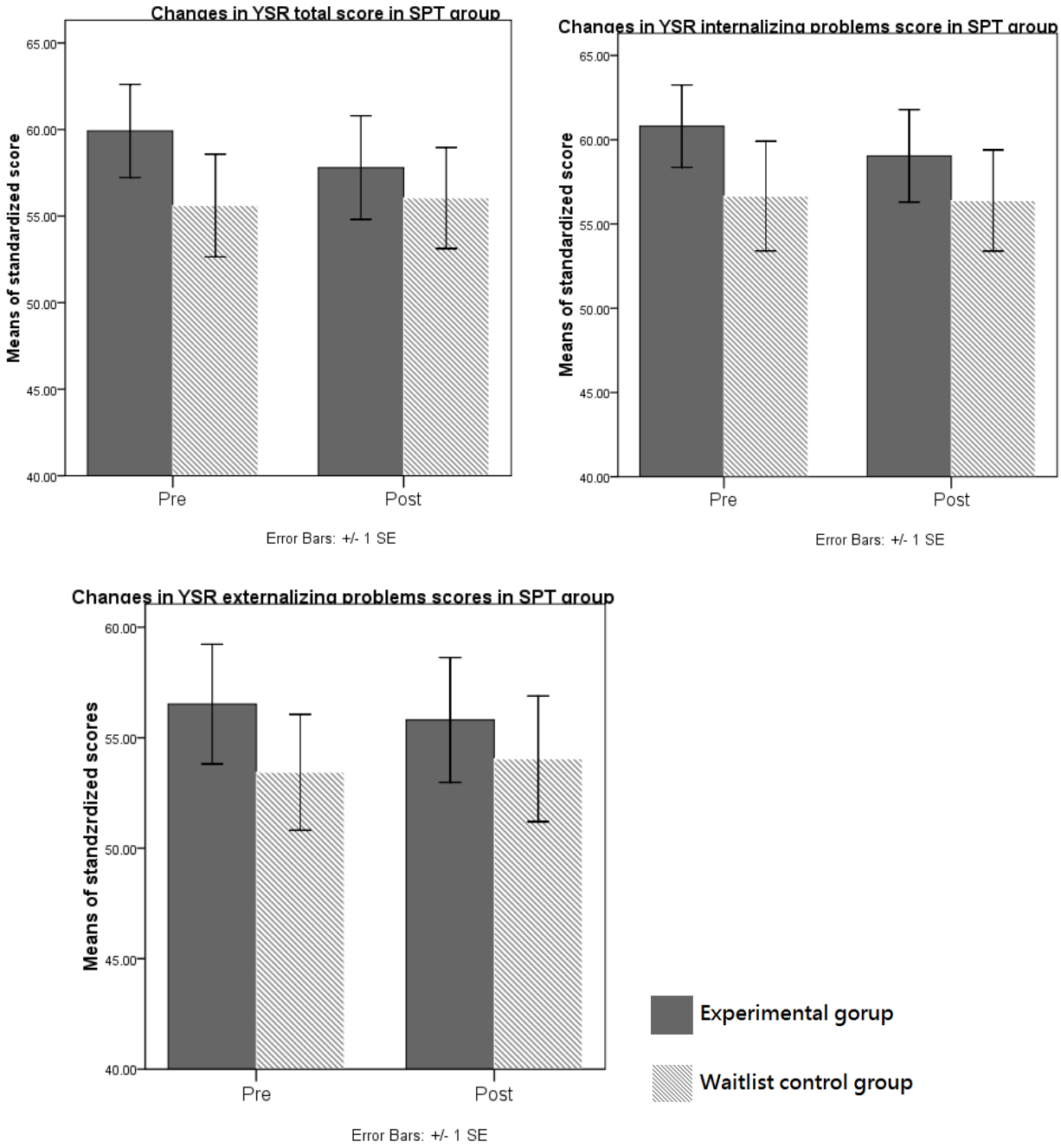
child). Feedback questionnaire with three open-end questions related to the experience in the group was given to participant in both the SPT and the CBT groups.

3.3 Results and Discussions

3.3.1 Outcome of 8 sessions group therapy

Multi-variate analysis of variance (MANOVA) was performed separately for the SPT group and the CBT group. For the SPT group, 25 sets of pre and post questionnaire and 23 sets from the wait list control group were collected from the experimental group. The standardized scores on the externalizing problem scales, the internalizing problem scale and the total problems scale were the dependent variables. Figure 5 on the next page shows the changes in scores for the SPT experimental and control groups. The difference between the two groups in the average of the problem scores was not significant. There was a slight difference in the changes of the total problem score between the experimental group and the waitlist control group. However, the interaction effects between time and group on the standardized scores were not significant. The effect of 8-session SPT group on the problems of adolescents is not confirmed.

Figure 5. Changes in Youth Self-report (YSR) Total score, internalizing problem scores, and externalizing problems scores in experimental group and waitlist control group of the sandplay therapy (SPT) group.



For the CBT group, 21 sets of pre and post questionnaire and 16 sets from the wait list control group were collected from the experimental group. The difference between the two groups in the average of internalizing problem score and total problem score were

significant ($F(35, 1) = 7.29$, $p < .05$; $F(35, 1) = 7.20$, $p < .05$). This difference may be due to the drop out of the waitlist control group. The interaction effects between time and group on the standardized scores were not significant. Figure 6 below shows the changes in scores of the experimental group and waitlist control group.

Figure 6. Changes in Youth Self-report (YSR) Total score, internalizing problem scores, and externalizing problems scores in experimental group and waitlist control group of the cognitive behavoral therapy (CBT) group

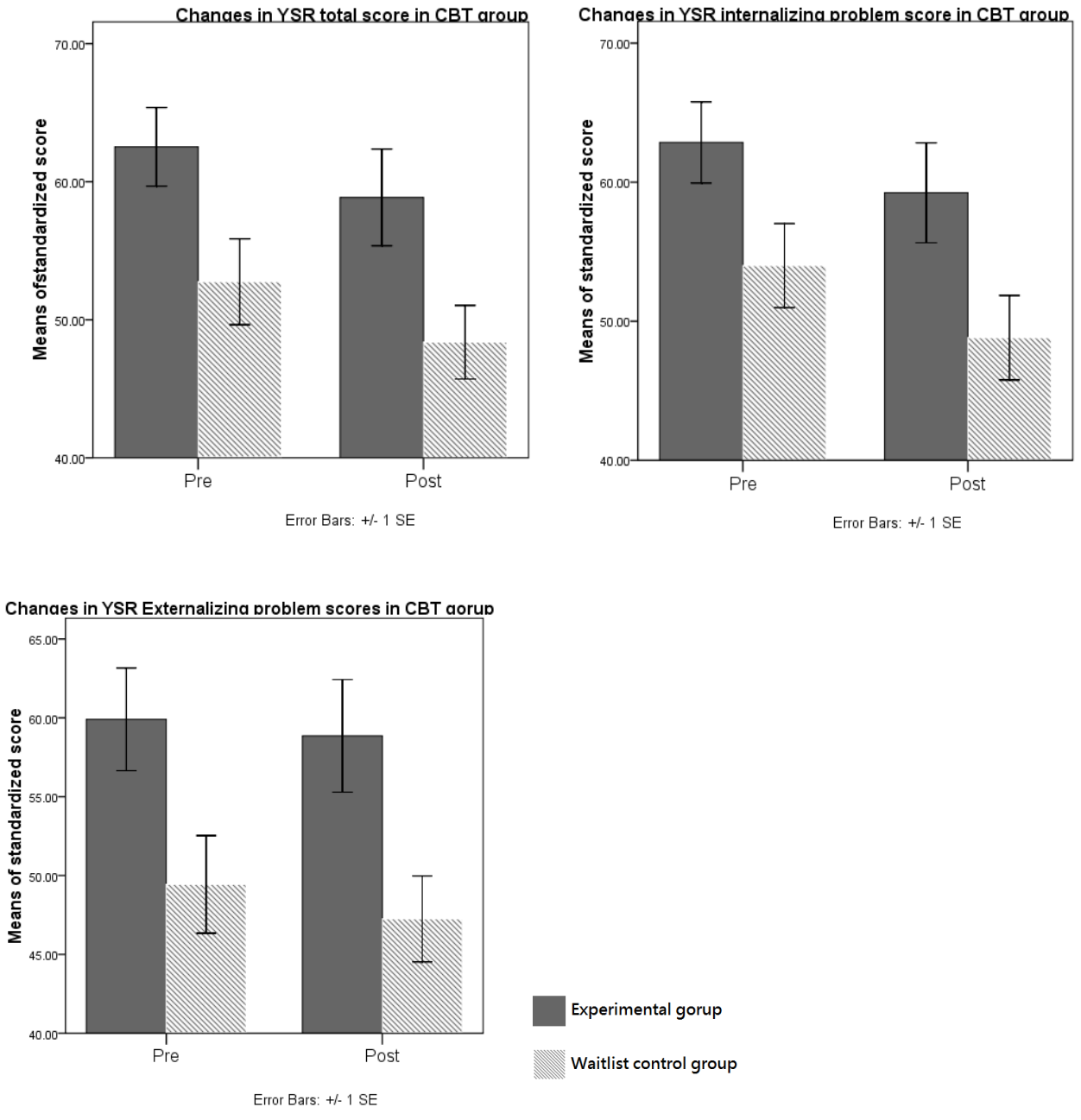


Table 10. The comparisons of score at screening, before and after group service in Youth Self-report (YSR), Depression Anxiety Stress Scale(DASS) and other measures for the sandplay therapy (SPT) group and the cognitive behavioral therapy (CBT) group.

	Experimental group	Waitlist control group	*F*
SPT			
	n = 25	n =23	
Screening (two months before group)			
DASS Depression	22.88 (8.60)	19.91 (9.98)	1.20
DASS Anxiety	22.40 (9.06)	18.27 (5.53)	3.44
DASS Stress	24.40 (8.19)	24.54 (7.56)	.004
General Happiness	14.48 (6.28)	15.41 (7.84)	.203
Self-esteem	24.44 (4.97)	24.18 (4.37)	.035
Pre-test			
YSR – Internalizing problems	59.74 (12.40)	56.65 (15.62)	.779
YSR – Externalizing problems	55.48 (13.62)	53.43 (12.57)	.548
YSR – Total problems	58.81 (13.76)	55.61 (14.22)	.809
Post test			
YSR – Internalizing problems	59.04 (13.72)	55.50(14.05)	.762
YSR – Externalizing problems	55.80(14.12)	53.59(13.78)	.293
YSR – Total problems	57.80(14.95)	55.55(14.13)	.280
CBT			
	n = 21	n = 16	
Screening			
DASS Depression	27.30 (6.69)	27.87(8.09)	.05
DASS Anxiety	24.50 (7.65)	24.53 (8.26)	<.00
DASS Stress	28.30 (5.52)	27.07 (8.10)	.29
General Happiness	13.00 (6.55)	12.40(6.13)	.08
Self-esteem	20.70(5.46)	21.13(6.33)	.05
Pre test			
YSR – Internalizing problems	63.62 (12.85)	54.00 (11.69)	4.30*
YSR – Externalizing problems	60.71 (14.17)	49.18 (12.03)	5.57*
YSR – Total problems	63.21 (12.47)	52.41 (12.12)	5.03*
Post test			
YSR – Internalizing problems	59.75 (16.51)	49.40(12.34)	4.07
YSR – Externalizing problems	59.50(16.51)	47.13 (11.27)	6.22*
YSR – Total problems	59.5 (16.30)	48.87(10.84)	4.65*

* $p \leq .05$

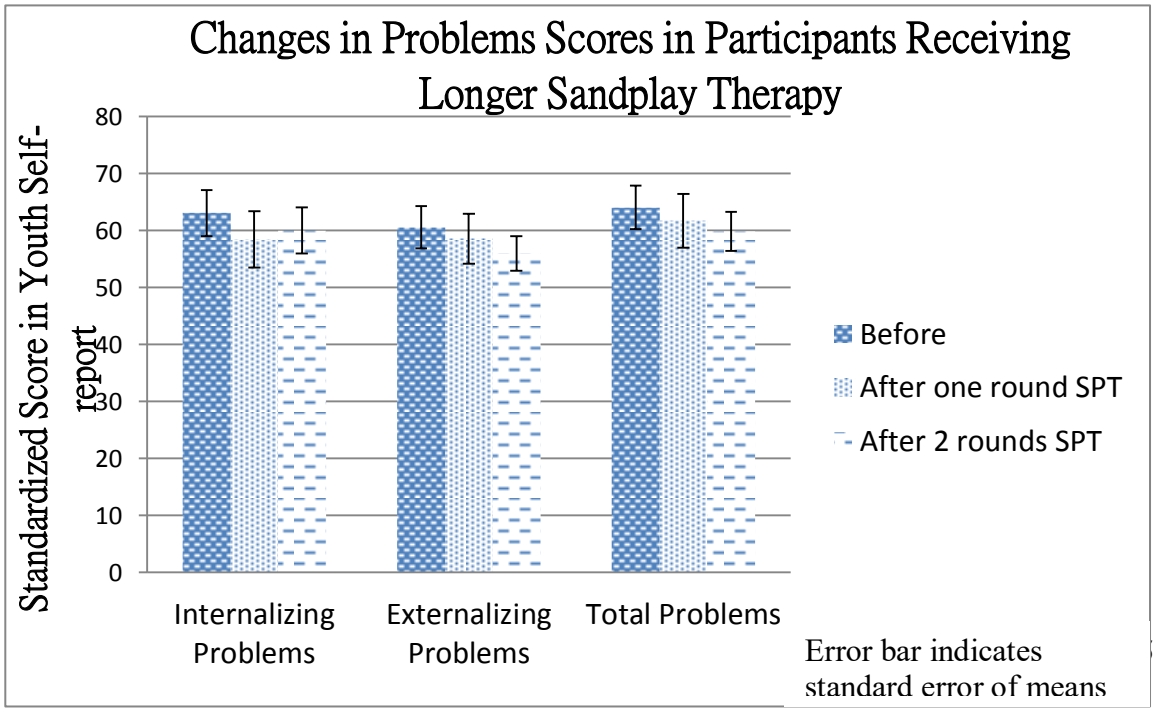
Multi-variate ANOVA was conducted with the treatment type as the between-subjects variable. There is no interaction effect between time of measurement and treatment modality, suggesting that the effect of the SPT group does not differ significantly from that of the CBT group.

3.3.2 Outcome of longer group sandplay therapy (16-sessions)

After finishing one round (8 sessions) SPT group, participants are given the option to join another round. 13 Adolescents joined two rounds of the SPT group. Continuous decreases in the means of standardized scores on externalizing problems and total problems were observed (see Figure 7 below). This suggests group sandplay therapy may have continuous benefit to adolescents who voluntarily engage in a longer service. A longer intervention may also be needed for efficacy study.

Statistical tests were performed and yielded no significant result, which suggests the changes may not have sufficient magnitude, or the effect may not be adequately consistent among the adolescents. On one hand, the outcome measures may not be sensitive for SPT as the self-report measures probe the explicit emotional experience.

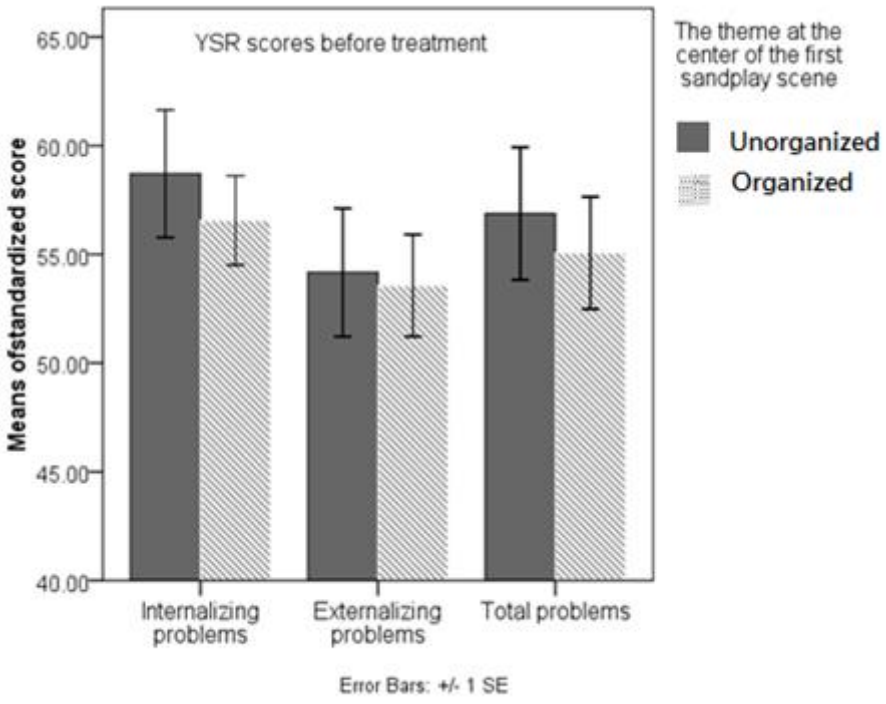
Figure 7. Problems scores in adolescents upon further group participation.



3.3.3 The content of the first sandplay scene.

Multi-variate analysis of variance (ANOVA) was performed with the YSR scores as the dependent variable, the SPT group as the within-subject variable and the organization (organized or empty/chaotic) of the theme at the center of the first sandplay scene as the between-subjects variable. Both experimental group and control group participants were included in this analysis. 28 out of the 51 scenes had an organized theme at the center and to others had an empty or chaotic theme at the center. The results suggested there was no significant interaction effect between the treatment and the organization of the theme at the center. The pre-treatment scores of the group with a disorganized theme were slightly higher than those of the organized group (see figure 8 below), but *t*-test found that the differences were not significant.

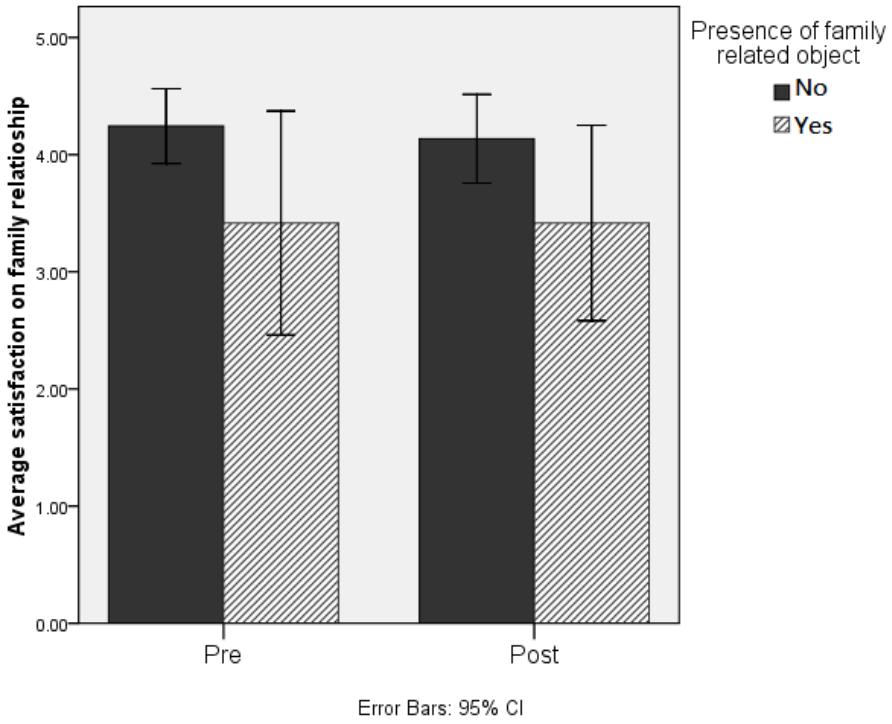
Figure 8. The difference in Youth Self-report (YSR) score between two groups of participants, one having an organized them, one having a disorganized theme, at the center of the first sandplay scene.



12 out of 51 first sandplay scenes contained a family theme, 5 out of the 12 scenes contain objects of deficit family relationships. The detailed counts of different family-related objects are shown in table 12 in appendix. ANOVA was performed with the overall satisfaction on family relationship as the dependent variable, the SPT group as the within-subject variable, and the presence of family theme in the first sandplay scene as the between-subjects variable. The change in satisfaction on family relationship was not significant after the SPT group. The interaction effect between the presence/absence of family themes in the first tray and the SPT group is not significant. The average satisfaction on family relationship of the group who created family theme in the first sandplay scene is lower than the group who did not, but the difference is not significant (see figure 9 on the next page).

The insignificant trends may be due to a small sample size and low sensitivity of the single-item measure of family relationships. More interpretation of the symbols related to the family may be needed. The initial tray may have a diagnostic value related to measures of internalizing and externalizing problems, and family relationships; further investigation is needed.

Figure 9. The change in satisfaction on family relationships before and after sandplay therapy (SPT) group of participants who created a family theme and those who did not in the first sandplay scene.



3.3.4 Participants' feedback

The comparison between the keywords used by the participants in three open ended questions in the feedback questionnaire of the two groups provides some indication of the similarities and differences between the experiences of the participants who went through a different treatment.

The first question asked about the feelings of participants during the group. Happiness, relaxed, and free are the top three responses for both the CBT group and the SPT group. There are other positive keywords for both the groups such as舒暢, 好玩 for both two groups.

For the question on what they gained from the group, friendship, happiness and reducing stress are the top keywords for both groups. In addition, about half the respondents used

keywords such as “calmness平靜/ 寧靜/平伏心情/放心” and “space空間,時段” for the SPT group; about one third of the respondents reported they have learnt the thinking skills (“method方法” and “how如何”) in the CBT group. This highlights that the some of the participants received the specific ingredient of the two treatment modalities – the containing space in SPT and the rational thinking tools in CBT. Not all participants in the group are responsive to the specific ingredient and hence both approaches should be used based on the characteristics and the needs of the client.

For the question on what they like the most in the group, the top answer for both groups is social workers/ group leader. Popular themes for the SPT group are “materials物資/ 道具/沙” and “session rundown時間編排/設計”. Please refer to table 13 in appendix for a detailed list of the keywords.

In conclusion, participants’ feedback is positive for both the CBT and SPT groups, and the SPT group is feasible in the schools setting. The group leader are important to the participants in both groups. Therefore a good rapport is needed in both CBT and SPT. A free and secure space is another important ingredient of SPT, and the thinking tools are important ingredient in CBT; approaches should be chosen based on the responsiveness of the clients to the specific ingredient and the needs of the client. The participants felt relaxed during the SPT group. This is consistent with the common factors theory of psychotherapy that the therapeutic relationship is an important common factor that account for the outcome of psychotherapy (Imel & Wampold, 2008). The semi-structured SPT group with 25 – 30 minutes of building time, and a group composition of 8 members, two leaders and one observer, is feasible in the school setting.

3.4 Limitations and recommendations

Methodology – Study Design

There are several methodological and clinical limitations for this evaluation study. First, the sample could only be randomized at a school level. Second, the design of the study lies between efficacy research and effectiveness research. Researchers generally recommend efficacy research to be followed by effectiveness research for developing new service. An ideal model was developed by the America National Cancer Institute (Hoagwood, Hibbs, Brent & Jensen, 1995):

> The first phase consists of hypothesis development and involves selecting a concept that has already been studied. The second phase, methods development, involves validating instruments by means of rigorous procedures in a set of studies, ranging from purely preliminary to substantive research. The third phase entails controlled intervention trials that typically test the hypotheses developed in Phase 1, using the methods validated in Phase 2. Refinement and revision of Phase 1 hypotheses or methodologies from Phase 2 frequently occur in Phase 3. Phase 3 trials often include efficacy studies. The fourth phase refers to defined population studies, where the aforementioned interventions tested are applied to carefully defined subpopulations of the ultimate target population. The final phase includes demonstration and implementation studies, which introduce the proven intervention to the community at large and measure the public health impact. Effectiveness studies of service delivery models typically fit in Phases 4 or 5.

Although this five step model is practically not always feasible because some issues cannot be overseen at the beginning phases, but the model provides a good reference framework for the research on sandplay which is a new area of clinical research. Study II has the features of phase 3, efficacy study, and phase 5. For instance, the participants

were high in overall negative mood, they are carefully screened for the severity of overall negative mood, i.e. not clinical but moderate to severe; yet their condition may be different: depression, anxiety or stress. The study also has the feature of an effectiveness study of training general practitioners to administer the group at a general setting (school). Therefore it is suggested that, with the experience and findings of this study, more phase 1, 2 and 3 work to be done. Existing self-report instruments measures constructs that are closely related to the content of cognitive behavioural therapy, such as the conscious perception and behaviour related to anxiety and depression. SPT is less symptom-oriented, and focuses more on the development and transformation of a person, which involves a non-linear process, such as qualitative changes and fluctuations in various dimensions of the personality and feeling. Therefore in addition to the common inventories, more ground research on validation of projective tests and systematic content analysis of SPT is needed, to establish inventories that is captures the essence of SPT better. More phase 3 work shall be done, which means therapists or group facilitators who have more experience in SPT and more specific participants (e.g. either depressive or anxious). More specific hypothesis on the effect of SPT shall be formulated, for example, what specific kind of population the therapist think is more suitable, which type of issues (family, school etc.) is better addressed in school group setting.

The community scale effectiveness study shall be done in later time when the efficacy study is mature. CBT works at the conscious level and targets at symptoms, the effect is more easily captured with statistical significance. Second, study designs in future research should go from efficacy study to effectiveness study. For an efficacy study, more expert therapist and a venue closer to the clinical setting are preferred. Randomization procedure at the participant level shall be introduced in later effectiveness study. Case-control study can also be considered if complete randomization is not possible. Thirdly, a control group which is comparable to sandplay therapy can be used.

This is more engaging the waitlist control for the participants and may reduce drop-out. For example, some building activities that requires participants to build a designated scene on a table from a more limited selection of miniatures, so that only the act of building is retained as the control condition.

Moreover, concerning a randomized controlled design and empirically supported treatments (EST) had been queried by some practitioners and researcher, for example, in their review, Castelnuovo, Faccio, Molinari, Nardone and Salvini (2004) criticized the EST, which originated from the medical field, that it cannot be completely applied to psychotherapy, because psychotherapy is not pure science. Using the medical model, such as symptoms amelioration , diagnosis and prescriptive treatment, is not comprehensive for the field of psychotherapy. Treatment that can be more easily manualized, and that target on very specific disorders (instead of having a wholistic or deep understanding of human nature) or client populations, such as CBT, can take the advantage. Fensterheim and Raw (1996) suggested that defining EST the excessive focus on symptom reduction rather than self-actualization perceived improvement of quality of life and Herbert (2003) suggested it hinders the development of long term psychotherapy. It is further criticized in randomized controlled trial is the randomization procedure ignores that preference of client and therapist, treatment protocol is extremely difficult to standardize. In a meta-analysis by Swift and Callahan, 2009), it was suggested that there was a small significant effect in favour of the clients receiving a preferred treatment, and this effect size may be underestimated due to methodological limitations.

There are a few suggestions on the research methodology in evaluating psychotherapies. First, it was suggested that (Morrison, Bradley & Wesstn, 2003) starting form efficacy trials or everyday clinical practice, then examine the patterns of specific outcomes to an intervention with a diverse and ecologically valid sample (i.e. not a homogenous, heavily selected sample. This is complementary to our previous discussion that more efficacy

study shall be done; this means that before the efficacy of the intervention is tested with a specific group using RCT design, more naturalistic examination shall be done, to detect a specific target group or outcome measure to be used in the efficacy study. Some authors (Margison, Barkham, Evans, & al., 2000) advocated the shift from evidence based practices to practice based evidence, which involves examining the treatment outcome in naturalistic settings, variable duration, and more active role of the therapist (instead of manualized work), and use more holistic outcome measures such as quality of life and functioning, in addition to symptom reduction as the outcome measures On the other hand, the preference effect had been examined in some studies, using RCT or partially randomize procedure, in which clients who don't have a preference on the treatment are randomized and those who have a preference are assigned to their preferred group. In a study by Bedi et al. (2000) using a partially randomized procedure, 220 out of 323 participants refused to be randomized when they were given a choice. This suggested that many of the clients actually have a preference and refused randomization when they are given a choice. The partially randomized procedures allows the inclusion of more participants, the comparison between the group with preference and with-out preference, the treatment groups, and between the treatment group separately for the group with and with-out preference. Thus if this procedure is to be used in the future, a large sample size similar to Bedi et al., is needed for the comparison between multiple groups.

Methodology – Measurements

For the content analysis of sandplay process, other than in the conventional direction of case study, research methods for quantitative measure of the process shall further be developed. The results of the current study found insignificant trends that the first sandplay scene may indicate self-report problems and family relationship, which may be helpful in diagnosis and understanding the sandplay process. For many other objects that represent the more personal and internal part of the mind, such as self-esteem, stage of

psychological development, projective measures shall be used. More sophisticated statistical models (e.g. for testing non-linear relationships) shall be used in analysing the contents of the sandplay scenes and the self-report measures through-out the process. The themes of healing and wounding suggested by Mitchell and Friedman (n.f.) can be used as a guideline for analysing and coding the sandplay picture through-out the process as a reflection of outcome. They suggested 10 themes of wounding and 10 themes of healing with description and examples, and a 0, 1, 2 coding system. Therefore, in future studies, a full use of the coding systems can be used to systematically measure the change in all healing and wounding themes. Further analysis shall be done on other wounding and healing themes through-out the process of sandplay therapy. This study suggests that quantifying the content in sandplay scene is possible and categorizing the theme according to those suggested by Mitchell and Friedman (n.d.) is helpful. In our study, the categorization of family themes are based on objects that has been recognized as a symbol of a family member (mother, such as turtle and spider), or with a configuration that is suggestive or directly reflect a family theme (pairs of big and small animal to depict parent-child, or human figures of family). However, whether these objects actually symbolized family members for the clients in each tray is not confirmed. For example, an object that carries a common symbolic meaning as a mother may have a different and more prominent personal meaning to the client. The expression of a family with explicit human figures also carries a different meaning with the expression with objects that carries an underlying meaning of family members as a symbol, as the former usually reflects the materials closer to the consciousness. Some object may have been used as a personal symbol as the family member but not noticed by the coder. Moreover, the meaning of the symbols usually become clearer, or even change, when the therapist knows more about the client and has more session with the client. This means that the objects, instead of directly coded, should be subject to certain interpretation and more

detailed categorization, for example, separately for animal figures and human figures. More sessions should be taken into consideration. However, as the sample size is small and the lack of expert as coders, this is not possible in the study. In the future, when possible, the categorizing of themes should be done by experienced sandplay facilitators or therapist with inter-rater reliability test. The current findings on the insignificant different between subjective feelings and the themes in the first play scene stimulate practitioners to think about the themes of qualitative analysis.

Process and Practice

Apart from methodological concerns, there are a few practical recommendations based on the observation of the research assistant and supervision for the social workers. During the group process, generally the students were interested and most of them understood the ground rules stated by the group leader (see appendix VII for the guideline and run down of the group) . They can focus on their own process and finish in half an hour. Students would wait quietly when they finished earlier. Students understood they could share whatever they wished about their tray. Most of the time students would leave the tray behind after the session, but some of them may want to clear up, this may be due to the culture of the school, as students were trained to take responsibility to clean up their space. Some of the students occasionally have some destructive behaviour that interrupted other group members, individual session should be considered if their behaviour affected other members. Occasionally some of the group leaders would ask too much which may be due to anxiety. From the feedback of the group leaders and research assistant, a group size of 6 was more manageable than 8 and allowed the group leaders to pay adequate attention to each member.

First, group leaders were interested, but felt difficult, in understanding the sandplay pictures (see table 14 in appendix); the therapeutic effect is likely to be affected by the group leaders' uncertainty on the sandplay process. More training and experience is

needed. Second, a group size of 6 with two leaders is more ideal then group size of 8. Third, a fixed classroom in which the trays and figurines do not have to move after each session is good both for the experience of the participants and for execution. Forth, eight sessions in one semester is a short process, and longer SPT had a better outcome in our study. Therefore when holding the SPT groups, workers should consider whether they have the capacity to provide continuous SPT service for the participants, as very likely the sandplay process cannot be finished in 8-session. It can be in form of closed group or individual SPT. In our study, there were students in each group who wanted to join another round of sandplay therapy. A second round was provided when there was the capacity, they may join the intervention of the waitlist group, or new members were introduced to some of the groups to maximize the cost effectiveness of the group. Moreover, some participants may be better benefited with, or have the need to go on an individual therapy. The group setting can serve as a platform for therapist to identify client with further needs and where the client can experience the sandplay process in group and decide upon further involvement in an individual setting. Fifth, some of the participants did not readily emerge in the process in the first few sessions. A group with more experienced leader, smaller group size is likely to provide a better containing environment for the participants to emerge in the process. Sixth, as a lot of experience and training in sandplay therapy is needed for a deep understanding of the symbolic meaning, for leaders who are less experienced and more cognitively oriented, they may feel anxious and lost, it is important for the training emphasize the important of holding and remind them to refrain from asking and trying to understand the picture by logic. Finally, to enhance the research quality, if RCT design is to be used, some training on the principles of RCT shall be given to ensure that the workers will comply to the methods.

3.5 Conclusions

In study II, more than more than 50 adolescents joined the SPT group service with a high attendance rate and positive feedback, suggesting the sandplay group therapy in school setting is feasible. There was an insignificant trend of decrease in total problems for participants compared to waitlist control in the SPT group after eight sessions. Participants who received longer (16 sessions) group sandplay therapy showed continuous decrease in both total problems and externalizing problems, suggesting a further investigation on the optimal length of SPT. On the other hand, the preliminary analysis on the content found noticeable trends that the themes related to family relationships and organization of the scene relating to the self-report measures of the participants. Further exploration on these themes along the sandplay process with more cases is recommended.

Chapter 4: OVERALL CONCLUSIONS FOR STUDY I AND STUDY II

In study I, it was found that family relationships, including inter-parental relationship, affect early adolescents' mood more extensively than the teacher-student relationship and peer relationship. Family themes were also observed in the process of sandplay therapy in the second phase of the study. A conflicted inter-parent relationship affects adolescents' emotion and even their social development. More work on family relationships shall be done by mental health practitioners on early adolescents to facilitate their healthy psychosocial development.

Target participants were selected from the study I and participated in study II. There is no significant change in mood outcomes in the CBT groups, which is consistent with a previous local study. Possible cultural differences in the effect of CBT shall be investigated. Their feedback suggested that the semi-structured sandplay therapy group is feasible in the school setting. Participants liked the group and the group leader was important to the participants in both groups. A secured space and time are essential and important to the participants of SPT. The trends in the change of self-report measures suggested a longer (16-session) SPT may have a continuous benefit to the adolescents. The preliminary analysis on the sandplay therapy content suggests there may be relationships between the themes of the sandplay and self-report measures. From a research perspective, the current preliminary analysis suggested more work on psychometrics and definitions of themes in sandplay, for future systematic analysis on the content of expressive therapies, and development of suitable outcome measures for these therapies. From a clinical perspective, therapists shall study the content of the sandplay therapy to understand the process to identify adolescents' need. Group SPT in the school setting is feasible yet therapists shall also identify clients who need individual therapy along the sandplay process.

香港理工大學康復治療科學系
循道愛華村服務中心社會福利部
香港初中生問卷調查

多謝你參與是次問卷調查。這是一個有關初中生生活狀況的問卷調查，你將會完成兩部分問卷，問卷的答案只會由負責社工及理工大學的研究人員處理，並且會受**保密**，校方並**不會**知道個別同學的答案，只會知道整體同學的平均數據，請你放心作答。

請在答題紙上以鉛筆／不過底的原子筆回答，如要更改答案，請完全擦去／塗去錯誤答案。

請勿塗污本問題簿，如有需要，請你使用答題紙的空白處或草稿紙（如有）。

為保障私隱，你只需在答題紙上寫上你的學號及班別並填滿合適格子，讓研究員作整理及分析數據用。

問卷一

問卷一設有限時，問題會顯示於熒光幕上。當所有同學完成問卷一後，工作人員會指示同學同時開始問卷二。

問卷二

問卷二並無限時，約需要三十分鐘完成，請在同一張答題紙上回答。

問卷二的答案**沒有對錯之分**，你可以就自己的理解盡量回答而不需花太多時間在每一題上。你的答案會被**保密**，會由負責社工及研究員處理以作整體分析研究用，校方並不會知道個別同學的答案，只會知道整體同學的平均數據，請你放心作答。

1. 你的性別：　　A. 男　B. 女

2. 你已年滿：　　A. 12 或以下　B. 13　　C. 14　D. 15　E. 16 或以上

3. 你在香港居住的年期：
A. 一年以下　　B. 一年至兩年　　C. 三年至七年　　D. 七年以上

題 4(a) – (d)：你在過去一星期內共花多少時間在下列活動？

4 (a) 進行電子或電視娛樂活動（包括電腦遊戲、遊戲機、網上遊戲、社交網站遊戲、手提電話遊戲、看電視節目、電影）
A. 0- 5 小時　　B. 6-10 小時　　C. 11-15 小時　　D. 16-20 小時　　E. 21 小時或以上

4 (b) 做功課及温習（不包括上課及補習）
A. 0- 5 小時　　B. 6-10 小時　　C. 11-15 小時　　D. 16-20 小時　　E. 21 小時或以上

4 (c) 做運動（包括上課及課餘時間）
A. 0- 3 小時　　B. 4-6 小時　　C. 7-9 小時　　D. 10 -12 小時　　E. 12 小時或以上

4 (d) 自發參與的課餘興趣活動，如文藝活動、技術訓練、義工服務等
A. 0- 3 小時　　B. 4-6 小時　　C. 7-9 小時　　D. 10 -12 小時　　E. 12 小時或以上

5. 你在過去一星期內，每天平均的睡眠時間是幾小時？
A. 5 小時或以下　B. 6 小時　　C. 7 小時　　D. 8 小時　　E. 9 小時或以上

6. 父親與你（包括親生／繼父，請選擇與你較親近者，以下「父親」所指者與此題相同）：
A. 經常同住*　　B. 間中同住*（即過去半年內少於一半日子同住）
C. 健在但並非同住*　　D. 已逝世或不知去向(如選此項請不用回答第 7 題)

7. 你對你與父親現在的關係的滿意度：
A. 很不滿意　　B. 不滿意　　C. 滿意　　D. 很滿意

8. 母親與你（包括親生／繼母，請選與你較親近者，以下「母親」所指者與此題相同）：
A. 經常同住*　　B. 間中同住*（即過去半年內少於一半日子同住）

C. 健在但並非同住*　　D. 已逝世或不知去向(如選此項請不用回答第 9 題)

9. 你對母親與你現在的關係的滿意度：
A. 很不滿意　　B. 不滿意　　C. 滿意　　D. 很滿意

10. 父母之間現在的婚姻關係：
A. 同居夫妻　　B. 分居夫妻　　C. 已離婚
D. 結婚後其中一方或雙方已逝世或不知去向　　E. 沒有婚姻關係及其他

***同住指以同一個居所作為長期的起居生活、休息睡眠的地方**

11. 你對你的父母之間現在的關係的評價（請選最合適者）：
A. 融洽的　　B. 衝突的　　C. 互不關心的

12. 你的兄弟姊妹（無論是否同住及是否有血緣關係）：
A. 沒有　　B. 1 名　　C. 2 名　　D. 3 名或以上

13. 你對你與上述兄弟姊妹現在的關係的滿意度
A. 很不滿意　　B. 不滿意　　C. 滿意　　D. 很滿意　　E. 沒有兄弟姊妹

14. 你與父母最近一星期內交流的時間，包括直接或透過電話談天、一同參與康樂活動
A.　0- 5 小時　　B. 6-10 小時　C. 11-15 小時　D. 16-20 小時　E. 21 小時或以上

15. 你與父母最近一星期內透過網上社交工具聯絡（如 MSN, Facebook, Whats app）交流的時間
A. 0- 5 小時　　B. 6-10 小時　C. 11-15 小時　D. 16-20 小時　E. 21 小時或以上

16. 你對你與朋友之間的關係的滿意度：
A. 很不滿意　　B. 不滿意　　C. 滿意　　D. 很滿意

17. 你身邊有足夠的朋友。
A. 很不同意　　B. 不同意　　C. 同意　　D. 很同意

18. 你與朋友最近一星期交流的時間，包括直接或透過電話談天、一同參與康樂活動
A.　0- 5 小時　　B. 6-10 小時　C. 11-15 小時　D. 16-20 小時　E. 21 小時或以上

19. 你與朋友最近一星期透過網上社交工具聯絡（如 MSN, Facebook, Whats app）交流的時間
A. 0- 5 小時　　B. 6-10 小時　C. 11-15 小時　D. 16-20 小時　E. 21 小時或以上

20. 你滿意你與你的男／女朋友的關係嗎？
A. 很不滿意　　B. 不滿意　　C. 滿意　　D. 很滿意　　E. 沒有談戀愛

21. 你對你與學校的老師現在的關係的滿意度
A. 很不滿意 B. 不滿意 C. 滿意 D. 很滿意

22. 我對學業成績的滿意程度：
A.很不滿意 B.不滿意 C. 滿意 D. 很滿意

23. 我對學業成績的重視程度：
A.很不重視 B.不重視 C. 重視 D. 很重視

24. 你有沒有以下特殊學習需要？(只包括已經過專業評估確定者，包括臨床心理學家、 教育心理學家、言語治療師、醫生)。可選多項。
A. 讀寫困難 B. 自閉症／亞氏保加症 C.注意力不足/過度活躍症
D. 肢體／視力／聽力 E.言語障礙（包括發音、流暢、聲線方面） F. 沒有

25. 平均每星期扣除必要開支（即膳食和交通）外的個人支出平均金額：
A. 0 – 50 B. 51 – 100 C. 101 – 150 D. 151 – 200 E. 200 以上

26. 你滿意你的家庭經濟狀況嗎？
A. 很不滿意 B. 不滿意 C. 滿意 D. 很滿意

27. 一般而言，我覺得自己：
不是一個很快樂的人 1 2 3 4 5 6 7 是一個很快樂的人

28. 與我大部份的同輩比較，我覺我自己。
不比他們快樂 1 2 3 4 5 6 7 比他們更快樂

29. 有些人一般很快樂，無論發生什麼事，他們都喜愛生活及從中有很大的得著。用這些話來形容你有多貼切?
絕不貼切 1 2 3 4 5 6 7 十分貼切

30. 有一些人一般很不快樂，雖然他們沒有抑鬱，但他們從來不似能感到應有的快樂。用這些話來形容你有多貼切?
十分貼切 1 2 3 4 5 6 7 絕不貼切

題 31-51：在過去的一星期裏

	A. 不適用	B. 頗/間中適用	C. 很/經常適用	D. 最/常常適用
31. 我覺得很難讓自己安靜下來	A	B	C	D
32. 我感到口乾	A	B	C	D
33. 我好像不能再有愉快、舒暢的感覺	A	B	C	D
34. 我感到呼吸有困難（例如呼吸過促，氣喘）	A	B	C	D
35. 我真的好像提不起勁	A	B	C	D
36. 我對事情往往作出過敏反應	A	B	C	D
37. 我感到身體打震（如有腳軟的感覺）	A	B	C	D
38. 我覺得自己消耗很多精神	A	B	C	D
39. 我憂慮一些可能會令自己恐慌或出醜的場合	A	B	C	D
40. 我覺得自己對將來沒有甚麼可盼望	A	B	C	D
41. 我發覺自己很容易感到不快	A	B	C	D
42. 我感到很難放鬆自己	A	B	C	D
43. 我感到憂愁悲哀	A	B	C	D
44. 若受到阻延（例如交通擠塞），我會感到很不耐煩	A	B	C	D
45. 我感到自己即將十分恐慌	A	B	C	D
46. 我感到對所有事情都失去興趣	A	B	C	D
47. 我覺得自己不怎麼配做人	A	B	C	D
48. 我發覺自己很容易被觸怒	A	B	C	D
49. 在沒有明顯的體力勞動時，我也察覺自己的心跳異常（如心跳加速、心跳規律不正常）	A	B	C	D
50. 我無緣無故地感到害怕	A	B	C	D
51. 我感到生命毫無意義	A	B	C	D

題 52-61：	**A** **很同意**	**B** **同意**	**C** **不同意**	**D** **很不同意**
52. 我用正面的態度看自己。	A	B	C	D
53. 我覺得自己沒有什麼值得自豪的地方。	A	B	C	D
54. 總括來說，我對自己感到滿意。	A	B	C	D
55. 有時我會覺得自己一點好處都沒有。	A	B	C	D
56. 總括來說，我傾向於覺得自己像一個失敗者。	A	B	C	D
57. 有時我真的感到自己沒有用。	A	B	C	D
58. 我覺得我有不少優點。	A	B	C	D
59. 我能夠把事情做得和大多數人一樣好。	A	B	C	D
60. 我認為我是個有價值的人，至少與別人不相上下。	A	B	C	D
61. 我希望我能夠尊重自己多一些。	A	B	C	D

題 62-95：	**A. 是**	**B. 否**
62. 即使朋友慫恿我去嘗試吸烟，我也會拒絕。	A. 是	B. 否
63. 我曾經因賭輸了錢而向別人借錢。	A. 是	B. 否
64. 我單獨一個人時，就想要喝酒。	A. 是	B. 否
65. 和朋友一起時，我們有時會服用一些藥物來尋求刺激。	A. 是	B. 否
66. 我曾經因沉迷於打遊戲機而逃學。	A. 是	B. 否
67. 感到無聊時，我會忍不住去嗅膠水／天拿水來尋求刺激。	A. 是	B. 否
68. 只有在喝酒後，我才能表達自己的真正感受。	A. 是	B. 否
69. 如果有朋友讓我試吸他的毒品，我覺得不妨一試。	A. 是	B. 否
70. 見到別人抽煙，我便忍不住要抽。	A. 是	B. 否

71. 本題題目請參考答題紙的背面並在答題紙背面作答。請先完成此部分，再往下一部分。（建議時間：十至十五分鐘）

72. 你是否享受令你喜歡的人受傷害？	A. 是	B. 否
73. 當沒有就手的廢紙箱時，你會否把廢紙拋在地上？	A. 是	B. 否
74. 你是個頗為活潑的人嗎？	A. 是	B. 否
75. 你是否曾經貪圖過不是你應得的東西？	A. 是	B. 否
76. 你晚上是否因為擔心各種事情而難於入睡？	A. 是	B. 否
77. 你是否有時會欺負和取笑其他年青人？	A. 是	B. 否
78. 你曾否拿過屬於其他人的任何東西(即只是一粒糖)？	A. 是	B. 否
79. 你的感情容易受傷害嗎？	A. 是	B. 否
0. 在熱鬧的聚會中你能放得開、玩得開心嗎？	A. 是	B. 否
81. 你是否常常一叫你就立即做呢？	A. 是	B. 否
82. 你是否時常感到厭倦？	A. 是	B. 否
83. 良好的禮儀舉止對你來說很重要嗎？	A. 是	B. 否
84. 你享受做有時真的對人有傷害的惡作劇嗎　？	A. 是	B. 否
85. 你是否有時感到人生就是不值得活的？	A. 是	B. 否
86. 比其他年青人，你與人有更多爭執嗎？	A. 是	B. 否
87. 在學校裏，你是否比多數同學惹更多麻煩？	A. 是	B. 否
88. 你是否覺得很難真正享受一個熱鬧的派對？	A. 是	B. 否
89. 當別人找到你或你做的事有錯時，你是否很容易受傷？	A. 是	B. 否
0. 你會否情願自己一個多於與其他年輕人在一起？	A. 是	B. 否
91. 你講過關於別人的壞話或髒話嗎？	A. 是	B. 否
92. 你是否喜歡時常出街？	A. 是	B. 否
93. 在經歷了一次令人尷尬的事之後，你是否會為此煩惱很長時間？	A. 是	B. 否
94. 當你表現得無禮之後，你是否總會說對不起？	A. 是	B. 否
95. 你能使一個派對順利進行嗎？	A. 是	B. 否

問卷二完。多謝你的參與。

Appendix II Questionnaire for evaluation of group treatment (post-treatment questionnaire for sandplay therapy group)

香港理工大學康復治療科學系　　循道愛華村服務中心社會福利部

香港初中生壓力調查　小組後問卷

班別：_____　學號：_____　填寫日期：_____

歡迎你參與此次小組；我們邀請你在小組開始前後填寫問卷，你的回答會受**保密**，只會由負責社工及理工大學相關的研究人員知道，你可以放心如實回答。

請你根據過去**一星期**的情況回答，並**圈**出合適數字。

	不適用	非常不滿意　　非常滿意
1. 我對我與家人之間的關係的滿意度：	99	1　2　3　4　5　6
2. 我對我與朋友之間的關係的滿意度：	99	1　2　3　4　5　6
3. 我對我與伴侶之間的關係的滿意度：	99	1　2　3　4　5　6
4. 我對我的學業成績的滿意度：	99	1　2　3　4　5　6
5. 我對我的學業成績的重視程度：	99	1　2　3　4　5　6
6. 一般而言，我覺得自己： 不是一個很快樂的人　1　2　3　4　5　6　7　是一個很快樂的人		
7. 與我大部份的同輩比較，我覺我自己。 不比他們快樂　1　2　3　4　5　6　7　比他們更快樂		
8. 有些人一般很快樂，無論發生什麼事，他們都喜愛生活及從中有很大的得著。用這些話來形容我有多貼切? 絕不貼切 1　2　3　4　5　6　7　十分貼切		
9. 有一些人一般很不快樂，雖然他們沒有抑鬱，但他們從來不似能感到應有的快樂。用這些話來形容我有多貼切? 十分貼切　1　2　3　4　5　6　7　絕不貼切		

	很同意	同意	不同意	很不同意
10. 我用正面的態度看自己。	1	2	3	4
11. 我覺得自己沒有什麼值得自豪的地方。	1	2	3	4
12. 總括來說，我對自己感到滿意。	1	2	3	4
13. 有時我會覺得自己一點好處都沒有。	1	2	3	4
14. 總括來說，我傾向於覺得自己像一個失敗者。	1	2	3	4
15. 有時我真的感到自己沒有用。	1	2	3	4
16. 我覺得我有不少優點。	1	2	3	4
17. 我能夠把事情做得和大多數人一樣好。	1	2	3	4
18. 我認為我是個有價值的人，至少與別人不相上下。	1	2	3	4
19. 我希望我能夠尊重自己多一些。	1	2	3	4

	完全沒有	頗/間中適用	很/經常適用	最/常常適用
20. 我覺得很難讓自己安靜下來	0	1	2	3
21. 我感到口乾	0	1	2	3
22. 我好像不能再有愉快、舒暢的感覺	0	1	2	3
23. 我感到呼吸有困難（例如呼吸過促，氣喘）	0	1	2	3
24. 我真的好像提不起勁	0	1	2	3
25. 我對事情往往作出過敏反應	0	1	2	3
26. 我感到身體打震（如有腳軟的感覺）	0	1	2	3
27. 我覺得自己消耗很多精神	0	1	2	3
28. 我憂慮一些可能會令自己恐慌或出醜的場合	0	1	2	3
29. 我覺得自己對將來沒有甚麼可盼望	0	1	2	3
30. 我發覺自己很容易感到不快	0	1	2	3
31. 我感到很難放鬆自己	0	1	2	3
32. 我感到憂愁悲哀	0	1	2	3
33. 若受到阻延（例如交通擠塞），我會感到很不耐煩	0	1	2	3
34. 我感到自己即將十分恐慌	0	1	2	3
46. 我感到對所有事情都失去興趣	0	1	2	3
35. 我覺得自己不怎麼配做人	0	1	2	3
36. 我發覺自己很容易被觸怒	0	1	2	3
37. 在沒有明顯的體力勞動時，我也察覺自己的心跳異常（如心跳加速、心跳規律不正常）	0	1	2	3
38. 我無緣無故地感到害怕	0	1	2	3
39. 我感到生命毫無意義	0	1	2	3
40. 請你在下一頁的空白頁上任何地方，用鉛筆畫一棵樹。				

41. 請你形容你在題 40 畫的樹（如用一些句子、一個標題），並寫在下面：

_____

_____

_____

42. 請以鉛筆完成以下方格 1-8 未完成的圖片 ，並為每一張圖加上一個標題或短句形容。你可以畫任何東西，並無對錯。你可以以任何次序完成。

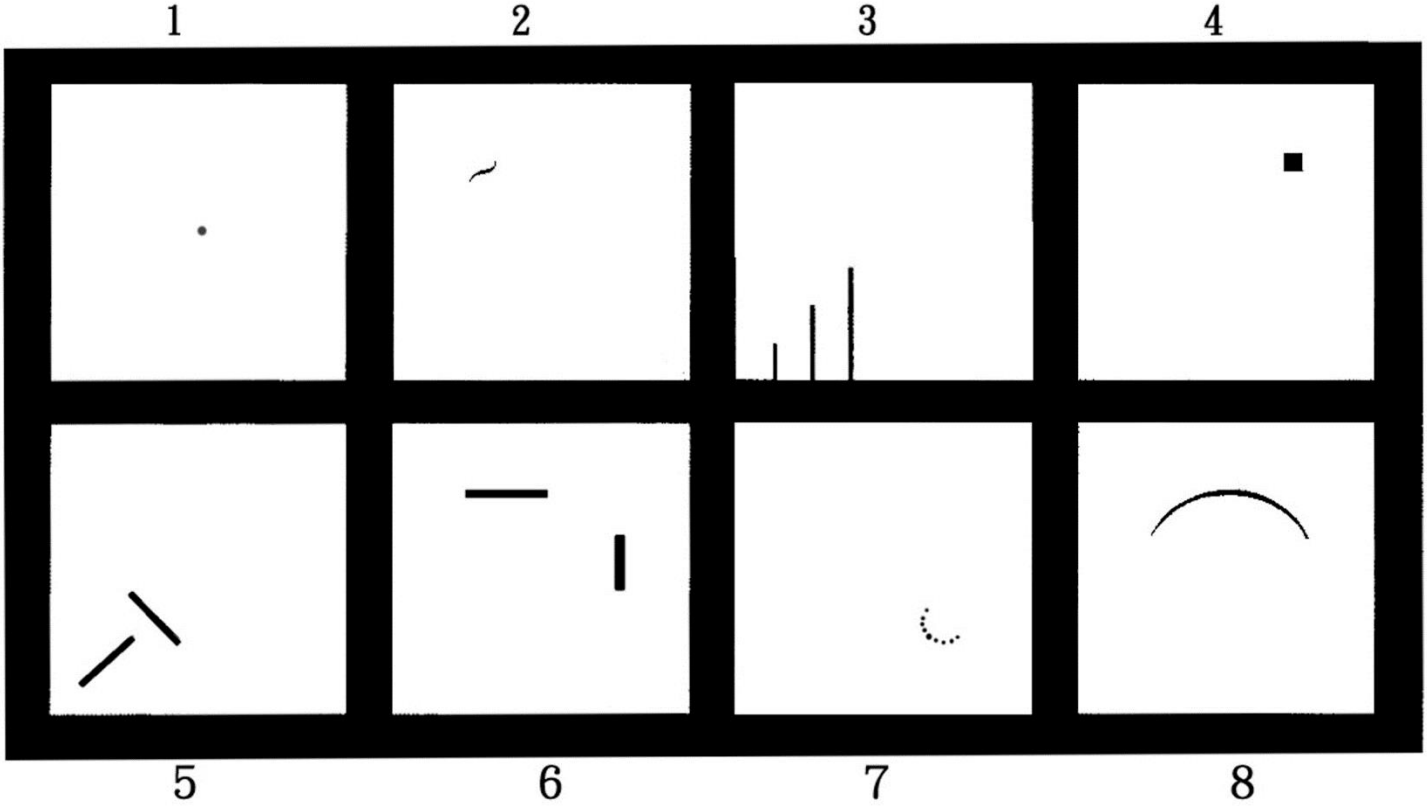


圖 1:_____

圖 2: _____

圖 3: _____

圖 4: _____

圖 5: _____

圖 6: _____

圖 7: _____

圖 8: _____

你完成的次序：

第一幅：圖____；第二幅：圖____；第三幅：圖____；第四幅：圖____

第五幅：圖____；第六幅：圖____；第七幅：圖____；第八幅：圖____

過去2星期

以下是一系列有關青少年的描述。請根據你~~現在或過往六個月內~~的情況，評定下列每一項對你描述之準確程度：

非常準確或經常準確（非常符合對你的描述），請圈2；
接近或間中準確（接近或間中符合對你的描述），請圈1；
不準確（不符合對你的描述），請圈0。

0＝不準確（不符合對你的描述）	1＝接近或間中準確（接近或間中符合對你的描述）	2＝非常準確或經常準確（非常符合對你的描述）

0 1 2	1.	我行爲幼稚，與年齡不符
0 1 2	2.	我身體患有敏感病。請描述： _____ _____
0 1 2	3.	我經常爭辯
0 1 2	4.	我有哮喘病
0 1 2	5.	我的行爲舉止像異性
0 1 2	6.	我喜愛動物
0 1 2	7.	我愛誇口
0 1 2	8.	我很難集中注意力
0 1 2	9.	我腦海中老是重複想著某些事情，不能擺脫。請描述： _____ _____
0 1 2	10.	我不能安坐
0 1 2	11.	我過份倚賴大人
0 1 2	12.	我覺得孤單寂寞
0 1 2	13.	我感到糊裏糊塗，或茫然不知所措
0 1 2	14.	我經常哭泣
0 1 2	15.	我頗誠實
0 1 2	16.	我對別人刻薄，斤斤計較
0 1 2	17.	我經常做白日夢
0 1 2	18.	我故意傷害自己或企圖自殺
0 1 2	19.	我要求別人經常注意自己
0 1 2	20.	我破壞自己的東西
0 1 2	21.	我破壞別人的東西
0 1 2	22.	我不聽父母的話
0 1 2	23.	我在學校不聽話
0 1 2	24.	我胃口欠佳，吃得不好
0 1 2	25.	我與其他年青人合不來
0 1 2	26.	我做了不應做的事也不感到內疚
0 1 2	27.	我妒忌別人
0 1 2	28.	當別人有需要時，我願意幫助
0 1 2	29.	我害怕某些動物、場合或地方(不包括學校)。請描述： _____
0 1 2	30.	我害怕上學
0 1 2	31.	我害怕自己會產生壞念頭或做壞事
0 1 2	32.	我覺得自己必須十全十美
0 1 2	33.	我覺得沒有人喜歡我
0 1 2	34.	我覺得別人存心爲難我
0 1 2	35.	我覺得自己無用或自卑
0 1 2	36.	我身體經常意外受傷
0 1 2	37.	我經常與人打架
0 1 2	38.	我經常被人戲弄
0 1 2	39.	我喜歡和惹事生非的年青人來往
0 1 2	40.	我聽到別人認爲不存在的聲音或人聲。請描述： _____
0 1 2	41.	我行事衝動，不經三思
0 1 2	42.	我喜歡獨處多過與人一起
0 1 2	43.	我說謊或欺騙

請回答所有問題，然後轉到下一頁

過去2星期

0＝不準確（不符合對你的描述）　1＝接近或間中準確（接近或間中符合對你的描述）　2＝非常準確或經常準確（非常符合對你的描述）

0 1 2 44. 我咬指甲

0 1 2 45. 我神經過敏或緊張

0 1 2 46. 我身體某部分抽搐或做出緊張的動作。請描述：

_____

_____

0 1 2 47. 我發惡夢

0 1 2 48. 我不受其他年青人喜歡

0 1 2 49. 有些事情我比大部分青年人做得好

0 1 2 50. 我過度恐懼或焦慮

0 1 2 51. 我感到頭暈

0 1 2 52. 我過於感到內疚

0 1 2 53. 我吃得過多

0 1 2 54. 我感到過份疲勞

0 1 2 55. 我身體過胖

56. 病因不明的症狀

0 1 2 a. 身體痛楚（除頭痛外）

0 1 2 b. 頭痛

0 1 2 c. 作嘔、作悶

0 1 2 d. 眼睛有毛病，請描述：

_____

_____

0 1 2 e. 出疹或其他皮膚病

0 1 2 f. 胃痛或胃抽筋

0 1 2 g. 嘔吐

0 1 2 h. 其他，請描述：

_____

0 1 2 57. 我攻擊他人身體

0 1 2 58. 我抓弄皮膚或身體其他部份。請描述：

_____

0 1 2 59. 我可以頗友善

0 1 2 60. 我喜歡嘗試新事物

0 1 2 61. 我功課差

0 1 2 62. 我動作不協調或笨拙

0 1 2 63. 我較喜歡和年紀比我大的年青人一起

0 1 2 64. 我較喜歡和年紀比我小的年青人一起

0 1 2 65. 我拒絕與人交談

0 1 2 66. 我不斷重複某些動作。請描述：_____

_____

0 1 2 67. 我離家出走

0 1 2 68. 我經常尖叫

0 1 2 69. 我很密實，有事不會說出來

0 1 2 70. 我看到別人認爲不存在的東西。請描述：_____

_____

0 1 2 71. 我很自覺或容易感到尷尬

0 1 2 72. 我放火

0 1 2 73. 我的手藝很好

0 1 2 74. 我炫耀自己或扮小丑

0 1 2 75. 我很害羞

0 1 2 76. 我比大多數年青人睡得少

0 1 2 77. 我比大多數年青人在白天和／或晚間睡得多。請描述：_____

_____

0 1 2 78. 我有豐富的想像力

0 1 2 79. 我有言語問題。請描述：

_____

_____

0 1 2 80. 我會堅持自己應有的權利

0 1 2 81. 我在家裏偷竊

0 1 2 82. 我在家外偷竊

0 1 2 83. 我收藏自己不需要的東西。請描述：

_____

_____

請回答所有問題，然後轉到下一頁

過去2 星期

0＝不準確（不符合對你的描述）　1＝接近或間中準確（接近或間中符合對你的描述）　2＝非常準確或經常準確（非常符合對你的描述）

0 1 2 84. 我有些行爲別人會覺得古怪。請描述：

0 1 2 85. 我有些想法別人會覺得古怪。請描述：

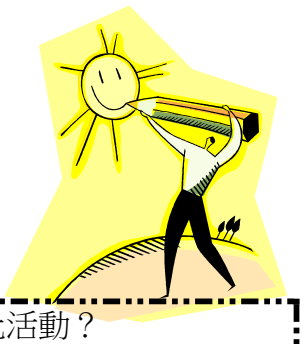
0 1 2 86. 我很固執
0 1 2 87. 我的情緒或感受會突然變化
0 1 2 88. 我喜歡與別人在一起
0 1 2 89. 我多疑
0 1 2 90. 我詛咒別人或講粗口
0 1 2 91. 我想到自殺
0 1 2 92. 我喜歡引人發笑
0 1 2 93. 我說話過多
0 1 2 94. 我常戲弄他人
0 1 2 95. 我的脾氣暴躁
0 1 2 96. 我對性的問題想得太多
0 1 2 97. 我恐嚇要傷害他人
0 1 2 98. 我喜歡幫助別人
0 1 2 99. 我過份注意清潔整齊
0 1 2 100. 我睡得不好。請描述：
0 1 2 101. 我曠課或逃學
0 1 2 102. 我的精力不足
0 1 2 103. 我悶悶不樂或沮喪
0 1 2 104. 我比其他年青人更吵鬧
0 1 2 105. 我喝酒或濫用藥物。請描述：
0 1 2 106. 我盡量以公道待人
0 1 2 107. 我喜歡好的笑話
0 1 2 108. 我喜歡隨遇而安
0 1 2 109. 在能力範圍內，我盡量幫助別人
0 1 2 110. 我想變成異性
0 1 2 111. 我盡量避免與人深入交往
0 1 2 112. 我有很多憂慮

除上述項目外，請在下面描述任何有關你的感受，行爲或興趣。

0 1 2 2n. 沒有父母允許，我擅自飲酒。請描述：
0 1 2 4n. 我不能從頭到尾做完一件事
0 1 2 5n. 沒有甚麼事情令我有樂趣
0 1 2 28n. 我在家、學校或其他地方犯規
0 1 2 54n. 我無故感到過份疲勞
0 1 2 56dn. 病因不明的症狀：眼睛有毛病(不包括可用眼鏡矯正之問題)請描述：
0 1 2 75n. 我過份害羞或膽怯
0 1 2 78n. 我注意力分散或容易分心
0 1 2 83n. 我收藏過多自己不需要的東西。請描述：
0 1 2 99n. 我有吸煙，嚼煙草或索鼻煙
0 1 2 105n. 我濫用藥物(不包括酒精或煙草)。請描述：

請回答所有問題

沙畫遊戲小組 參加者意見調查



謝謝你參與這個小組，我們希望了解你對這次小組的體驗和意見，
現邀請你回答以下一些問題。

創作沙畫的過程中我感到：	你會否建議其他人參與此活動？ 如會，是為了什麼？
我在這個小組中得到的是……	你認為這個小組可以如何改善？
我最欣賞這個小組的……	

請圈合適數字／文字：	非常不同意	不同意	有點不同意	有點同意	同意	非常同意
1 我享受創作沙畫的過程	1	2	3	4	5	6
2 我在創作沙畫時感到自由	1	2	3	4	5	6
3 我在創作沙畫時感到安心	1	2	3	4	5	6
4 我喜歡帶領小組的兩位社工	1	2	3	4	5	6
5 社工在小組內支持和接納我	1	2	3	4	5	6
6 我喜歡小組的其他組員	1	2	3	4	5	6
7 小組的其他組員支持和接納我	1	2	3	4	5	6
8 我滿意小組舉行的地方	1	2	3	4	5	6
9 我喜歡小組的分享時段	1	2	3	4	5	6
10 整體而言，我喜歡這個小組	1	2	3	4	5	6
11 我認為沙畫遊戲小組有助我						
a) 了解自己的感受	1	2	3	4	5	6
b) 了解自己的思想	1	2	3	4	5	6
c) 表達感受	1	2	3	4	5	6
d) 表達想法	1	2	3	4	5	6
e) 改善心情	1	2	3	4	5	6
f) 改變思想習慣，培養正面思想	1	2	3	4	5	6
g) 更積極面對將來	1	2	3	4	5	6
12 如有機會，我會再參加有關沙畫遊戲的活動	1	2	3	4	5	6
13 我認為參與小組的人數	大多		適中		太少	

主辦單位：香港理工大學康復治療科學系
協辦單位：循道愛華村服務中心社會福利部

科研計劃參與同意書

科研題目：***香港初中學生壓力研究***

科研人員：張穎思博士（香港理工大學康復治療科學系助理教授）
協助科研人員：張朱美莉女士、梁成達先生（循道愛華服務中心社會福利部督導主任）

科研內容：
階段一：目的為調查本港中學生的心理健康狀況，參加者會獲邀填寫一份內容包括情緒、認知、性格、生活習慣、人際社交及一般狀況的問卷，
階段二：參加者會參與沙畫遊戲小組治療或認知行為小組治療，以及在小組前後完成問卷評估。

對項目參與人仕和社會的益處：
階段一：本研究結果將有助我們了解本港初中生的心理健康狀況及引致焦慮及壓力的因素。
階段二：本研究結果將有助我們了解沙畫遊戲小組治療及認知行為小組治療對改善情緒的效用，以及影響療效的因素及其與不同治療方式的關係。

潛在危險性：沒有

同意書：
本人_____（校長名字）已瞭解此次研究的具體情況。本人代表本校同意本校參加此次研究。本校明白參與此次計劃的學校有權在任何時候、無任何原因放棄參與此次研究,而此舉不會導致本校及本校的學生受到任何懲罰或不公平對待。本校明白參加此研究課題並無潛在危險性，以及評估內容及個人資料將會保密，只由有關研究人員及社工處理，不會洩露給與此研究無關的人員，本校的名字及參與此次計劃的學生的名字或相片不會出現在任何出版物上。

本校可以用電話 27667578 來聯繫此次研究課題負責人，張穎思博士。若本校對此研究人員有任何投訴，可以聯繫梁先生（部門科研委員會秘書），電話：27665398。本校亦明白，參與此研究課題需要校長代表學校簽署這份同意書。

學校名稱：_____

學校地址：_____

學校印鑑：_____

校長簽名：_____

日期：_____

Co-organizer: Methodist Epworth Village Community Centre, Social Welfare

SCHOOL CONSENT FORM

Project title: Stress Level in Lower-form Secondary School Students in Hong Kong

Investigator: Dr. Cheung (Assistant Professor, Department of Rehabilitation Sciences, The Hong Kong Polytechnic University)

Co-investigators: Ms. Cheung Chiu Mai-lee, Christine, Mr. Leung Sing-tat, Michael (Supervisors, Methodist Epworth Village Community Centre, Social Welfare)

Project Details:

Phase 1: The project aims to investigate the mental health situation of secondary school students in Hong Kong; participant will be invited to complete a questionnaire about their mood, living habits, cognitive ability, personality, interpersonal relationship and demographical information, from assessment and screening.

Phase 2: Participants will receive group sandplay therapy or cognitive behavioral group therapy, and complete a questionnaire before and after group service.

Project Benefits:

Phase 1: The result of this research will help us understand the metal health status of secondary school students in Hong Kong and the factors affecting their anxiety and stress level.

Phase 2: The result of this research will help us evaluate the efficacy of two modes of group psychotherapy intervention – cognitive behavioral therapy and sandplay therapy on secondary students, and to investigate the influence of different variables, such as personality, on treatment outcome, and in relation to intervention modality

Possible Risk: Nil

Consent

I, _____ (Name of Principal) represent the school to agree that the school to take part in the research. I understand that the school can withdraw from this study at any time without giving reasons, and withdrawal will not lead to any punishment or prejudice against my school or the students. I am aware of no potential risk in joining this study. The school also understand that the participating students personal information and assessment result will be assessed by related investigators and social workers only, and not be disclosed to unrelated people, and my school's name or the name or photograph of the participating students will not appear on any publications resulted from this study.

The school can contact Dr. Vinci Cheung Dept of Rehabilitation Science, at 27667578, if there are questions about this project. If there are complaints related to the investigator(s). the school may contact Mr Ka Yan Leung secretary of Departmental Research Committee, at 27665398. I understand that the school principal represents the school to sign this consent for the school to participate in this project.

School Chop:_____

School name _____

Address _____

Signature(Principal): _____ Date: _____

主辦單位：香港理工大學康復治療科學系
協辦單位：循道愛華村服務中心社會福利部

科研計劃資料單張（學校）

香港初中學生壓力研究

你的學校獲邀參與上述科研計劃。本研究階段一為調查本港中學生的心理健康狀況,階段二參加者會參與沙畫遊戲小組治療或認知行為小組治療,以及在小組前後完成問卷評估。本單張會告訴學校有關這項計劃和這兩種治療的資料，讓學校決定是否參與。

計劃目的：
階段一目的為調查本港中學生的心理健康狀況, 階段二目的為研究及比較沙畫遊戲小組治療及認知行為小組治療對改善情緒的效用，以及影響療效的因素，如性格，及這些因素與不同治療方式的關係。

研究步驟：
階段一學校的中一至三學生會獲邀填寫一份需時約一小時的問卷,內容包括情緒、認知、性格、生活習慣、人際社交及一般狀況的問卷，以作調查及篩選用。個別學生會在階段一中獲選取並獲邀參與階段二。學校需安排合適的時間及地點，讓中一至中三的學生進行填寫問卷的測試，並提供部份被甄選學生的學業成績報告副本，以供調查比較之用。
被邀的學生獲得家長同意參與後，參加者或參加學校會由隨機抽籤決定參與沙畫遊戲小組治療或認知行為小組治療。小組共八節,每節約一小時，於二月至五月期間進行，約一星期一節，具體時間由負責學校社工安排。小組開始之前及之後，參加者會與學校社工個別會面，並用紙筆完成一份評估問卷，內容包括一般資料、情緒狀態、生活習慣、人際社交、性格及認知功能。評估內容將會保密，只由有關研究人員及社工處理。如有需要，整體學生數據會提供予有關的學校職員。

什麼是沙畫遊戲治療？
遊戲治療會涉及使用藝術、玩具或沙。沙畫遊戲治療是遊戲治療的一種，當事人會在沙盤內利用小型的模型和玩具創作一個立體的世界。在沙盤內，當事人可以自由、立體和完整地表達自己；用手塑造沙有助身心整合。一些身體上的感覺和微妙的情緒並不能以理性地用言語表達，透過沙畫遊戲便可表達出來，治療師的支持和見證亦有治療效果。學校需在校內提供適合的地方進行小組及放置一些所需的沙畫工具，約需 15 平方呎面積的地方，擺放 3-4 個月時段，完成小組後便會搬離。

什麼是認知行為治療？
認知行為治療涉及透過有系統的步驟，學習解決問題的思考及行為模式，從而改善情緒及行為。小組方過各類活動，如遊戲、討論及分享，讓組員認識有助抗抑減壓的方法，包括應付壓力和負面思思的方法、處理誘發壓力事件的態度、預防抑鬱，以及課餘練習等。

有興趣參與嗎？
學校可以自由決定是否參與。參與後，你的學校及學生亦能隨時退出計劃。如學校同意參與本計劃，所有研究資料（包括個人資料）會完全保密，並受保密聲明保障。

計劃收費：
本計劃不會收取任何費用。
如對本研究計劃有任何查詢，請聯絡學校社工_____，電話：_____

Principle organizer: The Hong Kong Polytechnic University Department of Rehabilitation Sciences
Co-organizer: Methodist Epworth Village Community Centre, Social Welfare

Information Sheet for Schools on

Stress Level in Lower-form Secondary School Students in Hong Kong

Your school is invited to take part in the above-named research project which involves: phase 1: survey on mental health situation of secondary school students and phase 2: group sandplay therapy or cognitive behavioral group therapy for students, and questionnaire administered before and after group service. This information sheet tells you about the research project and the group therapies so that the school can decide if the school would like to participate.

What is the objective of the project?

The phase 1 of the study aims to investigate the mental health situation of secondary school students in Hong Kong. At phase 2, it aims to evaluate the efficacy of two modes of group psychotherapy intervention – cognitive behavioral therapy and sandplay therapy, on secondary school students, and to investigate the influence of different variables, such as personality, on treatment outcome, and in relation to intervention modality.

What are the procedures?

At phase 1 the students in F1 to F3 of the school will be invited to complete a questionnaire about their mood, living habits, cognitive ability, personality, interpersonal relationship and demographical information, for assessment and screening. It will take approximately 1 hour. Selected students will be invited to participate in phase 2. The school will arrange suitable time and venue for the completion of the questionnaire and provide the copy of the academic report for students selected to enter phase 2 for investigation.

After consent is obtained from parents, the participant or participating school will be assigned to the group sandplay therapy or the cognitive behavioural group therapy by drawing lots. The group therapy will be of 8-sessions, 1 hour each session, held between Feb to May for about one session per week. The actual time will be arranged by the school social worker. Before and after the group therapy, the participant will meet the social worker individually and complete a questionnaire, which includes questions on demographic, mood, living habits, interpersonal relationship, personality and cognitive ability. The content of the questionnaire will be kept confidential and ne accessed by related investigators and social workers only. Group data from phase 1 and 2 will be supplied to related staff of school if needed.

What is sandplay therapy?

A play therapy may involve the use of art, toys, games or sand. Sandplay as a form of play therapy involves the creation of a three-dimensional world in a tray of sand using a selection of miniature figures and toys. The sand in a sandtray is the medium where client can freely express themselves, in a three-dimensional way, and wholistically, facilitating mind-body integration, as the sand can be shaped and molded by the hands. The hands can use this venue to follow bodily feelings and express subtle emotions that has difficulty to find expression with words or by the rational mind. The therapeutic effect takes place as the client produce the sand picture under the witness of a supporting therapist. The school should provide a venue for the group service and the storage of equipment for sandplay therapy, of approximately 15 m^2 for 2-4 months. Equipment will be removed after the group service.

What is cognitive behavioural therapy?

Cognitive behavioural therapy involves structured procedures in learning cognitive and behavioral skills in solving emotional and behavioral problems. The group sessions will involve various activities for preventing depression and reducing stress, such as games, discussion and sharing. Topics covered include coping with stress, negative thinking, and activating events, preventing depression, and take-home exercises.

Interested to take part in this project?

The school can freely decide whether to take part in the project or not. Your school and your students can still withdraw from the project at any time in the future. If the school decide to take part in the project, all the information (including personal information) will be kept strictly confidential, and protected by the declaration of confidentiality.

What is the cost for participation?

There will be no cost for participating in this study.

Should you have any questions about this project, please contact
school social worker _____, Tel: _____

Principle organizer: The Hong Kong Polytechnic University Department of Rehabilitation Sciences
Co-organizer: Methodist Epworth Village Community Centre, Social Welfare

Research Project Informed Consent Form

Project title: Stress Level in Lower-form Secondary School Students in Hong Kong
Investigator: Dr. Cheung (Assistant Professor, Department of Rehabilitation Sciences, The Hong Kong Polytechnic University)
Co-investigators: Ms. Cheung Chiu Mai-lee, Christine, Mr. Leung Sing-tat, Michael (Supervisors, Methodist Epworth Village Community Centre, Social Welfare)
Project Detail: The study aims to evaluate the efficacy of the Rainbow Group on secondary students, participants will receive group sandplay group service and complete questionnaire
Project Benefits: The result of this research will help us evaluate the efficacy of the Rainbow Group on secondary students in on self-understanding, coping with stress and emotional modulation, the influence of different variables, such as personality.

Possible Risk: Nil

✂

Consent:

I and my child _____ (Name of child) have been explained the details of this study. My child _____ (Name of child) voluntarily consent to participate in this study. I understand that my child can withdraw from this study at any time without giving reasons, and my child's withdrawal will not lead to any punishment or prejudice against my child. I am aware of no potential risk in joining this study. I also understand that my child's personal information and assessment result will be assessed by related investigators and social workers only, and not be disclosed to unrelated people, and my child's name or photograph will not appear on any publications resulted from this study.

I can contact Dr. Vinci Cheung Dept of Rehabilitation Science, at 27667578, if I have questions about this project. If I have complaints related to the investigator(s). I may contact Mr Ka Yan Leung secretary of Departmental Research Committee, at 27665398

Signature (Parent /guardian):_____ Date: _____

Signature (Participant): _____Date: _____

(Please complete and return to responsible social worker _____.)

Principle organizer: The Hong Kong Polytechnic University Department of Rehabilitation Sciences
Co-organizer: Methodist Epworth Village Community Centre, Social Welfare

Research Project Informed Consent Form

Project title: Stress Level in Lower-form Secondary School Students in Hong Kong
Investigator: Dr. Cheung (Assistant Professor, Department of Rehabilitation Sciences, The Hong Kong Polytechnic University)
Co-investigators: Ms. Cheung Chiu Mai-lee, Christine, Mr. Leung Sing-tat, Michael (Supervisors, Methodist Epworth Village Community Centre, Social Welfare)
Project Detail: The study aims to evaluate the efficacy of sandplay group on secondary students, participants will receive group sandplay group service and complete questionnaire
Project Benefits: The result of this research will help us evaluate the efficacy of sandplay group on secondary students in on self-understanding, coping with stress and emotional modulation, the influence of different variables, such as personality.

Possible Risk: Nil

✂

Consent:

I and my child _____ (Name of child) have been explained the details of this study. My child _____ (Name of child) voluntarily consent to participate in this study. I understand that my child can withdraw from this study at any time without giving reasons, and my child's withdrawal will not lead to any punishment or prejudice against my child. I am aware of no potential risk in joining this study. I also understand that my child's personal information and assessment result will be assessed by related investigators and social workers only, and not be disclosed to unrelated people, and my child's name or photograph will not appear on any publications resulted from this study.

I can contact Dr. Vinci Cheung Dept of Rehabilitation Science, at 27667578, if I have questions about this project. If I have complaints related to the investigator(s). I may contact Mr Ka Yan Leung secretary of Departmental Research Committee, at 27665398

Signature (Parent /guardian):_____ Date: _____

Signature (Participant): _____Date: _____

(Please complete and return to responsible social worker _____.)

主辦單位：香港理工大學康復治療科學系
協辦單位：循道愛華村服務中心社會福利部

科研計劃參與同意書

科研題目：香港初中學生壓力研究

科研人員：張穎思博士（香港理工大學康復治療科學系助理教授）

協助科研人員：張朱美莉女士、梁成達先生（循道愛華服務中心社會福利部督導主任）

科研內容：本研究為調查彩虹抗逆小組的效用，參加者會參與八節的彩虹抗逆小組以及完成問卷

對項目參與人士和社會的益處：本研究結果將有助我們明白彩虹抗逆小組於協助初中生了解自己、面對壓力和改善情緒的效用，及影響成效的因素

潛在危險性：沒有

同意書

本人和本人的子女_____（子女姓名）已瞭解此次研究的具體情況。本人同意本人的子女_____（子女姓名）(中_____班)參加此次研究。本人明白本人的子女有權隨時退出參與此次研究，而此舉不會導致本人的子女受到任何懲罰或不公平對待。本人明白參加此研究課題並無潛在危險性，以及評估內容和個人資料將會保密，只由有關研究人員及社工處理，不會洩露給與此研究無關的人員，本人子女的名字或相片不會出現在任何出版刊物上。

本人可以致電 27667578 聯繫此次研究負責人張穎思博士。若本人對此研究人員有任何投訴，可以聯絡部門科研委員會秘書梁先生(電話：27665398)。本人亦明白參與此研究課題需要本人簽署此份同意書。

簽名（家長）：_____ 日期：_____

簽名（參加者）：_____ 日期：_____

(填妥後請學生交回負責的學校社工 _____)

主辦單位：香港理工大學康復治療科學系
協辦單位：循道愛華村服務中心社會福利部

研究計劃參與同意書

研究題目：香港初中學生壓力研究

研究人員：張穎思博士（香港理工大學康復治療科學系助理教授）

協助研究人員：張朱美莉女士、梁成達先生（循道愛華服務中心社會福利部督導主任）

研究內容：本研究為調查沙畫遊戲小組的效用，參加者會參與沙畫遊戲小組及完成問卷

對項目參與人士和社會的益處：研究結果將有助我們明白沙畫遊戲小組於協助初中生了解自己、面對壓力及改善情緒的效用，以及影響成效的因素

潛在危險性：沒有

同意書

本人和本人的子女 _____（子女姓名）已瞭解此次研究的具體情況。本人同意本人的子女_____（子女姓名）(中_____班)參加此次研究。本人明白本人的子女有權隨時退出參與，而此舉不會導致本人的子女受到任何懲罰或不公平對待。本人明白參加此研究並無潛在危險性，而評估內容及個人資料將會保密，只由有關研究人員及社工處理，不會洩露給其他無關的人員，本人子女的名字或相片不會出現在任何出版刊物上。

本人可致電 27667578 聯繫此次研究負責人張穎思博士。若本人對此研究人員有任何投訴，可以聯絡部門科研委員會秘書梁先生(電話：27665398)。本人亦明白參與此研究需要本人及子女簽署此份同意書。

簽名（家長）：_____ 日期：_____

簽名（參加者）：_____ 日期：_____

(填妥後請學生交回負責的學校社工 _____)

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

To	CHEUNG Vinci (Department of Rehabilitation Sciences)		
From	TSANG Wing Hong Hector, Chair, Departmental Research Committee		
Email	rshtsang@	Date	28-Feb-2012

Application for Ethical Review for Teaching/Research Involving Human Subjects

I write to inform you that approval has been given to your application for human subjects ethics review of the following project for a period from 30-Aug-2011 to 30-Aug-2014:

Project Title: Stress Level in Lower-form Secondary School Students in Hong Kong

Department: Department of Rehabilitation Sciences

Principal Investigator: CHEUNG Vinci

Please note that you will be held responsible for the ethical approval granted for the project and the ethical conduct of the personnel involved in the project. In the case of the Co-PI, if any, has also obtained ethical approval for the project, the Co-PI will also assume the responsibility in respect of the ethical approval (in relation to the areas of expertise of respective Co-PI in accordance with the stipulations given by the approving authority).

You are responsible for informing the Departmental Research Committee in advance of any changes in the proposal or procedures which may affect the validity of this ethical approval.

You will receive separate email notification should you be required to obtain fresh approval.

TSANG Wing Hong Hector

Chair

Departmental Research Committee

從: Sonja Lyubomirsky <sonja.lyubomirsky@ >
寄件日期: 2013 年 11 月 25 日 10:41
至: LAM, angela OK [1190]
主旨: Re: Use of Subjective Happiness Scale for research
Hi Angela — I just came back from HK yesterday :} You are welcome to use the Subjective Happiness Scale (SHS). (My website, which includes the SHS, states that anyone can use it for research purposes.) Just be sure to cite the scale validation paper, attached.

All the information is also included here: http://sonjalyubomirsky.com/subjective-happiness-scale-shs/

You may also be interested in my two books, *The How of Happiness* and *The Myths of Happiness* (translated into Chinese too).

I can't vouch for the Chinese version, but if you think the translation is good, by all means, use it.

All best,
--Sonja

Sonja Lyubomirsky, Ph.D.
Professor and Graduate Advisor
Department of Psychology
University of California
Riverside, CA 92521
(tel) 951-827-
(fax) 951-827-3985
My academic web site: www.faculty.ucr.edu/~sonja/

The How of Happiness: A Scientific Approach to Getting the Life You Want (Penguin Press, 2008) Book web site: www.thehowofhappiness.com

The Myths of Happiness: What Should Make You Happy, but Doesn't, What Shouldn't Make You Happy, but Does (Penguin Press, forthcoming January 3, 2013)

My blog at *Psychology Today*: blogs.psychologytoday.com/blog/the-how-happiness

P Please consider the environment before printing this e-mail

From: "LAM, angela OK [1190]" <angela.ok.lam@ >
Date: Sunday, November 24, 2013 8:04 PM
To: Sonja Lyubomirsky <sonja.lyubomirsky@>
Subject: Use of Subjective Happiness Scale for research

Dear Sonja,

I am an Mphil student in the Hong Kong Polytechnic University,

I would like to use the Chinese Version of the SHS in my MPhil study on the mental health of young adolescents in Hong Kong. I saw the Chinese version of it on the website on Suthentic Happiness. Could I get the persmission to use it ? Thank you!

Regards,

Angela

From: "Nicholas Stevens" <Nick@ >
To: "'Angela On Ki Lam [RS]'" <Angela.On.Ki.Lam@ >
Date: 21/11/2011 22:21
Subject: RE: Use of Practice Tests in Research

Good afternoon Angela.

There is no problem with you using the sample paper in your survey.

Our only stipulation is that you must not charge students for the paper.
(Which I do not think that you will be doing!)

Regards and good luck with your survey.

Nick Stevens
Managing Director
IPS Educational Publishing

-----Original Message-----
From: Angela On Ki Lam [RS] [mailto:Angela.On.Ki.Lam@]
Sent: 21 November 2011 11:42
To: Enquiries@ipspublishing.co.uk
Cc: Vinci Cheung
Subject: Use of Practice Tests in Research

Dear Sir/Madam,

We are researchers from the Hong Kong Polytechnic University (PolyU) and would like to enquire about the use of your sample paper (IPS Sample Non-verbal Reasoning Test Paper. (35 items).

We are conducting a large scale survey which includes an assessment to be conducted on students in secondary schools in Hong Kong, and we would like to include a brief non-verbal reasoning task in our questionnaire. Your practice Test is one of the suitable ones and we would like to ask for a permission in adopting the Test and administering in schools.

The project is lead by Dr. Vinci Cheung, Assistant Professor, Department of Rehabilitation Sciences, PolyU, in collaboration of an NGO in Hong Kong.

If used, the Tests will be referenced to in the questionnaire and related publication. Please advice on the possibility and conditions of such use. We look forward to your hearing from you.

Regards,
Angela Lam
Research Assistant

The Hong Kong Polytechnic University
WHERE INNOVATION MEETS APPLICATION

香港理工大學康復治療科學系
循道愛華村服務中心社會福利部
香港初中學生焦慮及壓力研究
沙畫遊戲治療小組　組長指引

每節基本結構及注意事項 (translated and adapted from Draper, Ritter & Willingham, 2003)

歡迎：5 分鐘

建造時間（building time）：25 分鐘

- 第一節請每位組員可在 post-it 上寫上自己的稱呼，貼在已寫上號碼的沙盤的側面，之後每一節便可以用回自己的盤。
- 組員可以利用所有的微型玩具（miniatures）建造自己的沙世界，而取用玩具的次數不限，但可以安排每次同時只有兩個組員往取用，及每次可取用的玩具數目，以免混亂及維持公平。
- 可以提供一個小籃子予每個組員盛載玩員回位
- 可以提供小水盤／水樽給組員。
- 建造時間完結前五分鐘請提示組員

規則：過程中沙要留在沙盤裏面，避免弄傷自己或者他人，並將玩具保 小組完結之後玩具需要留在房間。

拍攝時間 1（photographing time）5 分鐘

- 拍攝沙畫以協助分辨其中主題（themes）、改變及過程，讓組長及研究員了解不同的沙畫
- 組員如提出或問及可否自行拍照，告訴同學可自行在此時拍攝自己的沙畫，但記錄員所拍攝的相片一般不會給回組員
- 拍攝時，組長可同時邀請組員欣賞自己及他組員的作品(起身行一圈觀看其他人的作品)
- 拍攝過程如下：

組員觀看其他同學的沙畫時，記錄員會為每個沙盤拍一至兩張照片；及後在分享完清理前，組員離開後的**拍攝時間 2** 再拍，每一個沙盤從五個角度拍攝，第一張由該組員的角度開始拍，然後順時針次序從其餘三面拍，最後從沙盤正上方拍一俯視圖。如有特別物件，如沙畫的焦點、埋在沙中的物件等，請獨立拍照。

分享時間：20-30 分鐘

- 每一個組員在此階段皆有機會就其創造的沙畫說一個故事或形容其沙畫；但組員亦可以選擇不說。較寡言的組員可選擇用字詞表達。
- 組長應示範有同理心的聆聽方法（empathic listening）。
- 有系統的回應對初期的小組分享有幫助。例如，當一個學生分享後，組長可帶頭作簡潔的 reflection，可以邀請其他組員作正面、不批判的分享，如：我覺得你的沙畫最吸引我的是……
- 組員分享時，其他成員的接受和鼓勵十分重要，是以組長應留意心避免組員分享時被反駁、被問及不願回答的問題、或其沙畫受到未經請求的詮釋（unsolicited interpretation）。

基本規則：當組員分享的時候，只有該組員可以發表，其他組員聆聽；同時間只可以一個人說話。

分享近況及總結：10-15 分鐘

清理：清理應在組員離開後由組長及紀錄員完成。

香港理工大學康復治療科學系
循道愛華村服務中心社會福利部
香港初中學生焦慮及壓力研究
沙畫遊戲治療小組　組長指引

如何開始沙畫遊戲 (translated and adapted from Mitchell, Reece & Morena, 2010)

1. 呢道係沙畫遊戲小組進行既房間，呢道有一D玩具，而每個人都會有一個沙盤，你可以選擇你想用既玩具，係沙盤入面建造一個世界。沙畫遊戲入面冇岩同錯，你可以係沙盤入面建造任何野。呢度亦有一D水可以用。
2. 過程中請你將沙留係沙盤入面，避免整親自己或者人地，請你將玩具保持完好，小組完結之後玩具需要留返係呢間房道
3. 係開始之前，你可以將你既手放係沙入面，放鬆，然後感覺下D沙。如果你想，你可以合埋你雙眼。
4. 當你覺得舒服既時候，你就可以去D架度開始簡玩具，每次五－六個，然後開始建造你既沙盤。
5. 當你玩既時候，請保持安靜；但係如果你有任何問題或者需要幫助，歡迎你隨時發問。
6. 你有____分鐘時間去玩，我會係完結前５分鐘提示你，等你可以準備結束
7. 你地完成之後我會影底你地既作品。然後我會逐一聽你地講關於你地既作品（同體驗）。
8. 完成之後你地唔需要清埋個沙盤。
9. 如組員問及為麼要做沙畫或者沙畫有甚麼用，可以給類似以下的回應：

   沙畫遊戲係一個同自己接觸（同聯繫）既方法。

   沙畫遊戲有時可以為我地既心靈帶黎能量，同埋激發我地自癒／個心靈好返既能力。

   沙畫遊戲係一個新鮮既體驗，係意識同潛意識之間既對話／可以增加對自己既了解。

   此類問題可能是源於緊張，未必一定是想要一個答案；所以你應以温和而可靠的語氣回應。

References:

Draper, K., Ritter, K. . & Willingham, E. U. (2003). Sand Tray Group Counseling with Adolescents. *The Journal for Specialists in Group Work, 28*, 244-260.

Mitchell, R. R., Reece, S. T. & Morena, G. D. (2010). The Guidelines and Procedures in Conducting Sandplay Therapy Research, Sandplay Therapist of America (STA) Research Committee,

香港理工大學康復治療科學系

沙畫遊戲小組紀錄表（研究用）

學校：_____ **記錄員／副組長姓名：**_____

出席組員名稱及座位表：

（請在此格內畫出席學生、組長、副組長及觀察員位置，並寫上學生姓名及代號１－８）

1	5
2	6
3	7
4	8

指引：

建造階段：在製作者建造時所站位置寫上其代號；可用不同色記錄 object 及 movement；default language: Eng, 如不能用英文表達可寫中文

次序以首尾各３個為最重要，請儘量記下所有物件次序

每節完結後，掃瞄此表（如需要，請另紙整理），或打成 softcopy，電郵至 angela.ok.lam@connect.polyu.hk

分享時間：順分享者形容的次序寫；其他人有共鳴或同理心的回應也可簡記。

每節完結後，掃瞄此表（如需要，請另紙整理），或打成 softcopy，電郵至 angela.ok.lam@connect.polyu.hk

分享時間：順分享者形容的次序寫；其他人有共鳴或同理心的回應也可簡記。

建造階段（２５分鐘）開始時間：_____

picture	Comments/ observations
	1
	2
	3
	4

	5
	6
	7
	8

拍攝時間１(２分鐘)：每個沙盤拍一個角度(俯視、站在製作者位置)，照片由組員 1 開始，後到組員 2，如此類推。

分享時間（３０分鐘）：　有沒有什麼想同大家 分享關於 你今次的沙畫?

每人約 3-5 分鐘

1

2

3

4

5

6

7

8

分享近況及總結(１０－１５分鐘): (此部分簡列 2-3 重點，包含人物、事件便可)

1	5
2	6
3	7
4	8

————————小組完結————————

拍攝時間２：
每個沙盤拍五個角度，照片由組員 1 開始，後到組員 2，如此類推。然後拍組長的記錄表每頁，再拍記錄員的記錄表每頁。

清理用具及房間

紀錄員備註：

_____

_____

_____

小組資料於____月____日上載

Table 5. The skewness and Kurtosis of the raw and transformed data.

	Depression		**Anxiety**		**Stress**	
Data transformation	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
Raw	1.19	1.44	1.32	1.60	.73	.05
Inverse	1.33	.46	.91	-.78	1.88	2.46
Logarithm	-.28	-.82	-.09	-1.13	-.66	-.37
Square root	-.10	-.53	.08	-.82	-.40	-.35

Table 7. Regression coefficients and significance of variables on different mental health measures of male participants.

	Subjective Happiness Scale +		DASS depression		DASS anxiety		DASS stress	
Adjusted R^2	.326		.282		.378		.342	
	β	*t*	β	*t*	β	*t*	β	*t*
Neuroticism	-.176	-6.90***	.275	9.97***	.306	12.0***	.348	13.227***
Extraversion	.202	8.00***	-.144	-5.84***	-.206	-8.68***	-.135	-5.53***
Psychoticism			.124	4.68***	.106	4.23***		
Self-esteem	.122	4.57***	-1.31	-4.80***	-.181	-7.25***	-.165	-6.42***
Satisfaction on grade	.092	3.66***	-.091	-3.54***				
Satisfaction on peer relationship	.097	3.93***						
Satisfaction on teacher-student relationship	.116	4.61***			-.060	-2.52*		
Harmonious interparent relationship#	.077	3.07**			-.069	-2.88**		
Satisfaction on relationship with father			-.073	-2.91**				
Satisfaction on relationship with mother	.071	2.84**						
Satisfaction on financial situation	.144	5.75***			-.072	-3.05**	-.057	-2.38*
Time on leisure activities	.054	2.28*						
Time on sleep							-.077	-3.23***
Special education needs#					.050	2.16*	.05	2.12*
Time on study							.050	2.16*
Time on digital entertainment			.054	2.173*				

Excluded variables: school grade, academic level of school, years of residence in Hong Kong, famil intactness, logical intelligence.

+ Overall reasoning: **β**= -.049, *t* = -2.03 , *p* = .043

*** $p \leq .001$; ** $p \leq .01$; n.s. = not significant

1= Yes, 0 = No

Table 8. Regression coefficients and significance of variables on different mental health measures of female participants.

	Subjective Happiness Scale		DASS depression		DASS anxiety		DASS stress	
Adjusted R^2	.402		.363		.484		.427	
	β	*t*	β	*t*	β	*t*	β	*t*
Neuroticism	-.13	-7.55***	.308	11.52***	.281	11.66***	.374	14.81***
Extraversion	.197	8.21***	-.11	-4.51***	-.161	-7.31***		
Psychoticism			.105	4.15***	.075	3.29***	.124	5.17***
Self-esteem	.221	8.27***	-.155	-5.67***	-.242	-9.80***	-.168	-6.45***
Satisfaction on grade	.092	3.70***	-.07	-2.18**	-.102	-4.36***	-.067	-2.75**
Satisfaction on peer relationship	.148	6.29***						
Satisfaction on teacher-student relationship			-.074	-2.90**	-.101	-4.38***	-.091	-3.77***
Harmonious interparent relationship#	.091	3.82***						
Satisfaction on the relationship with mother			-.108	-4.45***	-.082	-3.674***		
Satisfaction on financial situation	.148	6.04***						
Time on sleep			-.081	-3.34***	-.078	-330***	-.106	-4.66***
Special education needs			.082	3.50***	.060	2.813**	.101	4.53***
Time on study			.061	2.55*			.065	2.87**

Excluded variables: school grade, academic level of school, years of residence in Hong Kong, family intactness, time spent on digital entertainment, Satisfaction on the relationship with father, logical intelligence, time spent on leisure activities.

*** $p \leq .001$; ** $p \leq .01$; n.s. = not significant

1= Yes, 0 = No

Table 11. Demography of participants

	Gender (% Female)	% in intact families	% Harmonious parents	% SEN
Overall	51.8	77.6	65.0	10
SPT – experimental	55.6	66.7	59.3	11.1
SPT – waitlist control	46.4	83.3	76.9	23.1
CBT- experimental	53.6	70.4	59.3	3.6
CBT – waitlist control	50	59.1	61.5	0

Table 12. Family related objects used in 12 of the first sandplay scene.

Objects		Count
Pair of turtle (big and small)		4
Pair of zebra (big and small)		1
Human figures of family		4
Pair of dolphins (big and small)		1
Abandoned child		1
Spider		2
Big turtle		2

Table 13. The keywords used by the participants in three open ended questions in the feedback questionnaire.

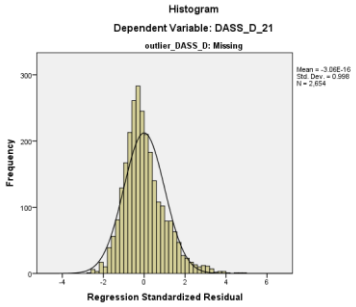
	SPT		CBT	
Valid feedback questionnaire	33		19	
	Keyword	Count	Keyword	Count
Feelings during the group	Happy/快樂/開心/ 愉快/高興	10	開心/快樂/happy	9
	自由 (Free)/開放(open)	6	自由 (free)	2
	放鬆/輕鬆Relaxed	8	放鬆/輕鬆(Relaxed)	5
	舒暢 (pleasant)	2	舒適 (comfortable)	1
	享受 (enjoyable)	1	別人的接納 (accepted)	1
	好玩 (playful)	1	可以玩 (play)	1
	自己沒有創造力 (no creativity)	1	開朗 (optimistic)	1
	暫時沒感受 (no feeling)	1	和諧 (harmonious)	1
	孤獨 (solitude)	1	可以講自己的心事 (I can talk about my things)	1
	寧靜 (quiet)	1		
	安心 (at ease)	1		
	讚 (praise)	1		
	悶, 無聊(bored)	2		
What I gained from the group	壓力的解放 / 舒緩壓力 (relieve of stress)	2	如何處理自己的壓力/ 對抗壓力的方法 (how/methods to cope with stress)	3
	快樂/ 開心的心情 (happiness, happy mood)	7	happy	4
	友誼/新朋友/友情增進New friends/ friendship	4	朋友/新朋友(friendship)	2
	memories/experience	3	正面影響 (positive effect)	1
	積極表達/ 多向別人訴說 (expression)	2	說出心裏話的地方 (a place to speak about myself)	1
	給多點空間自己/創作自己世界的空間/ 一段可以放鬆自己的時間 (a space / period to create/relax)	3	控制情緒/ 如何控制情緒 (how to control emotion)	2
	更了解自己 (know myself better)	1	如何改變自己的負面思想 (how to change negative thinking)	1
	平靜/ 寧靜/平伏心情/放心 (calmness)	4	休息 (rest)	1
	放鬆/多放鬆自己 (relaxation)	3	食物 (food)	1

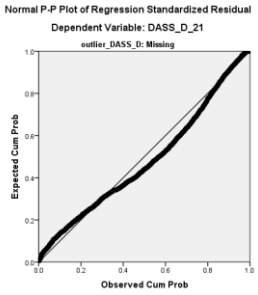
	自由 (freedom)	2	解決問題的方法 (methods of problem solving)	3
	悶 (boredom)	1	No answer	1
	玩沙畫 (sandplay)	1		
	No	2		
	No answer	3		
	Not sure, don't know	2		
What I like the most about the group	社工/ 社工的用心 (social workers)	5	導師/社工 (social workers)	3
	物資/ 道具/沙 (sand)	5	安靜美好 (quiet)	1
	平靜/寧靜/ 安靜的地方 (calmness)	3	尊重我地 (respect)	2
	時間編排/設計 (rundown, design)	3	建議 (advice)	1
	食物 (food)	1	分享時段 (sharing)	2
	自由 (freedom)	1	all	1
	同學 (group members)	1	不知道 Don't know)	1
	所有 (everything)	1	No answer	2
	沒有音樂 (no music)	1	Irralevant answers(好 /good/ happy/ 小組時間)	5
	有良好的環境給同學自由發揮 (a good environment for students to express freely)	1		
	No answer	10		
	No	1		

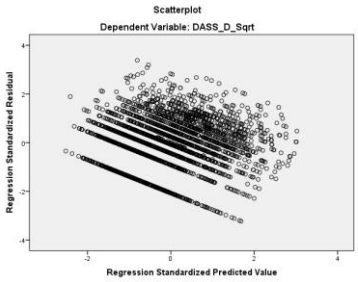
Table 14. Difficulties/ suggestions made by group leaders on leading the groups

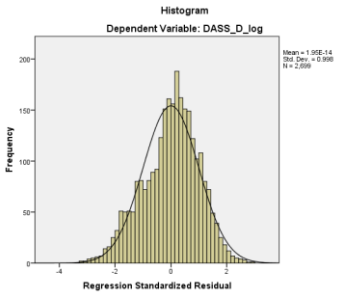
Hope to learn how to analyze the sandplay outcome
難以理解及明白組員內在的情況
如何分析個案
有同學太嘈, 太 disturbing, 要經常提他們安靜, 但又怕話他太多會影響他的創作
希望有 notes, 介紹 sandplay 不同位置的意思, 不同玩具代表的意義., sandplay theory, etc. 書
想知道現階段社工能夠(如何)應用於個案內作為引入點, 了解他的情況
帶領時說話的多寡
可以少點個人建造沙畫, 多點 case 分析

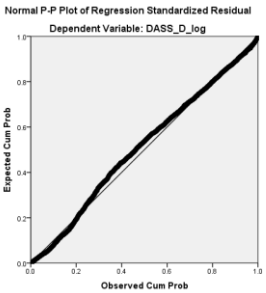
Figure 1. Residual plot and frequency distribution of the regression model using transformed data of the score of the depression scale.

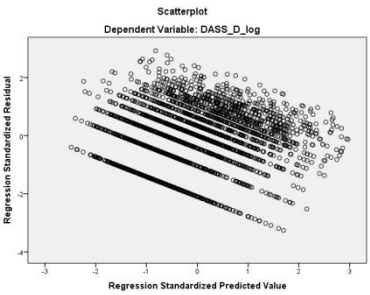


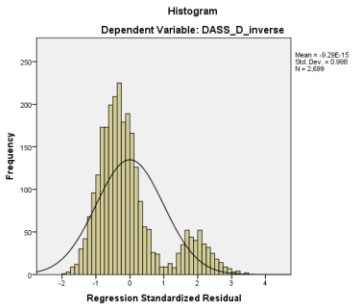


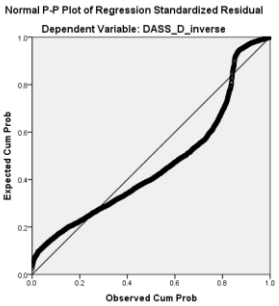


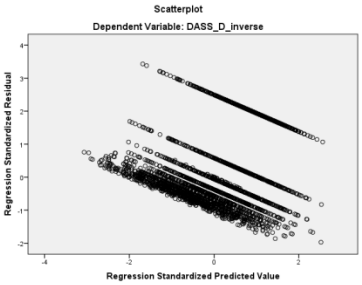


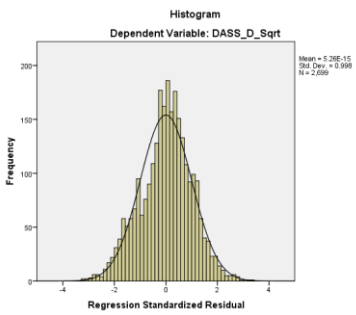


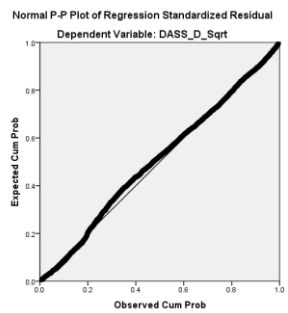












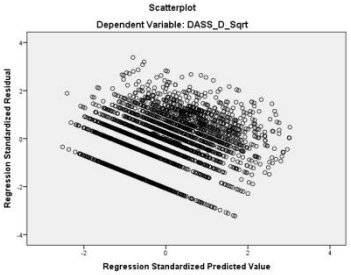


Figure 2. The residual plots for the regression model of various factor predicting the score of the anxiety scale of the Depression Anxiety Stress Scales 21 in early adolescents.

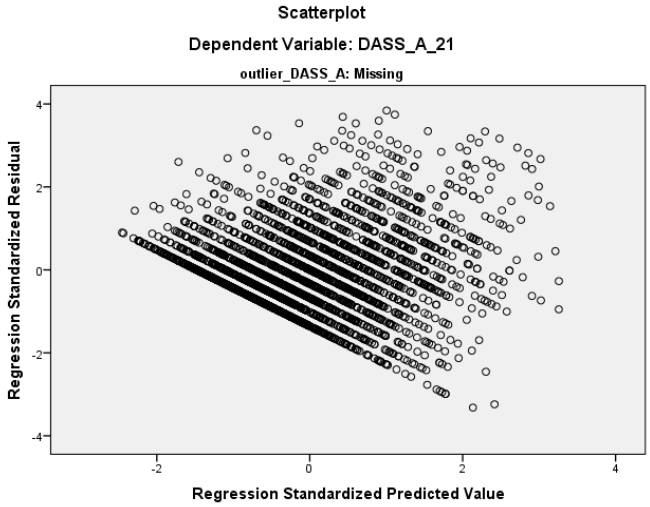
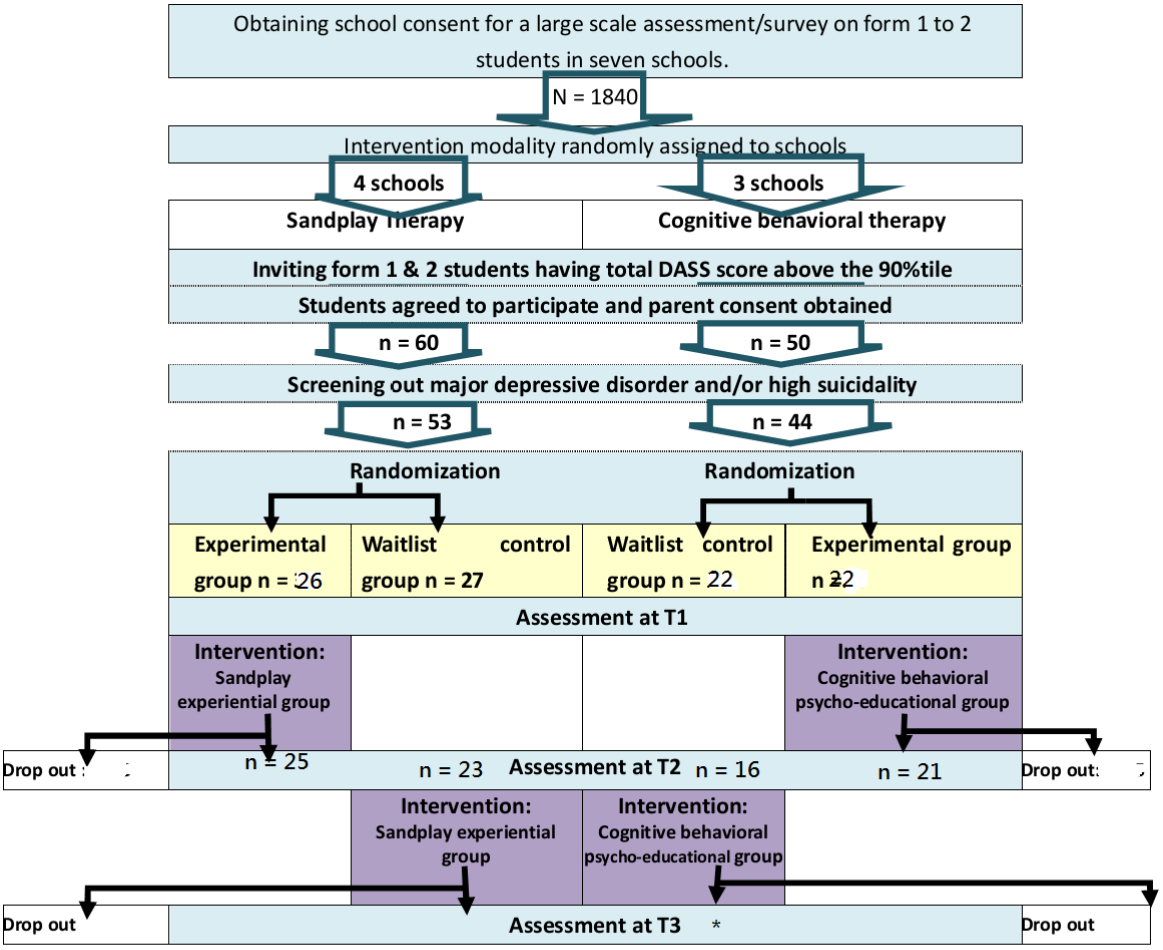


Figure 4. Flow chart for the study procedures.



* one of the CBT wait list group received SPT instead of CBT

REFERENCES

Allan, J., & Berry, P. (1987). Sandplay. *Elementary School Guidance and Counseling, 21,* 300-306.

Ablow, J. C. (2005). When parents conflict or disengage: Children's perceptions of parents' marital distress predict school adaptation. The family context of parenting in children's adaptation to elementary school, 189-208.

Achenbach, T. M. (1991). *Manual for the Youth Self-Report and 1991 profile.* Burlington, VT: University of Vermont, Department of Psychiatry.

Akimoto, M. (1995). Application of sandplay therapy in brain-injured elderly. *Journal of Sandplay Therapy, 5,* 10-17.

Amato, P. R., & Afifi, T. D. (2006). Feeling caught between parents: Adult children's relations with parents and subjective well-being. *Journal of Marriage and Family, 68,* 222–235.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child development, 67*, 1206-1222.

Barrett, P., & Eysenck, S. (1984). The assessment of personality factors across 25 countries. *Personality and Individual Differences*, *5*(6), 615-632.

Bedi, N., Chilvers, C., Churchill, R., Dewey, M., Duggan, C., Fielding, K., et al. (2000). Assessing effectiveness of treatment of depression in primary care: Partially randomized preference trial. *British Journal of Psychiatry, 177,* 312–318.

Brady, E. U., & Kendall, P. C. (1998). Comorbidity of anxiety and depression in children and adolescents. *Psychological bulletin, 111,* 244 -55

Buchanan, C. M., & Heiges, K. L. (2001). 13 When Conflict Continues after the Marriage Ends. *Interparental conflict and child development: Theory, research and applications*, pp 337-362.

Butler, A. C., Chapman, J. E., Forman, E. M., & Beck, A. T. (2006). The empirical status of cognitive-behavioral therapy: a review of meta-analyses. *Clinical psychology review, 26*, 17-31.

Carmichael, K. (1994). Sandplay as an elementary school strategy. *Elementary School Guidance and Counseling, 28,* 302-308

Campbell, M. A. (2004). Value of Sandplay as a Therapeutic Tool for School Guidance Counsellors. *Australian Journal of Guidance and Counselling, 14,* 211-232.

Carr, A. (2012). *Family therapy: Concepts, process and practice*. Wiley. com.

Carey, L. (1990). Sandplay therapy with a troubled child. *The Arts in psychotherapy, 17*, 197-209.

Chan, C. (nd). Chan Chinese translation of Depression Anxiety Stress Scales. Australia: Psychology Foundation of Australia; Retrieved from http://www2.psy.unsw.edu.au/groups/dass/Chinese/calais.htm

Clark L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. *J Abnorm Psychol 100,* 316–336.

Clarke, G., Debar, L., Lynch, F., Powell, J., Gale, J., O'Connor, E. et al. (2005). A Randomized Effectiveness Trial of Brief Cognitive-Behavioral Therapy for Depressed Adolescents Receiving Antidepressant Medication. *Journal of American Academy of Child and Adolescent Psychiatry,44, 888-98.*

Cuijpers, P., van Straten, A., Andersson, G., & van Oppen, P. (2008). Psychotherapy for depression in adults: a meta-analysis of comparative outcome studies. *Journal of consulting and clinical psychology, 76*, 909.

Curtin, F., & Schulz, P. (1998). Multiple correlations and Bonferroni's correction. *Biological psychiatry*, *44*(8), 775-777.

David-Ferdon, C., & Kaslow, N. J. (2008). Evidence-based psychosocial treatments for child and adolescent depression. *Journal of Clinical Child & Adolescent Psychology, 37*, 62-104.

Delucchi, K. L., & Bostrom, A. (2004). Methods for analysis of skewed data distributions in psychiatric clinical studies: working with many zero values. *American Journal of Psychiatry*, *161*, 1159-1168.

DeNeve, K. M., & Cooper, H. (1998). The happy personality: a meta-analysis of 137 personality traits and subjective well-being. Psychological bulle*tin, 124(2)*, 197-229.

Driessen, E., & Hollon, S. D. (2010). Cognitive behavioral therapy for mood disorders: efficacy, moderators and mediators. *The Psychiatric clinics of North America, 33*, 537-555.

Draper, K., Ritter, K. . & Willingham, E. U. (2003). Sand tray group counseling with adolescents. *The Journal for Specialists in Group Work, 28*, 244-260.

Eccles, J. S., & Wigfield, A. (1997). Young adolescent development. In J. L. Irvin (Ed.), *What current research says to the middle level practitioner*. (pp. 15-29). A Wigfield Venue: National Middle School Association.

Emery, R. E., Fincham, F. D., & Cummings, E. M. (1992). Parenting in context: systemic thinking about parental conflict and its influence on children. *Journal of Consulting and Clinical Psychology, 60(6),* 909-12;

Eysenck, H. J. (1968). *Eysenck personality inventory*. San Diego: Educational and Industrial Testing Service.

Erel, O., & Burman, B. (1995). Interrelatedness of marital relations and parent-child relations: A meta-analytic review, *Psychological Bulletin, 118*, 108–132

Fauber, R. L., & Long, N. (1991). Children in context: The role of the family in child psychotherapy. *Journal of Consulting and Clinical Psychology, 59*, 813-820.

Freedle L. R. (2007). Sandplay therapy with traumatic brain injured adults: An Exploratory Qualitative Study. *The Journal of Sandplay Therapy. 16,* 20-28.

Friedman, H. S., Mitchell, R. R. (2007). *Supervision of Sandplay Therapy.* USA, Routledge.

Fu, D. & Wong, K. (2008). Cognitive and health-related outcomes of group cognitive behavioural treatment for people with depressive symptoms in Hong Kong: randomized wait-list control study. *Australian and New Zealand Journal of Psychiatry, 42*, 702-711.

Furnham, A., & Brewin, C. J. (1990). Personality and happiness. *Personality and Individual Differences, 11,* 1093–1096.

Furnham, A., & Cheng, H. (1999). Personality as predictors of mental health and happiness in the East and West. *Personality and Individual Differences, 27,* 395-403.

Fuligni, A. J., & Hardway, C. (2006). Daily Variation in Adolescents' Sleep, Activities, and Psychological Well-Being. *Journal of Research on Adolescence, 16*, 353-378.

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference. 11.0 update* (4th ed.). Boston: Allyn & Bacon

Gladding, S. T. (1999). Group work: A counseling specialty. Upper Saddle River, NJ: Merrill.

Global Business and Economic Roundtable on addiction and mental health 2011 (2011). Global Business and Economic Roundtable on addiction and mental health 2011 Report. Retrieved from http://www.mentalhealthroundtable.ca/report/MHR_FinalReport.pdf

von Gontard A, Löwen-Seifert S, Wachter U, Kumru Z, Becker-Wördenweber E, Hochadel M, Schneider S, Senges C, & the SAT group. (2010). SAT study: a prospective outcome study of Sandplay Therapy in children and adolescents. *Journal of Sanplay Therapy. 19.*

von Gontard, A. (2010). Sandplay therapy study: a prospective outcome study of sandplay therapy with children and adolescents. *Journal of Sandplay Therapy, 19 (2)*, 16-21.

Gorrese, A., & Ruggieri, R. (2013). Peer attachment and self-esteem: A meta-analytic review. *Personality and Individual Differences, 55,* 559-568.

Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The children's perception of interparental conflict scale. *Child development, 63*, 558-572.

Harold, G. T., Osborne, L. N., & Conger, R. D. (1997). Mom and dad are at it again: Adolescent perceptions of marital conflict and adolescent psychological distress. *Developmental Psychology, 33*, 333.

Hetherington, E. M. (1989). Coping with family transitions: Winners, losers, and survivors. *Child development,* 1-14.

Hoagwood, K., Hibbs, E., Brent, D., & Jensen, P. (1995). Introduction to the special section: efficacy and effectiveness in studies of child and adolescent psychotherapy. *Journal of consulting and clinical psychology, 63(5)*, 683.

Hollon, S. D., Garber, J., & Shelton. R. C. (2005). Treatment of depression in adolescents with cognitive behavior therapy and medications: a commentary on the TADS project. *Cognitive and Behavioral Practice,12,*149–55.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives, *Structural Equation Modeling: A Multidisciplinary Journal, 6,* 1-55,

Hupé, J. M., & Rubin, N. (2003). Technical note : Statistical considerations about the use of RTtransp. Addendum to The dynamics of bi-stable alternation in ambiguous motion displays: a fresh look at plaids. Retrieved on http://cerco.ups-tlse.fr/~hupe/plaid _demo/suppl.htm

Imel, Z., & Wampold, B. (2008). The Importance of Treatment and the Science of Common Factors in Psychotherapy. *Handbook of Counseling Psychology, (4th ed.). pp. 249-262.* USA: John Wiley & Sons Inc.

In-Albon, T., & Schneider, S. (2006). Psychotherapy of childhood anxiety disorders: A meta-analysis. *Psychotherapy and Psychosomatics, 76*, 15-24.

IPS Education Publishing (2011). *IPS Sample Non-verbal Reasoning Test Paper*. IPS Education Publishing. Retrieved from http://www.elevenplus.com/

Jang, M., & Kim, Y. H. (2012). The effect of group sandplay therapy on the social anxiety, loneliness and self-expression of migrant women in international marriages in South Korea. *The Arts in Psychotherapy, 39*(1), 38-41.

Jung, C. G. (1959). *The archetypes and the collective unconscious.* (R. C. F. Hull, Trans.). Princeton, NJ: Princeton University Press.

Kalff, D. M. (1980). *Sand tray: A psychotherapeutic approach in the psyche*. Boston: Sigo Press.

Kendall, P. C. (2005). *Child and Adolescent Therapy: Cognitive-Behavioral Procedures* (3rd ed.). Guilford Press.

Lam, T. H., Stewart, S. M., Yip, P. S., Leung, G. M., Ho, L. M., Ho, S. Y., & Lee, P. W. (2004). Suicidality and cultural values among Hong Kong adolescents. *Social Science & Medicine, 58(3)*, 487-498.

Landreth, G., Baggerly, J., & Tyndall-Lind, A. (1999). Beyond adapting adult counseling skills for use with children: The paradigm shift to child-centered play therapy. *The Journal of Individual Psychology, 55*, 272-288

Lee, W. Y., Ng, M. L., Cheung, B. K., & Yung, J. W. (2010). Capturing children's response to parental conflict and making use of it. *Family process, 49*, 43-58.

Leung, P. W., Kwong, S. L., Tang, C. P., Ho, T. P., Hung, S. F., Lee, C. C., et al. (2006). Test-retest reliability and criterion validity of the Chinese version of the CBCL, TRF, and YSR. *Journal of Child Psychology and Psychiatry, 47,* 970–973.

Leung, S. O., & Wong, P. M. (2008). Validity and reliability of Chinese Rosenberg Self-Esteem Scale. *教育曙光*,*56,* 64 – 71. Retrieved from http://umir.umac.mo/jspui/bitstream/123456789/14605/1/3727_0_Chinese_Rosenberg.pdf

Lewinsohn, P., Rohde, P., & Seeley, J. R. (1998). Major depressive disorder in older adolescents: Prevalence, risk factors, and clinical implications. *Clinical Psychology Review, 18,* 765 -794.

Lin, H. C., Tang, T. C., Yen, J. Y., Ko, C. H., Huang, C. F., Liu, S. C., & Yen, C. F. (2008). Depression and its association with self-esteem, family, peer and school factors in a population of 9586 adolescents in southern Taiwan. *Psychiatry and Clinical neurosciences, 62(4)*, 412-420.

Lovibond, S.H. & Lovibond P. F. (1995). *Manual for the depression anxiety stress scales*. Sydney: Psychology Foundation.

Lowenfeld, M. (1979). *The world technique*. London: Allen & Unwin.

Lymbomirsky, S., & Lepper, H.S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research, 46,* 137-155.

Maratos, A. S., Gold, C., Wang, X., & Crawford, M. J. (2008). Music therapy for depression. *Cochrane Database Syst Rev*, 1.

Margison, F. R., Barkham, M., Evans, C., & al., e. (2000). Measurement and psychotherapy: Evidence-based practice and practice-based medicine. *British Journal of Psychiatry , 177*, 123-130

McBee, M. (2010). Modeling outcomes with floor or ceiling effects: An introduction to the Tobit model. *Gifted Child Quarterly, 54(4)*, 314-320.

Mitchell, R. R., Reece, S. T., & Morena, G. D. (2010). *The Guidelines and Procedures in Conducting Sandplay Therapy Research*. Sandplay Therapist of America (STA) Research Committee.

Mitchell, R. R. & Friedman, H. S. (n.d.). *Sandplay themes of wounding ad healing coding themes.* Unpublished manuscript.

Morrison, K. H., Bradley, R., & Westen, D. (2003). The external validity of controlled clinical trials of psychotherapy for depression and anxiety: a naturalistic study. *Psychology and Psychotherapy*, *76*, 109-132.

National Institute of Mental Health (2014). *Antidepressant medications for children and adolescents: Information to parents and caregivers.* Retrieved from http://www.nimh.nih.gov/health/topics/child-and-adolescent-mental-health/antidepressant-medications-for-children-and-adolescents-information-for-parents-and-caregivers.shtml

Nolen-Hoeksema, S., & Girgus, J. S. (1994). The emergence of gender differences in depression during adolescence. *Psychological bulletin, 115*(3), 424.

Otte, C. (2011). Cognitive behavioral therapy in anxiety disorders: Current state of the evidence. *Dialogues in clinical neuroscience. 13*, 413–21.

Parker, G., & Brotchie, H. (2010). Gender differences in depression. *International Review of Psychiatry, 22*(5), 429-436.

Pine, D. S., Cohen, E., Cohen, P., & Brook, J. (1999). Adolescent depressive symptoms as predictors of adult depression: moodiness or mood disorder? .*American Journal of Psychiatry*, *156*, 133-135.

Reddy, R., Rhodes, J. E., & Mulhall, P. (2003). The influence of teacher support on student adjustment in the middle school years: A latent growth curve study. *Development and psychopathology, 15*, 119-138.

Regeneration Society (2011). *<約三成 25 歲以下人士有抑鬱徵狀>*, 再生會・

Rogers, N. (1993). *The creative connection: Expressive arts as healing.* Palo Alto, CA: Science & Behavior Books

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press.

Sandplay Therapists of America (2011). *Procedure manual for research using sandplay therapy as originated by Dora Kalff.* Retrieved from http://www.sandplay.org/research.htm

Schimmack, U. (2008). The structure of subjective well-being. In M. Eid & R. Larsen (Eds.) *The science of subjective well-being.* New York, NY, US: Guilford Press, pp. 97-123.

Schraml, K., Perski, A., Grossi, G., & Simonsson-Sarnecki, M. (2011). Stress symptoms among adolescents: The role of subjective psychosocial conditions, lifestyle, and self-esteem. *Journal of adolescence*, *34*, 987-996.

Shek, D. T. L. (1993a) Measurement of pessimism in Chinese adolescents: the Chinese Hopelessness Scale. *Social Behavior and Personality, 21,* 107-11

Slayton, S. C., D'Archer, J., & Kaplan, F. (2010). Outcome studies on the efficacy of art therapy: A review of findings. *Art Therapy*, *27*, 108-118.

Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin, ,139(1),* 213-40.

Stern, M. B. (2008). *Child-friendly therapy: Biopsychosocial innovations for children and families*. WW Norton & Company.

Stewart, S. M., Betson, C. L., Lam, T. H., Chung, S. F., Ho, H. H., & Chung, T. C. F. (1999). The correlates of depressed mood in adolescents in Hong Kong. *Journal of Adolescent Health, 25*, 27-34.

Steinhardt, L. (2000). *Foundation and form in Jungian Sandplay*. Jessica Kingsley Publishers.

Swift, J. K., & Callahan, J. L. (2009). The impact of client treatment preferences on outcome: A meta-analysis. *Journal of Clinical Psychology, 65(*4), 368-381.

Tabachnick, B. G., Fidell, L. S., & Osterlind, S. J. (2001). *Using multivariate statistics.* (6^{th} ed.). UK: Pearson Publishing.

Tsang, K.M. (1997*) Parenting and self-esteem of senior primary school students in Hong Kong.* Counselling Centre, the Boys' & Girls' Clubs Association of Hong Kong.

Taouk, M., Lovibond, P.F.& Laube, R. (2001). *Psychometric properties of a Chinese version of the short Depression Anxiety Stress Scales (DASS21)*. Report for New South Wales Transcultural Mental Health Centre, Cumberland Hospital, Sydney.

Treatment for Adolescents with Depression Study Team (TADS) (2004). Fluoxetine, cognitivebehavioral therapy, and their combination for adolescents with depression: treatment for adolescents with depression study (TADS) randomized controlled trial. *Journal of the American Medical Association, 292,* 807–20.

The Oriental Daily (2013, October 27). 醫知健：競爭壓力大逾半青少抑鬱, The Oriental Daily, retrieved from http://the-sun.on.cc/cnt/news/20131027/00410_011.html? pubdate=20131027

Turner, B. A. (2005). *The handbook of sandplay therapy*. Cloverdale, CA: Temenos Press.

University of Kent (2011). Psychometric tests for graduates. Sequences (Logical Reasoning) Test. Retrieved from http://www.kent.ac.uk/careers/tests/sequences.htm

Vidotto, G., Cioffi, R., Saggino, A. & Wilson, G. (2008). The Italian version of the Junior Eysenck Personality Questionnaire: a confirmatory factor analysis. *Psychology Reports, 103,* 715-26.

Wampold, B. E., Minami, T., Baskin, T. W., & Callen Tierney, S. (2002). A meta-(re) analysis of the effects of cognitive therapy versus 'other therapies' for depression. *Journal of Affective Disorders, 68*, 159-165.

Weisz, J. R., Jensen-Doss, A., & Hawley, K. M. (2006). Evidence-based youth psychotherapies versus usual clinical care: a meta-analysis of direct comparisons. *American Psychologist, 61*, 671.

Wong, J. G., Cheung, E., Chan, K. K., Ma, K. K., & Tang, S. W. (2006). Web-based survey of depression, anxiety and stress in first-year tertiary education students in Hong Kong. *Australian and New Zealand Journal of Psychiatry, 40*, 777-782.

Woolfe, R. (1996). The nature of counselling psychology. In R. Woolfe & W. Dryden (Eds.), *Handbook of counselling psychology*. London: Sage.

World Health Organization (2001). *The world health report 2001 - Mental Health: New Understanding, New Hope*. Retrieved on http://www.who.int/whr/2001/en/

Yang, J., Hong, S. D., Joung, Y. O. & Kim, J. (2006).Validation study of tripartite model of anxiety and depression in children and adolescents: clinical sample in Korea. *Journal of Korean Medical Science, 21*, 1098-1102

Zhang, W., Zhang, R., Haslam, D. R., & Jiang, Z. (2011). The effects of restricted group sandplay therapy on interpersonal issues of college students in China. *The Arts in Psychotherapy, 38(*4), 281-289

钱铭怡, 武国城, 朱荣春, & 张莘. (2000). 艾森克人格问卷简式量表中国版 (EPQ-RSC) 的修订. *心理学报, 32*, 317-323.