



# การศึกษาการแทรกแซงของการบำบัดด้วยถ้วยถาดทรายในการควบคุมอารมณ์และความเข้าใจความรู้สึกผู้อื่นของเยาวชน: การศึกษาเชิงประจักษ์เกี่ยวกับเยาวชนที่กระทำการผิดในหูเป่ย ประเทศจีน

## Interventions study of sandplay therapy on teenagers' emotional regulation and empathy: An empirical study on juvenile delinquents in Hubei, China

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### บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อทดลองผลของการบำบัดด้วยถ้วยถาดทรายในด้านการควบคุมอารมณ์และความเข้าใจความรู้สึกผู้อื่นของเยาวชน การบำบัดด้วยถ้วยถาดทรายเป็นวิธีการบำบัดแบบไม่ใช้คำพูด การบำบัดด้วยการเล่นหารายให้พื้นที่ที่ปลอดภัยและเสรีในการแสดงออก ช่วยให้วัยรุ่นปลดปล่อยอารมณ์ เพิ่มความตระหนักรู้ในตนเอง พัฒนาทักษะการแก้ปัญหา เสริมสร้างความสัมพันธ์ระหว่างบุคคล การศึกษานี้ได้คัดเลือกเยาวชนที่กระทำการผิด 6 คนซึ่งมีการควบคุมอารมณ์ที่ต่ำและมีความเข้าใจความรู้สึกผู้อื่นต่ำเป็นตัวอย่างในการวิจัย และได้แบ่งเป็นกลุ่มทดลองและกลุ่มควบคุมโดยการสุ่มในจำนวนนี้ มีผู้กระทำการผิดที่เป็นเยาวชน 3 คน ได้รับการบำบัดด้วยถ้วยถาดทรายเป็นเวลา 2 เดือน สำหรับเครื่องมือในการวิจัยคือแบบสอบถามการควบคุมอารมณ์และแบบสอบถามความเข้าใจความรู้สึกผู้อื่นสำหรับเด็กเพื่อวัดการควบคุมอารมณ์และความเข้าใจความรู้สึกผู้อื่น การศึกษาพบว่าหลังจากการบำบัดด้วยถ้วยถาดทราย กลุ่มทดลองมีความสามารถในการควบคุมอารมณ์และความเข้าใจความรู้สึกผู้อื่นสูงขึ้นอย่างมีนัยสำคัญ ในขณะที่กลุ่มควบคุมไม่มีการเปลี่ยนแปลงที่มีนัยสำคัญ การศึกษาแสดงให้เห็นว่าการบำบัดด้วยถ้วยถาดทรายสามารถพัฒนาการควบคุมอารมณ์และความเข้าใจความรู้สึกผู้อื่นได้อย่างมีประสิทธิภาพ และเป็นหลักฐานเชิงประจักษ์ว่าการบำบัดด้วยถ้วยถาดทรายสามารถนำไปใช้เพื่อเสริมสร้างสุขภาพจิตของเด็กและเยาวชนได้ การศึกษานี้ให้ความสำคัญของการแทรกแซงทางจิตวิทยาในการส่งเสริมพัฒนาการด้านสุขภาพของวัยรุ่น การศึกษานี้แนะนำให้ปรับปรุงระบบการให้ความรู้ด้านสุขภาพจิตในโรงเรียน โดยให้ความสำคัญกับการควบคุมอารมณ์และความเข้าใจความรู้สึกผู้อื่นของเยาวชน

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### Abstract

The study aimed to test the effects of sandplay therapy in improving teenagers' emotion regulation and empathy. Sandplay therapy, a non-verbal therapy modality, provides a safe and free space for expression, helping adolescents release emotions, enhance self-awareness, improve problem-solving skills, strengthen interpersonal relationships and promote mental health. This study selected 6 juvenile delinquents with weak emotional regulation and low empathy as research samples, and were randomly assigned into the experimental and control group. Among them, 3 juvenile delinquents received a two-month sandplay therapy intervention. The Emotion Regulation Questionnaire and The Empathy Questionnaire for Children were used as research instruments to measure emotional regulation and empathy. The study showed that after sandplay therapy intervention, the experimental group significantly improved their emotional regulation and empathy, while the control group showed no significant changes. The study showed that sandplay therapy could effectively improve teenagers' emotional regulation and empathy, and provided empirical evidence that sandplay therapy can be applied to strengthen juvenile's mental health. The study emphasized the importance of psychological intervention in promoting the healthy development of teenagers. The study recommended further improving the school mental health education system, paying attention to teenagers' emotional regulation and empathy.

**Keywords:** Sandplay therapy, Emotional regulation, Empathy, Juvenile delinquents



## 1. Introduction

China clearly stated that it is promoting the construction of a healthy China and particularly emphasized the need to pay attention to teenagers' mental health (National Health Commission of the People's Republic of China, 2023). Contemporary teenagers are the future of a country. Strengthening mental health education for teenagers and improving mental health service levels can lay a solid talent foundation for the future development of society. Juvenile crime is usually related to family background, social environment, mental health and other factors. In the Chinese context, family breakdown, educational pressure, peer influence and other factors may lead to behavioural deviations in teenagers (Jin et al., 2021). Because adolescence is a critical psychological and physical development stage, teenagers face challenges with identity, self-awareness, and social relationships during this period. Instabilities in psychological development may make teenagers more susceptible to peer pressure to engage in criminal activity. Juvenile delinquents often have deficits in emotion management, self-control, and impulse control (Cauffman et al., 2005).

As a widely influential psychotherapy method and technology worldwide, sandplay plays an essential role in psychological education by combining Chinese and Western cultures. Sandplay therapy is based on Carl Gustav Jung's analytical psychology, Margaret Lowenfeld's Game Kingdom Technology, and Chinese culture and philosophy (Gong et al., 2018). Sandplay Therapy establishes a good consultation relationship between the psychological counsellor and the client. The counsellor accompanies the client and uses non-verbal means to place carefully selected toys on the sand table. During the placement process, the participant constructs an inner world that corresponds to himself, and combines his own growth experience, psychological conflicts or contradictions, and expectations for the future. Research shows that sandplay can promote self-expression and exploration of the inner world, and help improve emotional and behavioural problems (Jang, 2017).

When exploring the importance of emotional regulation and empathy in juvenile delinquents, these two psychological factors are considered to play a critical role in preventing criminal behaviour and promoting the healthy development of teenagers (Mariano et al., 2017). Emotion regulation, the ability of an individual to manage and respond to the emotions they experience, is particularly important as teenagers develop. Due to the large mood swings in adolescence, insufficient emotional regulation may lead to impulsive behaviour and improper decision-making, which may increase the risk of criminal behaviour. In addition, empathy, the ability to understand and feel the emotions of others, is also closely related to juvenile delinquency. A lack of empathy is considered a critical psychological characteristic of juvenile delinquency, as low empathy is significantly associated with aggression and antisocial behaviour. Therefore, improving emotion regulation and empathy effectively prevents juvenile delinquency and promotes positive social behaviour. This study aims to explore the intervention effect of sandplay therapy on the emotional regulation of juvenile delinquency and whether it can improve the empathy level of juvenile delinquency.

## 2. Research Objective

To evaluate the intervention effect of sandplay therapy on emotional regulation and empathy.

## 3. Research Hypothesis

Sandplay intervention can significantly improve emotional regulation and empathy in juvenile delinquents.

## 4. Literature Review

### 4.1 Emotion regulation

The defining feature of emotion regulation is the activation of a goal to influence the emotion trajectory (Gross et al., 2011). Gross believes that emotion



regulation refers to the process in which individuals exert influence on emotion occurrence, experience and expression; emotion regulation involves changes in the latency, occurrence time, duration, behavioural expression, physiological experience and physiological response of emotion. It is a dynamic process (Gross et al., 2001). Huang & Guo (2000) supplemented their previous definition of emotion regulation and believed that emotion regulation is not only the impact on physiological indicators, supervisor's emotional experience and explicit expression behaviour, but also refers to the emotion regulation habit formed by the continuous and stable use of a certain emotion regulation method. Dewi et al. (2022) pointed out that men are better at controlling their emotions, and believe that men have better emotional management skills. It is indirectly pointed out from the research results that aggressive behaviour is closely related to emotional regulation (Holley et al., 2017). Teenager aggression increased with age, and was significantly higher in middle and late adolescence than in early adolescence (Liu et al., 2015). Through the intervention of emotional intelligence in teenagers, it is found that teenagers, especially males, have a positive effect on alleviating negative emotional experiences such as anger, hostility and personal pain (Maalouf et al., 2022).

#### 4.2 Empathy

Empathy is a relatively complex research topic in psychology, involving multiple disciplines such as social psychology, comparative psychology, cognitive neuropsychology, and developmental psychology (Bian et al., 2016). The field of psychotherapy was the overall direction of early empathy research. Counsellors were required and emphasized the ability to empathize (Chen et al., 2020). Human beings show prosocial signs such as empathy in children and even infants. Even infants with incomplete cognitive development can respond emotionally to the emotions and needs of others (Chen et al., 2020). From the review of the cognitive neural research on empathy, it is of great significance to deeply understand the neural mechanism of empathy for mental disorders such as antisocial personality (Yang et al., 2014). Many current research studies on empathy focus on family and teacher-student relationships and tend to be more



inclined to psychological counselling and treatment (Zhang, 2022), as well as general empathy and children's social development. Research on empathy measured through self-reports, behavioural experiments, physiological and psychological measurements, and analysis of mental illnesses all show that empathy has certain gender differences (Christov et al., 2014), and has cross-cultural consistency (Nelson, 2004).

#### **4.3 The relationship between emotional regulation and empathy**

According to Eisenberg and Fabes (1992), empathy and personal distress are both forms of vicarious emotional responding, but they differ in their emotional experience and motivation. Empathy is characterized by feelings of concern and compassion for others, while feelings of anxiety and discomfort characterize personal distress. The difference between these two reactions can be accounted for by a person's level of negative emotionality and their ability to regulate their emotions. Hoffman (1982) suggested that some can experience empathetic over-arousal; Eisenberg (2005) argued that Individuals with low to moderate levels of negative emotionality and good emotion regulation skills are more likely to experience empathy, while those with high levels of negative emotionality and poor emotion regulation skills are more likely to experience personal distress.

Research has shown that individuals with high levels of emotional regulation are more likely to experience empathy because they can control their emotional reactions and focus on the feelings of others. On the other hand, people with low levels of emotional regulation may experience personal distress because they do not have the coping skills to manage their own negative emotions. Studies have supported that well-regulated children tend to display higher levels of empathy (Murphy et al., 1999). Eisenberg et al. (1995) found that preschool children with high levels of attentional control and low levels of unregulated coping behaviours were likelier to show concerned facial reactions in response to a film designed to elicit empathy. Alternatively, research also suggests that individuals with low regulatory are more likely to experience personal distress because they do not have the necessary coping strategies to



manage their negative emotions. Multiple studies have found that well-regulated children have higher levels of empathy (Murphy et al., 1999).

#### **4.4 Sandplay therapy and juvenile delinquency**

The use of sandplay therapy in juvenile delinquency has been shown to have different advantages through research. Sandplay therapy allows children to fully experience freedom, safety and protection during treatment, releasing their inner emotions and reflecting their deep personalities (Green, 2014). Children form a series of images during the sandplay therapy process, stimulating the self-identity process described by Jung and realizing self-identity. In sandplay therapy, the therapist creates a free and protected environment for the child, establishes a mother-child relationship, and allows the child to resonate with the therapist (Kim, 2014). The therapist mainly uses symbolic toys and games, so many projections are placed in the sandbox instead of the therapist, which benefits the case and the therapist in dealing with empathy. The difference between sandplay therapy and other forms of therapy is that it allows participants to create a world that provides concrete evidence of internal thoughts and feelings (Doyle & Magor-Blatch, 2017). Children often cannot speak out about what is happening to them; Sandplay can allow children to express their inner thoughts and feelings as non-verbal expressions. Thus, profound inner experiences can be symbolically expressed and communicated to the patient and the therapist (Ben-Amitay, 2009).

### **5. Research Methodology**

#### **5.1 Research Design**

To verify the intervention effect of sandplay therapy on juvenile delinquents, the sample was divided into 2 groups. Through semi-structured interviews, attention and care were given to the control group, and multi-channel communication was done to collect evidence to support and explain the quantitative results. The sandplay therapy of the experimental group is based on theoretical research on peer relationships and structural sandbox, combined with

the problems and troubles existing in the problem-solving and empathic behaviour patterns of juvenile delinquents in emotional regulation. The design aligned with the psychological development characteristics of teenagers, and a sandplay program was formulated for eight sessions over two months. From December 2022, each lasting 50 minutes. One week after the final sandplay session, the two groups were administered the scale again as post-test data.

### 5.2 Population and Sample

Based on the questionnaires returned by 137 juvenile delinquents in the first phase of the correlation study as the preliminary data for this study (Sun & Zheng, 2023). Due to the unique background of the research sample of this study and the difficulty in obtaining intervention samples, this study selected 6 juvenile delinquents with weak emotional regulation and low empathy among the 137 juvenile delinquents in December 2022. The 6 samples ranged in age from 15 to 17, and were all found guilty of injuring victims (Table 1). Among them, 3 juvenile delinquents were randomly assigned in the sandplay therapy group, and the other 3 were randomly assigned as the control group.

Table 1 Research sample information

Sample	Age	Brief family situation	Reasons for crime	Group	Intervention model	duration of intervention
A	15	Respected his parents and love his sister.	A got into a fight with a student and injured him.	experi-mental	Sandplay therapy	50 minutes/session, 2 sessions/week, 8 sessions in total
B	15	Lived with parents, grandparents and sister.	B always conflicts with his classmates. B fought with others and stabbed the victim with a knife.	experi-mental	Sandplay therapy	50 minutes/session, 2 sessions/week, 8 sessions in total
C	17	Lived with	C fought back	experi-mental	Sandplay	50



		parents only during holidays	during an argument with a classmate and accidentally injured the victim	-mental therapy	minutes/session, 2 sessions/week, 8 sessions in total
D	15	She lost her father when she was a child and lived with her mother.	D had sex with a married man, had an abortion and stabbed the man out of spite.	Control	semi-structured interviews
E	15	left-behind children	Injured neighbour's children while drunk	Control	semi-structured interviews
F	16	left-behind children	Robbed a tuck shop and injured the clerk	Control	semi-structured interviews

## 5.2 Research Instrument

The Emotion Regulation Questionnaire for Adolescents (ERQ-CCA) is a psychometrically validated Chinese self-report scale that assesses two emotion regulation strategies in children. The original ERQ-CA is a 10-item questionnaire that assess the emotion regulation strategies of cognitive reappraisal with 6 items and expressive suppression with 4 items. It has been translated for and validated in Chinese samples (Chen et al., 2020). The ERQ-CCA was developed by modifying the items to make them more easily understandable for teenagers (e.g., "I keep my emotions to myself" was replaced with "I do not want to show my feelings to others" in Chinese). Each item is rated in Likert 7 points ranging from 1 (completely disagree) to 7 (completely agree). The higher the scores on

each scale, the greater the use of the corresponding emotion regulation strategy is. Based on data collected from 137 juvenile delinquents, the two-factor confirmatory factor analysis results showed that:  $\chi^2/df=12.513$ , NFI=0.901, CFI=0.902, IFI=0.902, TLI=0.899, RMSEA=0.167. The Cronbach's alpha of the ERQ-CCA is 0.910.

The Empathy Questionnaire for Children and Adolescents (EmQue-CA) is a self-report scale. It contains 18 items divided into three subscales: affective empathy, cognitive empathy, and prosocial motivation. This scale was designed to assess various aspects of empathy in teenagers. All items were scored on a 3-point rating scale ranging from 1 "not true" to 3 "true". Higher scores indicate higher empathy. According to the exploratory factor analysis, the final version consists of 14 items with three factors: Cognitive empathy with 3 items, affective empathy with 6 items, and intention to comfort with 5 items. Based on data collected from 137 juvenile delinquents, the three-factor confirmatory factor analysis results showed that:  $\chi^2/df=13.618$ , NFI=0.927, CFI=0.945, IFI=0.931, TLI=0.906, RMSEA=0.089. The Cronbach's alpha of the EmQue-CA is 0.915.

Materials for sandplay: Individual sandbox, sand tools, individual sandplay therapy record sheet, camera, voice recorder.

### 5.3 Data Collection

This study explored the application and effect of sandplay as a psychological intervention method in teenagers' emotion regulation and empathy intervention. During the process of collecting data, this study strictly followed the following ethical guidelines: All teenagers and their guardians participating in the study have been fully informed of the nature, purpose, potential risks, and possible benefits of the study, and participated in the survey voluntarily. All personal information and data collected during the study were kept strictly confidential and treated anonymously in any form of public reporting or publication to protect participants' privacy. This study was conducted to ensure that no physical or mental harm was caused to the participants. All research staff have received relevant ethics training and are committed to abiding by professional ethical standards and respecting the

dignity and rights of every participant. Psychological counsellor A in charge of the control group and psychological counsellor B in charge of the experimental group hold PhD degree in psychological counseling. The study passed the ethical review of Assumption University, and was supervised by A-level members of the International Society for Sandplay Therapy and China Society for Analytical Psychology.

## 6. Results

### 6.1 Homogeneity test of experimental group and control group before intervention

Based on the data collected during the survey research phase, the samples' data were processed, and the results are shown in Table 2.

Table 2 Homogeneity test of the experimental group and control group before intervention

	Control Group	Experimental Group		t	p
		M±S.D.	M±S.D.		
Emotional Regulation	27.67±1.155	26.67±2.082	0.728	0.507	
Empathy	19.33±0.577	20.33±0.577	2.121	0.101	

The research shows no significant difference in the pre-test data of the two groups of subjects ( $p>0.05$ ). It shows that the difference in emotional regulation and empathy levels between the control and experimental groups was not obvious before the counselling. The two groups were homogeneous and met the requirements of experimental research.

### 6.2 Difference test of pre and post-test scores in the control group

Statistical analysis was performed on the questionnaire data of the control group before and after the intervention. The results are shown in Table 3.

Table 3 Difference test of pre and post-test scores in the control group

	Pretest	Posttest	t	p
	M±S.D.	M±S.D.		
Emotional Regulation	27.67±1.155	28.33±1.528	2.000	0.184
Empathy	19.33±0.577	19.667±0.577	1.000	0.423

As can be seen from the table above, there is no significant difference in the mean scores of emotion regulation ( $p>0.05$ ) and empathy ( $p>0.05$ ) in the control group before and after the intervention. This shows that counselling through conversation has no obvious effect on emotional regulation and empathy.

### 6.3 Difference test between pre and post-test scores of experimental groups

Statistical analysis was performed on the questionnaire data of the experimental group before and after the intervention. The results are shown in Table 4.

Table 4 Difference test between pre and post-test scores of experimental groups

	Pretest	Posttest	t	p
	M±S.D.	M±S.D.		
Emotional Regulation	26.67±2.082	31.67±2.082	8.660*	0.013
Empathy	20.33±0.577	24.67±1.15	13.00**	0.006

Note: \*\* $p<0.01$ . \* $p<0.05$

There are significant differences (Table 4) in the mean scores of the experimental group's emotional regulation ( $p<0.05$ ) and empathy ( $p<0.01$ ) before and after the intervention. This shows that sandplay therapy improved the experimental group's emotional regulation and significantly impacted the level of empathy. This difference is also reflected in the performance of the sandbox before and after the sandplay intervention (Table 5).

Table 5 Performance of the experimental group on the 1<sup>st</sup> sandplay and the 8<sup>th</sup> sandplay

	Initial session sandplay	8 <sup>th</sup> session sandplay
Participant A		
Participant B		
Participant C		

Compared to exploring the story of "clumsy, trapped, duck in danger" in the initial session sandplay, Participant A (Table 5) embodied the journey along the path in the eighth session sandplay, and the energy was active, and integrated. The whole image of the sandbox is organized and adequately contained in the sandbox; there is communication between the miniatures, the presence of partners. Participant B's sandbox (Table 5) has the theme of fighting to defend one's homeland from beginning to end. However, by the eighth session's performance of the sandplay, his description of the sandbox showed that he gradually distinguished the external world from the inner world. Participant C (Table 5) was double protected and restricted from the prison-like situation of two overlapping circular sand piles in the first session's performance. In the 8<sup>th</sup> session, he can discuss other people's conflicts and one's dreams through Buddha, wizards and confrontations with demonic legions. All three participants had a deeper understanding of emotional regulation and empathy in the sandplay, effectively reflecting the intervention effect of sandplay.

#### 6.4 Homogeneity test of experimental group and control group after intervention

Perform statistical analysis on the difference between the pre and post-tests between the experimental group and the control group. The results are shown in Table 6.

Table 6 Homogeneity test of the experimental group and control group after intervention

	Difference between pre and post-test in the control group	Difference between pre and post-test in the experimental group	t	p
	M±S.D.	M±S.D.		
Emotional Regulation	0.667±0.577	5.000±1.000	6.500*	0.023
Empathy	0.333±0.577	4.333±0.577	6.928*	0.020

Note: \*p<0.05

As can be seen from the table above, there are significant differences between the two groups in the level of emotion regulation ( $p<0.05$ ) and the level of empathy ( $p<0.05$ ). The result of further post-hoc testing is that the difference between pre-and post-test in the experimental group is greater than that in the control. The difference between pre-and post-group measurements shows that sandplay can help improve juvenile delinquents ' emotional regulation and empathy levels.

### 7.Discussion

Individual sandplay therapy promotes teenagers' emotional regulation and empathy development by providing a warm and supportive environment. Sandplay therapy offers a more personalized and focused intervention, allowing for a deeper relationship between counsellor and participant. By pre-testing participants before implementing sandplay therapy, this study found no



significant differences in emotion regulation and empathy scores, ensuring a fair and homogeneous starting point for the study. This finding provides a basis for the validity of subsequent results. After the sandplay therapy, the pre and post-test data of participants in emotional regulation and empathy showed significant positive changes, which proves that sandplay therapy has a considerable effect in promoting the development of teenagers' emotional regulation and empathy (Holley et al., 2017; Jang, 2017). During individual sandplay therapy, the safe and inclusive environment gave participants a unique space to express their feelings and experiences freely. This one-on-one setting allowed counsellors to understand and respond to the individual needs of teenagers more deeply, thereby more effectively supporting their development of emotional regulation and empathy (Kim, 2014). In individual sandplay therapy, participants explored and expressed their inner feelings by interacting with the sandbox's symbolic objects and creating their sandplay world. This method of expression helped teenagers understand their emotions, promotes a deeper understanding of themselves and others, and enhances their ability to empathize (Dewi et al., 2022). In addition, individual sandplay therapy also encourages teenagers to have in-depth conversations with their "inner selves". It promotes self-acceptance and self-esteem through self-exploration and enhanced self-awareness. This is critical for emotional regulation and the development of empathy (Gross et al., 2011). Interaction and creative expression in individual sandplay therapy provided a safe channel for teenagers to relax and express their emotions, reducing negative behaviours resulting from improper emotional management. At the same time, this therapy also promoted releasing and expressing feelings, thereby enhancing the participants' empathy (Ben-Amitay et al., 2009). Therefore, sandplay therapy effectively promotes the development of teenagers' emotional regulation and empathy by providing a supportive and inclusive environment. This one-on-one therapy format provides teens unique opportunities to understand and express emotions while strengthening empathic connections. Therefore, individual sandplay therapy significantly improves



mental health and supports teenagers' social adaptation and interpersonal development (Murphy et al., 1999).

Sandplay therapy, as an in-depth psychological treatment method, significantly improves teenagers' emotional regulation and empathy. Compared with group sandplay therapy, individual sandplay therapy has provided a more private and focused therapeutic environment, allowing participants to explore and deal with personal emotional and cognitive issues at a deeper level under the guidance of professional psychological counsellors (Green, 2014). After a series of individual sandplay therapy sessions, participants demonstrated significant improvements in emotion regulation and empathy. This result underscores the effectiveness of sandplay therapy in promoting mental health among teenagers (Mariano et al., 2017). In sandplay therapy, the improvement of emotional regulation and empathy covers multiple dimensions, including the improvement of emotional cognition, being able to identify and name one's own emotions more accurately; Improvement of emotional expression, learning to express emotions healthily; Emotion management skills to control and regulate their emotional reactions effectively; and the enhancement of empathy, including increased ability to perceive, understand, and respond to the emotions of others. These improvements helped teenagers better deal with personal problems and conflicts and promote their adaptability in social interactions and the quality of their interpersonal relationships (Gong et al., 2018; Zhang, 2022). Through an in-depth analysis of the sandplay therapy process, the study found that sandplay therapy allows teenagers to explore themselves freely and express their innermost thoughts and feelings by creating a safe and supportive environment (Sori & Robey, 2013). This method used a sandbox and various sandbox toys as a medium of expression to help participants bypass the limitations of language and directly touch their inner emotions and experiences, thereby achieving therapeutic purposes (Doyle & Magor-Blatch, 2017). In addition, the guidance and feedback from psychological counsellors in sandplay therapy are crucial to improving teenagers' self-awareness, emotional regulation and empathy. Therefore, sandplay therapy provides teenagers with an effective



way to promote the development of emotional regulation and empathy through its unique treatment method. Through individualized support and professional guidance, teenagers can achieve self-growth and improve mental health in sandplay therapy (Huang & Guo, 2000).

## 8. Conclusion

The study found that after two months of sandplay therapy intervention, the emotional regulation and empathy level of participants in the experimental group were significantly improved. This result demonstrates the effectiveness of sandplay therapy in enhancing teenagers' emotion regulation and empathy levels, especially for those juvenile delinquents with weak emotion regulation and low empathy. Sandplay therapy is a non-invasive, play-based treatment method that provides a safe environment for teenagers to freely express their emotions and experiences, helping them better understand and process their emotions and empathy for others.

## 9. Recommendations

### 9.1 Suggestion for Research Utilization

#### 9.1.1 Pay attention to teenagers' emotional regulation issues

Society should pay more attention and support to those teenagers who exhibit harmful behaviours, especially those with apparent deficiencies in empathy. By providing emotion regulation strategies, training to enhance empathy, and establishing supportive social environments, society can help these teenagers better understand and manage their emotions, thereby reducing harmful behaviours. It includes but is not limited to psychological counselling, social skills training, emotion regulation workshops, etc., aiming to improve teenagers' self-awareness, enhance their emotional management capabilities, and enhance their empathic understanding of the emotions of others. Through these comprehensive intervention measures, teenagers can be helped to reduce harmful behaviours and promote their overall mental health development, so



they can grow healthier and participate in social life more effectively. Paying attention to and supporting the development of teenagers' emotional regulation and empathy is an important way to prevent harmful behaviours and promote teenagers' mental health.

#### 9.1.2 Improve the school mental health education system

Schools should be committed to strengthening the mental health education system by establishing a moral education work chain from the principal, moral education director, psychological teacher, head teacher, and psychological committee member. The school also needs to create a working mechanism of all-staff mental education, emphasize adhering to the student-centred concept in all subject teaching, teach correct values, and ensure that students can feel the care and support of teachers. By organizing diverse activities, such as competition, cooperation, and science popularization, students could be guided to find their position in the group. In particular, sandplay therapy is introduced to allow students to explore and deeply experience their position in personal growth.

#### 9.1.3 Guide teenagers to self-construct and improve the social support system

Teenagers should be guided to establish and improve a social support network composed of parents, teachers, and peers to help them balance their relationships with the outside world. Teenagers are in a critical period of role identity and confusion, and outside perceptions are often used to measure self-worth. Suppose teenagers can feel the support from parents, teachers, and peers on the two critical platforms of family and school, and they can give positive feedback and support. In that case, they will transition through this challenging period more smoothly, have a clearer understanding of their value, and will be able to demonstrate stronger mental toughness when facing difficulties and challenges.



## 9.2 Suggestions for Future Research

### 9.2.1 Sample is underrepresented

This study only used six juvenile delinquents in one area of Hebei Province as the research subjects. The research was insufficiently representative, and the research results were not generalizable. In future studies, the research sample size can be expanded to ensure the generalizability of the research results.

### 9.2.2 Limited number of interventions

The study conducted sandplay for eight sessions, less for a sandplay experiment. The researchers believed that scores did not wholly reflect the actual observation results of sandplay. In future research, the number of interventions should be increased to improve the effectiveness and stability of the intervention.

### 9.2.3 Not enough researchers

This intervention only has one researcher, a recording pen and a camera as recording tools. Complete details may not be observed or recorded during the intervention. In future research, examiners or assistants, as well as audio and video equipment, can be added to ensure complete and detailed records of the subjects and improve the accuracy of the research results.

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