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## **The Efficacy of Play Therapy on ADHD, Anxiety and Social Maturity in 8 to 12 Years Aged Clientele Children of Ahwaz Metropolitan Counseling Clinics**

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**Abstract:** The present study was purposed to examine the Efficacy of Play Therapy on Attention Deficit Hyperactivity Disorder (ADHD), Anxiety and Social Maturity in 8-12 years old male and female children. The sample subsumed 80 boys and girls whom were selected randomly via simple sampling procedure from clientele children whom were identified and diagnosed for ADHD and Anxiety in counseling clinics. The subjects randomly allocated to two groups, giving equal chance to every client to be included in each group: the experimental and control group. Experimental group was involved in play therapy for ten sessions; 1 h each. Control group did not. Pre-test and post-test experimental design with control group was processed by administrating Conner's Parent Rating Scale (CPRS), Ahwaz Children Anxiety Test (ACAT) and Vineland Social Maturity Scale (VSMS). Multivariate Analysis of Variance (MANOVA) as statistical implement revealed that: Play therapy decreased Attention Deficit Hyperactivity Disorder (ADHD) and Anxiety but increased Social Maturity. The results authenticated that play therapy as an effective therapeutic procedure is a conceivable intervention for children experiencing a broad range of problems such as ADHD and anxiety involving no any significant risk.

**Key words:** Attention deficit hyperactivity disorder, anxiety, social maturity, clientele children

### **INTRODUCTION**

Play can be used as a medium to help therapist and nurses interact with children and help them express their feelings and emotions. Due to its focus on the developmental needs of young children, play therapy is widely used as an intervention for children's emotional and behavioral problems. Play therapy has been specifically designed to be developmentally appropriate for children and is based on the idea that children communicate and express inner conflicts and feelings through play (Landreth, 2002). According to the Association for Play Therapy (2003), play therapy is a systematic use of a theoretical model to establish an interpersonal process in which trained play therapists use the therapeutic powers of play to help clients prevent or resolve psychosocial difficulties and achieve optimal growth and development. Play Therapy (PT) is the strategic use of play within therapeutic contexts to promote specific therapeutic outcomes (Dale-Elizabeth and Mary, 2007). The PT helps children develop confidence and self-efficacy; this is accomplished through mastery of fears, skill acquisition and learning new tasks. Children release emotions through action, use creative thinking to solve problems, learn about

themselves and gain clarity regarding their lives, feelings and abilities. PT is considered appropriate for most children regardless of ethnicity or cultural background because children everywhere play (Landreth, 2002). Play therapy has been utilized with different populations and various ages to treat multiple disorders and conditions. Play therapy is implemented as a treatment of choice in mental health, school, agency, developmental, hospital, residential and recreational settings, with clients of all ages (Carmichael, 2006; Reddy *et al.*, 2005). Play therapy treatment plans have been utilized as the primary intervention or as an adjunctive therapy for multiple mental health conditions and concerns (Gil and Drewes, 2004; Landreth *et al.*, 2005), e.g., anger management, grief and loss, divorce and family dissolution and crisis and trauma and for modification of behavioral disorders (Landreth, 2002), e.g., Anxiety, Depression, Attention Deficit Hyperactivity (ADHD), autism or pervasive developmental, academic and social developmental, physical and learning disabilities and conduct disorders (Bratton *et al.*, 2005). There is a growing amount of research evidence supporting the use of play therapy for numerous children's problems such as disruptive school behavior, parenting stress and other issues (Baggerly and Ray, 2007; Bratton and Ray, 2000; Bratton *et al.*, 2005).

Research supporting the effectiveness of play therapy has been conducted extensively in the school setting (Fall *et al.*, 1999; Garza and Bratton, 2005; Packman and Bratton, 2003; Post, 1999; Shen, 2002). Children of diverse populations have been positively affected as demonstrated through decreased externalizing problems (Garza and Bratton, 2005), enhanced self-esteem and locus of control (Post, 1999) and decreased anxiety following a natural disaster (Shen, 2002). Play therapy interventions were found to be effective in increasing children's self-concepts, improving anxiety symptoms, improving social skills and decreasing clinical behavioral problems (Bratton and Ray, 2000). Phillips *et al.* (1992) have investigated the effectiveness of Play Therapy and Art Therapy with children identified as having one parent suffering from alcohol or drug dependency. They found a significant improvement in depression, hyperactivity and disruptive behaviors. Dogra and Veeraraghavan (1994) found that children diagnosed with aggressive conduct disorder that received sixteen sessions of play therapy and parental counseling sessions showed significant differences in their behaviors also. The treatment group showed a significant positive change to self, home, school, social, physical and personality on adjustment. Aggression in the experimental group, such as fighting, bullying, violence against adults, obedience and temper tantrums, were also reduced. Ray *et al.* (2001) also completed a meta-analysis of ninety-four research studies investigating the clinical effectiveness of play therapy. A total of twenty client groups were investigated, including difficulties such as conduct disorder, anxiety/fear, speech and language difficulties, depression, sexual abuse and post traumatic stress disorder. The results allow researchers to conclude that play therapy is an effective intervention for a broad range of children's difficulties. Additionally, in a text compiled to describe play therapy case study and research material in digest form, a large portion of the studies reporting successful results used a play therapy approach in a time-limited setting (Landreth *et al.*, 1996). Another study revealed that seven to ten sessions of play therapy help children to improve their internalizing behavior problems such as withdrawal, somatic complaints, anxiety and depression. Additionally, play helps to reduce externalizing behavioral problems such as aggression, delinquent behaviors and parenting stress (Brandt, 2001). The most recent emphasis within the field of play therapy has been to indicate the efficacy of play therapy as a therapeutic intervention in mental health treatment for children (Carmichael, 2006). Bratton and Ray (2000) analyzed the results of more than 100 case studies, documenting the effectiveness of play therapy as an

intervention. The researchers found that these studies provided support for the efficacy of play therapy as a treatment modality for children with the following issues: social maladjustment, anxiety/fear, negative self-concept, mental challenges, or physical or learning disabilities. Further, they found that the participants of these studies demonstrated elevated levels of positive behavior and decreased levels of symptomatic behavior after play therapy interventions. A further meta-analysis was then conducted by Ray *et al.* (2001), using 94 play therapy studies taken from 1947 to 2001. In this expanded study of the effects of play therapy, Ray *et al.* (2001) found a substantial positive effect in treatment outcomes across modality, gender, clinical versus non-clinical populations, settings and diverse play therapy theories. The total studies were 93 with 3263 of total subjects; 16 Mean number of sessions; 7 of Mean age; while 2/3 and 1/3 of the subjects were male and female respectively. The results ended to the effect size of  $ES = 0.80$   $p < 0.001$  for the total 93 studies that was a large treatment effect for children receiving play therapy intervention when compared to children receiving no treatment or a non-play therapy intervention. LeBlanc and Ritchie (1999) conducted as well a meta-analysis of outcome research that supported the effectiveness of play therapy. Overall, play therapy has been demonstrated to improve a child's self-concept, decrease anxious behaviors, lessen externalizing and internalizing problem behaviors and increase social adjustment (Ray, 2006). Research (Nemiroff *et al.*, 1990; Rashkin, 2005) has found play therapy to be an effective therapeutic approach for a variety of children's difficulties including: Adjusting to family changes such as separation, making friends, excessive anger, fear, sadness, worry and shyness, aggression and acting out, school difficulties, ADD and ADHD, abuse and neglect, social adjustment issues, sleeping and eating difficulties, self concept and self esteem, trauma, grief and loss, chronic illness/hospitalization, physical symptoms without medical cause, bonding and attachment issues, foster, adoption and identity issues, prenatal and birth trauma, selective mutism. Play intervention for children identified for special education service was investigated by Fall *et al.* (2002). The research results demonstrate no significant difference between the two groups in self-efficacy. Teacher-rating results show decreased problematic behaviors and less social problems for the experimental group as compared with the control group. No conclusions could be drawn about the variable of anxiety. Considering a resurgence of interest in play therapy as an important therapeutic approach for working with both children and adults,

strategies are offered (Kranz *et al.*, 1996) for inclusion of a play therapy course or program in a graduate curriculum. To study the Effects of Short-term group play therapy on anxiety, depression and adjustment, Muro *et al.* (2006) investigated the effectiveness of short-term child-centered group play therapy in elementary school settings with Chinese children in Taiwan who experienced an earthquake in 1999. Children in the experimental group scored significantly lower on anxiety level and suicide risk after play therapy than did children in the control group. Responding to the critics on the effectiveness of play therapy Ray *et al.* (2001) used the following electronic databases in their 3-year search for studies on play therapy: PsycLit, PsycINFO, ERIC, FirstSearch and Dissertation Abstracts. The comprehensive meta-analysis revealed a large positive effect on treatment outcomes with children. Play therapy appeared effective across modality, age, gender, clinical vs. non-clinical populations, setting and theoretical schools of thought. Muro *et al.* (2006) in an exploratory study measured the impact of long-term Child-Centered Play Therapy (CCPT) with 23 children identified by teachers as exhibiting behavioral and emotional difficulties. Results indicated that children who participated in 32 sessions of CCPT demonstrated statistically significant improvement on the Total Problems Scale as measured on the Teacher Report Form, Total Stress Scale of the Index of Teaching Stress (ITS), ADHD Domain of the ITS and Student Characteristics of the ITS. Researchers reported improvement to be statistically steady over the full duration of therapy. A study (Tyndall and Ashley, 1999) was designed to determine the effectiveness of intensive sibling group play therapy in: (1) improving the self-concept; (2) reducing internalizing behavior problems, such as withdrawal, somatic complaints, anxiety and depression; (3) reducing externalizing behavior problems, such as aggression and delinquency and (4) reducing overall behavior problems of child witnesses of domestic violence. An Analysis of Covariance revealed (1) a significant improvement in their self concept; (2) a significant reduction in total behavior problems; (3) a significant reduction in externalizing behavior problems; (4) a significant reduction in internalizing behavior problems; (5) a significant reduction in aggression and (6) a significant reduction in anxiety and depression. Research supports the effectiveness of play therapy with children experiencing a wide variety of social, emotional, behavioral and learning problems, including: children whose problems are related to life stressors, such as divorce, death, relocation, hospitalization, chronic illness, assimilate stressful experiences, physical and sexual abuse, domestic violence and natural disasters (Reddy *et al.*, 2005). Play therapy helps children: Become

more responsible for behaviors and develop more successful strategies; develop new and creative solutions to problems; develop respect and acceptance of self and others; learn to experience and express emotion; cultivate empathy and respect for thoughts and feelings of others; learn new social skills and relational skills with family; develop self-efficacy and thus a better assured about their abilities.

Play material may be divided in to a number of groups (McNeil, 2007):

- Toys for physical development: Strong garden tools, balls, jumping ropes, tricycles, scooters, boxes, knock-out bench and puzzles
- Toys for sense development: (touching, hearing, seeing, smelling, or tasting) Water toys, musical instruments, bubble pipes, beads and string and puzzles
- Toys for creative work: Clay or crayons, paints, colored papers, paste and children's safety scissors
- Toys for social development: Dolls with washable clothes, adult dress up clothes, cars, airplanes and doll houses
- Toys to be used for building: Blocks and boxes
- To accomplish the current research play therapy was suggested as alternative for medicine therapy and long term complicated psychotherapy for children with ADHD and Anxiety. Play therapy has been as an effective and empirically validated treatment that is designed specifically to meet children's unique needs without any unsafe accompanied practice. There are also a lot of literatures supporting such an approach. In this section we try to review a synthesis of related literature and finally documenting the effectiveness of play therapy on ADHD, anxiety and social maturity in 8 to 12 years aged Ahwaz counseling clinics clientele children

## **MATERIALS AND METHODS**

The present research was purposed to examine the effects of Play Therapy on Attention Deficit Hyperactivity Disorder (ADHD), Anxiety and Social Maturity in 8-12 years aged male and female children.

The sample subsumed 80 boys and girls whom were selected randomly via simple sampling procedure from clientele children who were identified and diagnosed for ADHD and Anxiety in Ahwaz Metropolitan counseling clinics. The subjects randomly allocated to two groups, giving equal chance to every client to be included in each group: the experimental and control group. Experimental group was involved in play therapy for ten sessions; one hour each. Control group did not. The research conducted

during Nov 2007 to June 2008 in Ahwaz Metropolitan, the center city of Khuzastan province (South West of Iran).

**Methods and instrumentation:** Pre-test and post-test experimental design with control group was processed by administrating Conner's Parent Rating Scale (CPRS), Ahwaz Children Anxiety Test (ACAT) and Vineland Social Maturity Scale (VSMS).

**Measurement instrumentation:**

- Conner's Parent Rating Scale (CPRS)
- Ahwaz Children Anxiety Test (ACAT)
- Vineland Social Maturity Scale (VSMS)
- Spiel Berger Test (State, Traits)

The sample was subcategorized into two subgroups: Children diagnosed for ADHD and the other subgroup was allocated to the kids with Anxiety.

At the first step parents of the ADHD group (children with ADHD) responded to Conner's Parent Rating Scale (CPRS), while for children with anxiety General Anxiety Test and Spiel Berger Test(State, Traits) were administrated.

Vineland Social Maturity Scale (VSMS) was implemented for both subject groups.

The experimental groups of each subcategory were allowed to be subjected to play therapy for ten sessions, sixty minutes each with four months duration.

We utilized various play materials such as: Toys for physical development, toys for sense development, toys for creative work, toys for social development and toys to be used for building and applied different playing scenarios. A combination set of plays were introduced and suggested to experimental groups subcategorized into ADHA and anxiety subgroups. Mixed collection of the following plays and games was put through the steps of a prescribed procedure.

Play therapy sessions processed for children diagnosed for ADHD:

- **First session:** Drawing/painting (house, tree, manikin), puppet play, accuracy and precision measurement, win/lose game (basketball), puzzles solving
- **Second session:** Knock/clock game, Story telling, book reviewing, harmony game (golf), chair and song game, puzzle solving, word repetition, make friend with flower (flower growing), vision training cards
- **Third session:** Knock/clock game, Story telling, book reviewing, painting, harmony and win/lose game (bowling), puzzles solving, dot/line extension drawing, puzzle, vision training cards

- **Fourth session:** Knock/clock game, Story telling, book reviewing, token receiving goodwill game, dot/line extension drawing and coloring, vision training cards, dart and circle play, Litterbag technique
- **Fifth session:** Knock/clock game, Story telling, token receiving counting, clay game, mine implanting game, vision training cards, nut and screw game, Litterbag technique
- **Sixth session:** Knock/clock game, Story telling, token receiving counting, vision training cards, finger painting, house building game, fantasy play, Litterbag technique
- **Seventh session:** Knock/clock game, Story telling, playing with animals, token receiving counting, win/lose game (tennis), words repetition game, Litterbag technique
- **Eighth session:** Knock/clock game, Story telling, words repetition game, puzzle solving, snake and ladder game, clay play, token receiving counting, Litterbag technique
- **Ninth session:** Knock/clock game, Story telling, Lilliputian town game, token receiving counting, win/lose game, puzzle solving, list my goodwill game, sequentially instructions game, Litterbag technique
- **Tenth session:** Knock/clock game, Story telling, animals sounds, puppet play, puzzle solving, nut and string play, objects setting game

Play therapy sessions processed for children diagnosed for Anxiety in counseling clinics included:

- **First session:** Drawing/painting (manikin, house and tree), puppet play, free game (ball pool), deep breathes exercises training
- **Second session:** Drawing (family members), make friend with flower (flower growing), Story telling, deep breathes exercises training, book reviewing, free play (music and chair), Litterbag technique
- **Third session:** Drawing (fear and dread), puppet play, Fantasy play, Story telling, book reviewing, deep breathes exercises training, Litterbag technique
- **Fourth session:** Drawing (feeling), virtual journey, Story telling, book reviewing, Litterbag technique, clay play, free gender related play, deep breathes exercises training
- **Fifth session:** Drawing (surrounding world), Story telling, Playing with animals, token receiving goodwill game, puppet play, deep breathes exercises training, Litterbag technique
- **Sixth session:** Drawing (salient tree), Story telling, token receiving counting, clay play, Litterbag technique, free game, deep breathes exercises training

- **Seventh session:** Drawing (your earlier childhood), Story telling, token receiving counting, role playing game, Lilliputian town game, role play, deep breathes exercises training
- **Eighth session:** Painting with fingers, Story telling, Litterbag technique, clay play, abreaction game (emotions releasing game: attacking virtual creatures), deep breathes exercises training
- **Ninth session:** Story telling, Litterbag technique, free game, clay play, goodwill listing game, deep breathes exercises training
- **Tenth session:** Story telling, free game, free painting, puppet play, clay play

To put the objective of the research into practical effect four hypotheses were suggested. The quadratic hypothesis of the carried out research proposed based on the raised questions and the objective of the research and formulated as followings:

- **H1:** Play therapy decreases attention deficit hyperactivity disorder (ADHD) in children with attention deficit hyperactivity disorder (ADHD)
- **H2:** Play therapy increases social maturity in children with attention deficit hyperactivity disorder (ADHD)
- **H3:** Play therapy decreases anxiety in anxious (with anxiety disorder) children
- **H4:** Play therapy increases social maturity in anxious (with anxiety disorder) children

## RESULTS

Descriptive statistics indices such as: Frequency, Percentage, Mean, Standard Deviation, Minimum and the Maximum were taken into concern.

### Findings related to the research hypotheses testing:

Multivariate Analysis Of Variance (MANOVA), Multivariate Analysis of Covariance (MANOCVA) and Pearson Correlation Coefficient were applied as statistical procedures for hypotheses testing. The results were reported significant at the P value less than to equal to 0.05 ( $p \leq 0.05$ ).

As it shown in Table 1 ( $F = 29.55$  and  $p \leq 0.0001$ ) there exist significant differences between experimental and control group in children with attention deficit hyperactivity disorder (ADHD) with regard to their obtained scores in ADHD on pre-test and post test

As it is also indicated in Table 1 ( $F = 25.02$  and  $p \leq 0.0001$ ); the experimental and control group significantly differed in children with Attention Deficit Hyperactivity Disorder (ADHD) with regard to their social maturity scores on pre test and post test.

According to the statistics findings in Table 2 ( $F = 74.67$  and  $p \leq 0.0001$ ) there is significant difference in anxiety scores of experimental and control groups anxious (with anxiety disorder) children on pre test and post test.

As it is also demonstrated (Table 2) via statistical analysis ( $F = 16.51$  and  $p \leq 0.0001$ ) experimental and control groups social maturity in anxious (with anxiety disorder) children differed significantly with regard to pre test and post test points.

As it is indicated in Table 3 regarding Pillai's trace test (0.578); Wilks' lambda test (0.422); Hotelling's trace test (1.37) and Roy's largest root test (1.37) results of multivariate analysis (MANOVA) on the scores difference (pretest-posttest) of ADHD and social maturity demonstrate significant difference ( $F = 25.36$  and  $p \leq 0.0001$ ) in children with attention deficit hyperactivity disorder (ADHD) of experimental and control groups.

Considering Pillai's trace test (0.683); Wilks' lambda test (0.317); Hotelling's trace test (2.15) and Roy's largest root test (2.15) results of multivariate analysis (MANOVA) on the scores subtraction (pretest-posttest) of Anxiety and social maturity indicated significant difference ( $F = 39.83$  and  $p \leq 0.0001$ ) in children with anxiety disorder of experimental and control groups (Table 4).

Table 1: Interaction effects between the subjects' scores differences (pretest-posttest) of ADHD and social maturity in children with attention deficit hyperactivity disorder (ADHD) of experimental and control groups

Variables	Sum of squares	df	Mean of squares	F-value	p-value
ADHD	9891.02	1	9891.02	29.55	0.0001
Social maturity	545.22	1	545.22	25.02	0.0001

Table 2: Interaction effects between the subjects' scores differences (Pretest-posttest) of anxiety and social maturity in children with anxiety disorder of experimental and control groups

Variables	Sum of squares	df	Mean of squares	F-value	p-value
Anxiety	2235.02	1	2235.02	74.67	0.0001
Social maturity	308.46	1	308.46	16.51	0.0001

Table 3: Results of multivariate analysis (MANOVA) on the scores difference (pretest-posttest) of ADHD and social maturity in children with attention deficit hyperactivity disorder (ADHD) of experimental and control groups

Test	Magnitude	df of the		F-value	p-value
		hypothesis	error		
Pillai's trace	0.578	2	37	25.36	0.0001
Wilks' lambda	0.422	2	37	25.36	0.0001
Hotelling's trace	1.370	2	37	25.36	0.0001
Roy's largest root	1.370	2	37	25.36	0.0001

Table 4: Results of multivariate analysis (MANOVA) on the scores differences (pretest-posttest) of anxiety and social maturity in children with anxiety disorder of experimental and control groups

Test	Magnitude	df of the		F-value	p-value
		hypothesis	error		
Pillai's trace	0.683	2	37	39.83	0.0001
Wilks' lambda	0.317	2	37	39.83	0.0001
Hotelling's trace	2.150	2	37	39.83	0.0001
Roy's largest root	2.150	2	37	39.83	0.0001

Multivariate Analysis of Variance (MANOVA) as statistical implementation revealed that: Play therapy decreased Attention Deficit Hyperactivity Disorder (ADHD) and Anxiety but increased social maturity.

## DISCUSSION

As it obtained via pre and post tests the indices of Mean and Standard Deviation for the ADHD experimental and control group were respectively in ADHD scores:

M = 73.10; SD = 16.69 and M = 66.40; SD = 14.73 (pre test); M = 39.70; SD = 17.68 and M = 64.45; SD = 16.88 (post test). The hypothesis testing by statistical analysis showed that the difference between the Mean of experimental group in the pre test and in the post test was statistically significant. So the first hypothesis was supported with the presented evidence of the current study; that means Play therapy decreased attention deficit hyperactivity disorder (ADHD) in children with attention deficit hyperactivity disorder (ADHD). The findings accorded Muro (2000), Ray (2006), Nemiroff *et al.* (1990), Rashkin (2005) and Phillips *et al.* (1992). The Mean and Standard Deviation for the ADHD experimental and control group in Social Maturity scores were respectively: M = 110.20; SD = 8.65 and M = 109.31; SD = 8.09 in the pre test; M = 118.09; SD = 12.91 and M = 109.81; SD = 9.21 in the post test. Since the resulted difference in the Means of experimental group was significant the second hypothesis was confirmed too. In other words: Play therapy increased social maturity in children with attention deficit hyperactivity disorder (ADHD). The conclusion reached after examination was in agreement with Ray (2006), Rashkin (2005), Fall *et al.* (2002), Ray *et al.* (2001), Bratton and Ray (2000), Nemiroff *et al.* (1990) and Dogra and Veeraraghavan (1994).

Mean score for anxiety in the pre test (M = 22.70; SD = 6.74) and in the post test (M = 7.35; SD = 4.22) differed significantly while there was no any significant difference in the control group Means in the pre test (M = 16.55; SD = 9.75) and the post test (16.15; SD = 10.64); therefore the research findings reaccredited the third hypothesis. So Play therapy decreased anxiety in anxious (with anxiety disorder) children. The outcomes supported by Muro *et al.* (2006), Shen (2002) and Ray *et al.* (2001), Bratton and Ray (2000), LeBlanc and Ritchie (1999), Tyndall and Ashley (1999) but had no contribution with Fall *et al.* (2002).

The last hypothesis was also substantiated by the results of the research hypotheses examination that indicated; play therapy increased social maturity in anxious (with anxiety disorder) children. Based on the fact-finding of the research implemented statistics

procedures for data analysis; Experimental group acquired statistically significant difference in the Mean scores of Social Maturity in the pre test (M = 110.14; SD = 6.86) and the post test (M = 115.75; SD = 9.66) in children with anxiety disorder. The control group did not differed in the scores Means (pre test: M = 112.30; SD = 8.27; post test: M = 112.36; SD = 8.25). The result came to the same end as Ray (2006), Rashkin (2005), Fall *et al.* (2002), Ray *et al.* (2001), Bratton and Ray (2000), Nemiroff *et al.* (1990) and Dogra and Veeraraghavan (1994).

## CONCLUSION

This study has demonstrated the effectiveness of play therapy as a viable and developmentally appropriate intervention for children experiencing a broad range of problems. As an alternative for a risky medicine therapy and long term complicated psychotherapy for children with ADHD and Anxiety; play therapy had been suggested as an effective therapeutic procedure involving no any significant risk since relatively a long period of time. There are a lot of literatures supporting such an approach. The concrete objects (toys, art, etc.) and other play-based experiences provided in play therapy afford children an age-appropriate and emotionally safe means to express their difficult experiences. For these reasons, play therapy is currently practiced by thousands of clinicians to treat their young clients.

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