

Single-Case Analysis of Sand Tray Therapy
of Depressive Symptoms in Early Adolescence

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A Dissertation submitted to

The Faculty of
The Graduate School of Education and Human Development
and Columbian College of Arts and Sciences
of The George Washington University
in partial fulfillment of the requirements
for the degree of Doctor of Philosophy

January 31, 2011

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Dedication

This is for Mom, Marsha, and David.

Acknowledgements

The author wishes to thank whole-heartedly the unstinting efforts of her chair, Dr. Sylvia Marotta, who provided insight, expertise, and support throughout the process. Thanks also to committee members, Drs. Jorge Garcia and Sharon Lambert, for invaluable input and suggestions. Final readers Drs. Sam Steen and Elizabeth Rich provided additional insight and support. This work would not have been possible without the support of Cathi Spooner, who unhesitatingly offered resources and advice. Many thanks also to the parents and especially the research participants who committed to this project. Finally, deepest gratitude to my son, Andrew, and Alice for simply being there with hugs, the occasional threat, and duck fries.

Abstract of Dissertation

Single-Case Analysis of Sand Tray Therapy of Depressive Symptoms in Early Adolescence

Sand tray therapy has been used in the treatment of a wide variety of mental health problems in children, adolescents, and adults since the 1920s, but attempts to demonstrate its value have been limited largely to qualitative case studies. This study used a more rigorous design, a single-case analysis with multiple baselines of varying lengths across participants, to determine if sand tray therapy by itself can have an effect in reducing symptoms of depression in young people aged 11 to 14. As a largely non-verbal therapy focusing on client strengths and available resources, sand tray therapy can be enjoyable and appealing to this age group. It incorporates elements of positive psychology, allowing clients to assert control and to engage in a complex creative process that may enhance feelings of competency and self-worth.

Four participants were enrolled in the study and symptoms were assessed with several standardized paper-and-pencil questionnaires given to participants and their mothers. Primary data on depressive symptoms was collected with a five-question survey that each participant answered every other day by telephone. The baseline was randomly varied for each participant and ranged from 6 to 18 days. Assessment with the five-question survey continued on the same schedule throughout the course of treatment, which consisted of once-weekly sand-tray sessions for 12 to 14 weeks. At the end of treatment, symptoms were again assessed with the same battery of questionnaires. Three of the four participants showed

overall improvement in depressive symptoms as measured both by the five-question survey and by standardized instruments, although improvement did not follow the hypothesized pattern of steady and stable gains. Examination of the therapy process in detail revealed individual differences in the ways in which participants engaged in the therapy. The study shows some benefit may be obtained in using sand tray therapy with young adolescents suffering depressive symptoms. Implications of the study in the treatment of adolescents as well as in the study of sand tray therapy process are discussed.

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CHAPTER 1: INTRODUCTION

This study looks at the effectiveness of a specific therapeutic modality, sand tray therapy, in the treatment of depressive symptoms in young adolescents ages 11 to 14. This modality was chosen because despite its continued use for more than 80 years, very few if any rigorous studies of the effectiveness of sand tray therapy have been published (Mitchell & Friedman, 1994). An examination of the qualities of sand tray therapy reveals that this modality seems to be especially suited for use with young people who experience depression; the linkage between factors affecting depression and factors involved in sand tray therapy forms the primary conceptual framework of this study.

The study was a mixed-methods approach to examine both the process and outcome of sand tray therapy. Outcome was assessed using a single-case research design, in which participants acted as their own controls (Kazdin, 1982). The particular type of single-case research used in this study was a multiple-baseline-across-participants design, in which depressive symptoms were measured in four participants over a baseline period that was of a different length for each participant. Measurement of depressive symptoms continued after the sand-tray therapy treatment was begun. By varying the length of the baseline for four participants, the design provided systematic replication of the treatment (Morgan & Morgan, 2009). With baselines of varying length determined at random for each participant, the likelihood increased that any change in depressive symptoms following the introduction of treatment was caused by the treatment and not by extraneous factors (Kazdin, 1982).

While outcome was measured in an experimental, largely quantitative design, process was analyzed using a mix of quantitative and qualitative methods. At the end of each session,

participants filled out a process questionnaire designed for this study that was intended to assess participants' feelings about their session. In addition, all sand tray sessions were video-recorded and reviewed in depth to assess how participants seemed to be using the opportunity to work with sand-tray therapy to address their depressive symptoms. Two of the four participants showed some level of improvement in depressive symptoms from the beginning of the study to the end; the therapy process for each of these participants is examined in some depth. The process analysis is, more specifically, a selection of particular patterns occurring in the participants' trays coupled with the investigator/therapist's interpretation of those patterns. The analysis presents connections between the observed patterns and the theoretical foundations of depression as developed in the contextual framework of the study (Coffey & Atkinson, 1996)

This introductory chapter offers seven sections that provide a broad overview of the research and the gap it fills in the existing literature. The first section is a statement of the problem, followed by a discussion of the need for the study in terms of costs to society if this type of research is not performed, and the significance of the study in terms of specific gaps in the literature. These three sections provide a brief overview of the research literature and form a preliminary basis for the statement of specific research questions. This chapter also contains a summary of the methodology, limitations of the study, and definitions of key terms used in the study.

Statement of the Problem

There exists a need for a method of working therapeutically with young people that neither relies on the ability to process information cognitively nor depends solely on

biochemical interventions such as medication (Boik, 2000; Straus, 1999). Although both cognitive-behavioral therapy (CBT) and pharmacotherapy have been investigated as effective treatments for depression in children and adolescents (Brent et al., 1998; Clarke & Rohde, 1992; Lewinsohn, Clarke, Rohde, Hops, & Seeley, 1994; Rohde, Seeley, Clarke, Valley Hospital, & Stice, 2006; Treatment for Adolescents With Depression Study [TADS] Team, 2004), there is evidence to suggest that these treatments may not be universally efficacious (Koplewicz, 2004; Vitello & Swedo, 2004; Whittington et al., 2004). A meta-analysis of research on child and adolescent psychotherapy states that further exploration of “non-cognitive” therapies, including supportive therapies and expressive-arts therapies, is indicated based on findings revealing weaknesses in traditional CBT approaches to the treatment of depression (Weisz, McCarty, & Valeri, 2006).

Sand tray therapy presents itself as a potentially valuable treatment modality with children and adolescents for a number of reasons. First, the therapy is primarily nonverbal. Clients are presented with one or more broad, shallow trays partially filled with sand and a diverse collection of miniature objects, including people, symbols, trees, bridges and the like, that the client is encouraged to place in the sand to make a “world” of his or her own design. There is no right or wrong way to construct a world, and therapists generally do not comment on clients’ worlds as they are being constructed (Boik, 2000; Dundas, 1990; Homeyer & Sweeney, 1998; McNally, 2001; Turner & Turner, 2005).

A key assumption in sand tray therapy is that the items chosen for the world reflect concerns and issues of the client, and that selection and placement of objects in the tray allow clients to objectify and externalize these concerns (Hunter, 1998). This process can lead to

greater understanding and eventual mastery of problems (Landreth, 1991; Walker, 1998; White & Epton, 1990). Sand tray therapy also allows clients to tap into creative expression; the use of creativity in therapy has been shown to lead to more effective problem solving (Russ, 2004). Sand tray therapy is both relaxing and enjoyable (Bonds, 1995). The deliberate experience of pleasure and its role in promoting clients to initiate and continue positive experiences has long been a part of therapy interventions for depression, although in most cases clients are encouraged to seek such pleasurable experiences outside of the therapy session (MacPhillamy & Lewinsohn, 1982). Counselors who work with children and adolescents, however, recognize the need to make the counseling experience itself enjoyable, so their young clients will be willing to return (Landreth, Baggerly, & Tyndall-Lind, 1999).

There is also evidence that nonverbal therapies, particularly therapies incorporating elements of expressive art as does sand tray therapy, are not only enjoyable in the moment, that is, in the session itself, but also may help participants widen and enjoy a realm of positive feelings and experiences outside of therapy (Hadley, 1997; Rousseau, Drapeau, Lacroix, Bagilishya, & Heusch, 2005; Saunders & Saunders, 2000). Recently, prominent theorists and researchers in psychotherapy have proposed that enhancing positive experiences in therapy can build a positive self-concept and increase feelings of interpersonal competence, which in turn helps people recover from depression and develop resistance to recurrence of depression (Garmezy, 1991; Joseph, 2006; Seligman, 2002).

Sand tray therapy makes particular sense as an intervention for children in the age range of 11 to 14 when one considers the level of cognitive and emotional development that most children have reached at this age. Piaget (2001) proposed that by age 11, most children

have reached the stage of *formal operations*, which is characterized by an ability to think abstractly. Thinking at this age also becomes more flexible, rational, and systematic. At this stage, the creation of a sand tray world, which is the basis of sand tray therapy, would take on more abstract or metaphoric qualities. At younger ages, when children are at the stage of *concrete operations*, items in the sand world are seen for what they are, and there is generally a great deal of active play with moving cars on sand roads, having soldiers fight battles, or setting up rooms or towns that are actively peopled (Boik, 2000). With the shift to formal operational thinking, children may be more open to seeing their sand worlds as reflections of their own worlds or perhaps the landscape in their minds, even if they do not openly offer those connections to the therapist.

Sand tray therapy has the potential to be an effective therapy even though it does not require clients to talk about themselves or their experiences (Kalff, 1980). Most interventions for depression in children and adolescents, such as cognitive-behavior therapy, are essentially adult therapies that have been scaled down or adapted in some way for younger clients (Kingery et al., 2006). The essence of the intervention is verbal (Straus, 1999). At the same time, however, people who regularly work with children and adolescents note that these clients can be extremely anxious when asked to talk about their situations (Boik, 2000). Further, children and even adolescents may not have much, if any, conscious awareness of their thoughts and feelings and have very little experience in creating a vocabulary around such thoughts and feelings (Kingery et al., 2006). When asked to talk about feelings, therefore, these clients may become resistant or withdrawn. Nonverbal therapy modalities, on

the other hand, provide a less threatening and more easily tolerated experience for this client population (Straus, 1999).

A final problem that the study addresses is the question of what actually happens over the course of a series of sand tray therapy sessions. Process studies of sand tray therapy are largely limited to individual case studies that present subjective views of the therapist's interpretation of individual sand tray sessions and how and why the client chose to create particular worlds at particular times (Carey, 1990; Dundas, 1990; Grubbs, 1995; Hunter, 1998; Kalff, 1980; McNally, 2001; Oaklander, 1988; Walker, 1998; Weinrib, 1983). Examination of the relationship of process to the therapeutic alliance as well as the significance of variations in the perception of the process by the therapist and the client has not been presented as such in the sand tray therapy literature to date. The study, therefore, looked at the process of a largely nonverbal, expressive arts intervention using session rating assessments to measure client and therapist reactions to therapy as it progressed as well as client and therapist perceptions of the therapeutic relationship. A videotaped record of all therapy sessions was maintained that allowed a more qualitative examination and analysis of the therapy process. The question of precise methods of the sand tray process is further elaborated in Chapter Three. It should be noted, however, that unlike many classic early descriptive studies of process, this study is not entirely atheoretical (Llewelyn & Hardy, 2001); rather, several broad assumptions are made about what is happening in sand tray therapy as suggested above with regard to nonverbal expression, development of positive experiences, and externalization and subsequent control of thoughts and feelings.

Need for the Study

Depression is a serious problem affecting children and adolescents. One major national epidemiological study of more than 13,000 adolescents found that 9.2 percent of the participants reported experiencing moderate to severe levels of depressive symptoms (Rushton, Forcier, & Schectman, 2002). There is additional evidence indicating that in recent years, prevalence of depression in adolescence is increasing while at the same time the initial age of onset of depression is dropping (Clarke, DeBar, & Lewinsohn, 2003). Symptoms of depression in adolescents have been linked with a range of ongoing negative consequences including social withdrawal (Stark, 1990), substance abuse (Birmaher et al., 2000), suicidal ideation (DeMan & Leduc, 1995; Kovacs, 2001), and completed suicide (Weissman et al., 1999).

Exact figures on the societal cost of this rising tide of depression are not available. There is no debate, however, about the debilitating nature of depression in young people. Further, youth who have had one episode of depression have a high probability of recurrence of depression, ranging from 12 percent relapse within 1 year to 33 percent within 4 years (Lewinsohn et al., 1994). These chronic and recurrent depressive symptoms have been associated with significant impairment in family, social and academic functioning, resulting in societal costs due to school dropout, teenage pregnancy, suicide, and substance abuse (Mufson & Dorta, 2003). In addition, about two-thirds of youth with a history of depression will probably develop a new episode of depression while still in their teens (Cicchetti & Toth, 1998). Youth depression can lead to depression in adulthood as well as increasing risk in adulthood of substance abuse, employment problems, and marital difficulties (see, e.g., Gotlib, Lewinsohn, & Seeley, 1998; Rao, Daley, & Hammen, 2000). The cost of depression

in adulthood has been estimated as more than \$44 billion a year in direct treatment, unnecessary medical care, and lost productivity (Finkelstein & Greenberg, 1994).

Significance of the Study

The therapeutic response to adolescent depression can be characterized by two dominant mental health interventions: medication and cognitive-behavioral therapy (Fonagy, Target, Cottrell, Phillips, & Kurtz, 2002; Kazdin & Weisz, 2003). These treatments, administered either singly or in combination, have been developed largely because their success has been demonstrated in research trials with depressed adults (Cameron, 2000; Clarke, DeBar, & Lewinsohn, 2003). In the past five years, however, doubts have been raised about the safety of the first of these interventions, the use of antidepressants, specifically selective serotonin reuptake inhibitors (SSRIs) with children and adolescents (TADS Team, 2004; Vitiello & Swedo, 2004; Weisz et al., 2006; Whittington et al., 2004). As a result, professionals who rely extensively on medication-based interventions may meet resistance from concerned parents (Koplewicz, 2004).

Further, recent research evidence also suggests that cognitive-behavioral therapy (CBT), long regarded as a “gold standard” approach to depression, may be less effective than has been supposed. A meta-analysis of psychotherapy for child and adolescent depression (Weisz, 2006) reviewed 35 studies conducted between 1987 and 2004, of which 31 studies employed a cognitively based treatment. Contrary to previously published reports, the overall treatment effect for these studies was less than one-third of what had been previously obtained in outcome studies of CBT.

The authors of this meta-analysis conclude that current treatments for youth depression, most notably CBT, may lag behind treatments for other mental health disorders in children and adolescents. One prominent recommendation of the authors was to develop and test new methods of treating youth depression that could produce more substantial benefits. As the authors note, treatments with a strong non-cognitive component, such as interpersonal psychotherapy (IPT), have effects that are “easily as robust” as cognitive treatments (Weisz et al., 2006, p. 144).

This study, therefore, developed and tested another method of treating symptoms of depression in early adolescence, the method of sand tray therapy. A detailed survey of relevant literature as contained in Chapter Two indicates that sand tray therapy has a considerable body of supporting research that is limited almost exclusively to case-study reports. In contrast, this study is a single-case design with multiple baselines that change across participants. This design incorporates elements of replication and time-study and offers a more rigorous analysis than the qualitative case study (Borckardt et al., 2008). Details of this design appear in this chapter’s section on summary of the methodology as well as in Chapter Three. A particular strength of single-case design is the reduction of threat to internal validity by showing replication of experimental effects (Long & Hollin, 1995). The multiple-baseline-across-subjects design carried out in this study could potentially demonstrate causality—that the treatment in fact leads to change in the measured behavior—because there are multiple instances, or replications, of change in the behavior following introduction of the treatment (Morgan & Morgan, 2003).

Research Questions

The study was guided by the following research questions and related hypotheses:

1. Will therapy participants who complete 14 sessions of sand tray therapy experience a significant change in self-reported depressive symptoms?

1a. Therapy participants who complete 14 sessions of sand tray therapy will report improvement in depressive symptoms that will appear as significant in a visual analysis.

2. Will changes in depressive symptoms over the 14-session period of therapy be supported by significant changes in scores on standardized questionnaires completed every two weeks by participants and parents?

2a. There will be decreases in depressive symptoms over the 14-session period of therapy as revealed by visual analyses of changes in scores on standardized questionnaires completed by participants and parents every two weeks.

3. Will there be a steady improvement in the reduction of depressive symptoms through the duration of the therapy process or will there be fluctuations?

3a. Depressive symptoms as measured by self-report will steadily decrease throughout the period of the intervention.

4. Will changes within the process of therapy, as measured by a post-session questionnaire given to participants and the therapist at the end of each therapy session, be reported by participants and the therapist, and will participants and the therapist report similar changes or will their perceptions be different?

4a. Participants and therapist will report similar types of changes within the process of therapy, with steadily increasing scores on the 9 process rating items.

5. Will participants show an increase in positive self-concept as measured by scores on the Piers-Harris Self-Concept Scale administered pre- and post-treatment?

5a. Participants will show a significant increase in positive self-concept as measured pre- and post-treatment.

Summary of the Methodology

Following established procedure for single-case research designs, the basic structure of the study was a single-case, AB design, with A indicating the establishment of a baseline measurement for depressive symptoms, and B the 14-week period covering the administration of the treatment of sand tray therapy, with measurement of depressive symptoms throughout the process of treatment. The design was a multiple-baseline-across-subjects design, which entailed performing the intervention with a total of four participants who began treatment after baseline periods of differing lengths. Of the four participants who completed the study, one was obliged to cut short her participation by 2 weeks as her family went on an extended vacation just as the study was concluding. In point of fact, three and even two participants have been deemed to be sufficient to demonstrate causality in a design of multiple baselines across participants (Long & Hollen, 1995; Muesser, Yarnold, & Foy, 1991). This staggered approach in beginning treatment is designed to strengthen the causal inference that the treatment is affecting the symptoms (Morgan & Morgan, 2001).

The basic form of assessment of depressive symptoms was a brief, five-question assessment with which participants will indicate the level of severity of symptoms using a six-point Likert scale. The five questions were derived from the five subscales of the Children's Depressive Inventory (CDI), a self-report measure designed for use by children

from ages 6 to 17 years. This five-item questionnaire was administered to participants via a brief telephone check-in at the end of the day on an alternating, every-other-day schedule. On days in which participants came in for sand tray therapy, they completed the questionnaire in writing before beginning the session.

The five-item scale formed the primary assessment of change in depressive symptoms throughout the course of treatment. An additional assessment of change in depressive symptoms was obtained by administering the Children's Depression Inventory Short Form (CDI), consisting of 10 items, to each participant every two weeks through the course of treatment. One parent of each participant also completed the 17-item Children's Depression Inventory, Parent Version (CDI-P), every two weeks. Also, three additional standardized measures were administered at the beginning and at the end of treatment: the Children's Depression Rating Scale, Revised (CDRS-R), the Behavior Assessment System for Children, 2nd Edition (BASC), which assesses externalizing as well as internalizing forms of disturbed behavior, and the Piers-Harris Self-Concept Scale. The first set of scores on the CDRS-R and the BASC was used to determine inclusion and exclusion from the study; the second set of scores was compared with the first set as a descriptive elaboration of the degree of positive change in depressive symptoms. Process elements of treatment were assessed with a questionnaire designed for this study that probed perception of the therapy process and the therapy relationship from perspectives of both the participant and the therapist. Details of these assessments are contained in Chapter Three.

Support exists in the literature on single-case design that if the proposed treatment is effective, the desired change in participants' depressive symptoms will be available to the

naked eye (Morgan & Morgan, 2009). However, several quantitative measures were calculated as part of the data analysis. These measures included calculation of the least-squares regression line for treatment data and calculation of the percentage of nonoverlapping data (PND) statistic, which determines the percentage of treatment data that overlap with the highest value obtained on data collected during the baseline period. These methods of analysis are expanded and explained in Chapter 3 (Morgan & Morgan, 2009). The remaining assessments, which included eight administrations of the CDI and CDI-P plus the pre- and post-treatment administration of the BASC, the CDRS-R, and the Piers-Harris, are descriptive measures and are presented in graph form.

Each session was also video recorded in its entirety. The video records were randomly spot-checked by a neutral observer with experience in sand tray therapy but naïve as to the purpose of the study who viewed sections of therapy sessions and determined that the investigator/therapist was adhering to the specified protocol (S. Michelson, personal communication, August 21, 2010). From the video record, a qualitative analysis of the therapy process for two of the participants provides an in-depth portrayal of sand-tray therapy that illustrates how this unique modality can help clients identify issues and possibly obtain emotional clarity. The video record also preserves all therapy sessions to permit additional study and analyses of process questions.

Definitions

Baseline. In this study, a baseline assessment of depression consisted of scores on a five-item questionnaire on depressive symptoms created for this study from the five subfactors of depressive symptoms derived from factor analysis of the Children's Depression

Inventory (CDI). The purpose of this baseline assessment was to determine the participant's overall level of depression before therapy begins.

Depression. For purposes of the study, mild to moderate depression was defined as a score of 55 to 70 on the Children's Depression Rating Scale-Revised (CDRS-R), a clinician-administered semi-structured interview that is designed to evaluate symptoms of depression as contained in the *Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-IV-TR)*.

Early adolescence. In this study, children from the ages of 11 to 14 are defined as being in early adolescence. This definition appears in a study by Cole et al. (2001), which describes key elements in this age description as being the transition from elementary to middle school, the onset of puberty, and the emergence of formal operational reasoning.

Multiple baseline across subjects. This description of the design used in the current research specifies a variation of the single-case design in which baseline data are gathered for two or more participants on the same measure. After the baseline data are collected, the intervention is begun at staggered times for the participants. Thus, if changes in the measured behavior occur following introduction of the intervention and not before, an inference can be made that the intervention caused the change in behavior (Kazdin, 1982).

Positive psychology. As opposed to clinical psychology focusing on pathology or disease, positive psychology focuses on valued subjective experiences including contentment with the past, hope for the future, and happiness in the present moment. Positive psychotherapy is aimed at helping clients create and nurture such thoughts and feelings in themselves (Seligman & Csikszentmihalyi, 2000).

Sand play therapy. This term, as opposed to *sand tray therapy*, is used to describe the Jungian-based therapy developed by Dora Kalff (1980) involving the creation of worlds using miniatures placed in a shallow tray of sand. Sand play therapy has a particular theoretical orientation that stresses the unconscious nature of the sand worlds and interpretation of objects in the world as reflecting Jungian symbolism. In sand play therapy, the process itself is considered healing and no verbalization or interpretation of the therapy is necessary.

Sand tray therapy. This term describes all forms of therapy using sand and miniatures other than the Jungian therapy developed by Kalff (1980). Sand tray therapy can be used by therapists from a variety of theoretical perspectives. Interventions can be nondirective, with simple instructions to have clients make a world in the sand however they choose, or directed, with specific instructions, e.g. “Make a world about your fear of dogs,” or “Draw a line down the center of the tray and make your mom’s house on one side and your dad’s house on the other” (Boik, 2000).

Self-concept. Operationally self-concept is defined as the particular score a child achieves on the Piers-Harris Children’s Self-Concept Scale, Second Edition (Piers-Harris). The scale, developed in the early 1960s and designed for use with children aged 7 to 18, provides a rating of positive self-concept on a continuum from below average to above average measured by responses to a set of 60 statements about how people may feel about themselves (e.g., “I am smart,” “I am unpopular,” “I give up easily”). Its subscales include physical appearance and attributes; freedom from anxiety; intellectual and school status; behavioral adjustment; happiness and satisfaction; and popularity.

CHAPTER 2: LITERATURE REVIEW

A general dictum for studies of psychotherapy process and outcome (and for the day-to-day practice of psychotherapy as well) is that an intervention should be solidly based on theory (Kratochwill & Morris, 1991). The theory supporting sand tray therapy as an effective intervention for depression derives from the multifactorial, transactional model of child and adolescent depression developed by Hammen and Rudolph (2001). The model proposes that depressive vulnerability begins with biological and genetic features plus family experiences, which contribute to an individual's sense of interpersonal competence as well as his cognitive representations of self and others. Finally, life stresses can provide the final push, as it were, to precipitate the experience of depression.

Given that depression can arise through multiple pathways and can be affected by multiple variables, it makes sense that a variety of treatments for depression can be effective even if they do not target the same factors. Antidepressant medication obviously affects the biological factor, while CBT is designed to change cognitive representations of self and others. For the proposed research, sand tray therapy in and of itself is predicted to be efficacious because each sand tray session offers the client an experience that targets and bolsters a key element of the construct of depression, the individual's sense of interpersonal competence. This chapter will present the conceptual framework linking a root contributor to depression in children, lack of a sense of interpersonal competence, with an effective counterbalancing treatment provided by the treatment modality of sand tray therapy. How are these concepts linked? This literature review begins with examination of evidence that depression is at least in part a result of perception of a lack of competence. From this

evidence base, consideration extends to therapeutic interventions to counteract this deficit. The growth of positive psychology can be viewed as a direct intervention to improve competency as defined by improved self-concept and self-esteem. Finally, this literature review will look at the development of nonverbal, expressive therapies such as play therapy, art therapy, and sand tray therapy that can also be seen as movements toward positive, strength-based interventions that ultimately improve a depressed child's sense of competence. When all these pieces are put together, a strong theoretical perspective emerges to support the use of sand tray therapy in the treatment of depression in young adolescents.

The Competency-Based Model of Depression

A number of studies supporting a competency-based model of depression in young people has been conducted by Cole and associates (Cole, 1990; Cole, 1991; Cole et al., 2001; Cole, Martin, Powers, & Truglio, 1996; Cole, Nolen-Hoeksema, Girgus, & Paul, 2006; Jacquez, Cole, & Searle, 2004; Jordan & Cole, 1996; Tram & Cole, 2000). Taken together, these studies present convincing evidence that as children grow older, they tend to respond more strongly to negative feedback about themselves by incorporating such feedback into a largely negative view of themselves and their competence in a range of domains. These studies reveal the contribution of negative self-perceptions of social and academic competence as a primary contributor to the development of depressive symptoms, especially in children aged 10 and above. For example, a longitudinal study by Cole, Jacquez, and Maschman (2001) found that as children aged from third to sixth grade, changes in their self-appraisals in five domains of self-concept—academic competence, social acceptance, physical appearance, behavioral conduct, and sports competence—consistently predicted

changes in self-reported levels of depression. Further, in the targeted age range, children's self-appraisals correlated significantly with the appraisals of teachers, parents, and peers in every domain and at every grade level. That is, children at the level of third grade and above are accurately interpreting others' opinions of them as competent or incompetent and are using the opinions of others to shape their own conception of self.

Another strong line of support for the link between depression and perceived sense of competence comes from the work of Bandura and associates (1999). In a longitudinal study of 282 children with a mean age of 11.5 years, he found that a perceived sense of social and academic inefficacy not only preceded but also continued to reinforce symptoms of depression over time.

Another facet of the linkage between competence and depression is the research finding that as children become older, their concept of self becomes more complex and more highly differentiated. This more differentiated sense of self can in turn assist in rebounding from experiences that may set off depressive symptomology. A study reported by Heath and Brown (1999) revealed that children (ages 8 to 12) who have higher levels of self-concept differentiation are more likely to report a good outcome after an experience of depression than children with lower levels of self-concept differentiation.

This finding may be especially heartening for therapists working with depressed children and adolescents. If, as the above studies hold, depressive symptoms spring at least in part from a child's perception of incompetence in academic and social arenas, therapists may feel relatively helpless as their field of influence falls outside of both these realms in a child's life. However, if the development of a multi-dimensional self-concept can both help counter

depression and guard against the return of depression, as indicated by Heath and Brown (1999), then the therapist's role in facilitating the experience of competence and mastery for children may indeed be healing.

Resilience and Positive Psychology

Research on the nature of resilience and recovery in children supports the view that positive therapy experiences can effectively counter underpinnings of depression in children and adolescents. Research by Rutter (1979, 1985) and Garmezy (1991) showed that a broad palette of factors that can be seen as affecting self-concept, including such internal qualities as easy temperament, positive outlook, self-discipline, and humor, and external elements such as supportive families and a positive school climate, contribute to children's resiliency to negative life events. More recent resiliency research (Richardson, 2001) shows 50 to 70 percent of children termed "high-risk" grew up to be adults who were not only successful but also confident, competent, and caring.

The fact that resilience is in fact a widespread phenomenon has acted as a counter to the deficit-focused model of children and adolescents at risk for depression. Masten (2001) summarized evidence from a number of recent studies of resilience to conclude that a "relatively small set of global factors" is associated with the quality of resilience (p. 233). These factors include connections to competent and caring adults in the family and the community, cognitive and self-regulation skills, positive views of self, and motivation to be effective in the environment. Such qualities can be nurtured in individual children and the people who care for them. Masten states that resilience and recovery are a kind of "ordinary

magic” (p.227), that is to say, nothing special or extraordinary yet transformative in their power to help children function in difficult life situations

Frederickson (1998, 2001) created a theory of positive emotions, known as “broaden and build,” which describes the distinct and complementary functions of positive and negative emotions. In the theory, emotions are posited to have clear effects on cognition and physiology. Specifically, negative emotions narrow focus and prepare a person to behave in a clearly delimited and protective way (attack when angry, retreat when afraid). Positive emotions, on the other hand, broaden focus and expand the range of available cognitions and behaviors. With such a broader range, individuals are able to call upon a wider variety of physical, intellectual, and social resources. A further conceptual application of the broaden-and-build theory, presented by Karwoski, Garratt, and Ilardi (2006), discusses the ways in which a focus on positive life factors can help clients overcome depressive states. The authors include a perspective on the effect of cognitive behavioral therapy (CBT) which suggests that the primary contribution of CBT may not be, as previously believed, the reduction of negative, irrational thoughts and feelings and the repair of client’s cognitive dysfunction, but rather the enhancement of existing client strengths, or in terms of the model of depression pictured above, a sense of enhanced interpersonal competence. Other researchers have noted that the absence or diminution of negative thinking does not automatically lead to an increase of positive thinking—rather, the two mental states seem to exist relatively independently of each other (Watson & Clark, 1997). Karwoski and colleagues propose that these findings help explain the success of CBT, theorizing that CBT

may inadvertently induce states of hope, mindfulness, meaningfulness and creative “flow” in clients experiencing CBT as effective.

To sum up, the etiology of depression in children and adolescents is most likely a complex blend of biological, psychological, and social factors. There is substantial evidence that the development of a sense of personal incompetence and negative self-concept contribute to the growth of depressive symptoms (Cole, 1991). Further, there is evidence that such self-perceptions, whether positive or negative, becomes more dominant as a factor in depressive onset as children age from middle childhood to early adolescence. Reasons for this shift may have to do with changes in cognitive functioning from the concrete operational stage to the stage of formal operations (Cole et al., 2008). At the same time, there is evidence that a child’s self-concept becomes increasingly multi-dimensional as the child grows (Heath & Brown, 1999). Therefore, a therapy intervention that may add more positive elements to the child’s view of self-competence could well be especially effective during ages 11 to 14, a time in which children may be assumed to be undergoing significant transitions accompanying the onset of puberty. Interventions that can enhance feelings of positive emotion can include therapies that encourage inherent strengths and expression of positive qualities. As will be shown in the literature reviews that follow on sand tray, play and art, and therapies, a distinctive feature of each modality is its emphasis on positive experience and the encouragement of many of the life-changing states touched upon by Karworski, Garratt, and Ilardi (2006). In particular, these therapies foster a sense of mastery leading to increased hope, an experience of the “here and now” that encourages mindfulness, an opportunity to

reflect on meaningful life issues, and the ability to be creative in the construction of artistic and enjoyable projects.

Development of Sand Tray Therapy

Two therapists were instrumental in the development of a form of psychotherapy involving the placement of miniature objects in a shallow tray of sand. Differences in the theoretical approaches of these two people from the very beginning have led to a split in the ranks of modern psychotherapists using sand, miniatures, and a tray as part of their treatment repertoire. The split is reflected in the name given to this form of treatment. *Sand play therapy* or *sandplay therapy* are the names used by followers of Dora Kalff (1980), who was not the first person to put together the elements of sand and miniature objects, but was the first to apply principles of Jungian therapy to clients' work with sand. Therapists who do not consider themselves to be Jungian generally call the intervention *sand tray therapy*.

Historically, the first therapist generally credited with using sand tray therapy as a clinical intervention is Margaret Lowenfeld, an English physician and psychoanalyst. Lowenfeld, who opened a psychiatric clinic for children in London in 1925, credits her child clients for creating what she came to call "the World Technique." In the presence of their therapists, the children began placing miniature objects in the playroom's small sand box and telling stories about the scenes they had created. To Lowenfeld, the children had spontaneously created

an apparatus...which will give a child power to express his ideas and feelings...independent of skill and...capable of the representation of thoughts simultaneously and in several places at once...allow[ing] representation of movement and yet...sufficiently circumscribed to make a complete whole, combining elements of touch and sensation as well as sight. (Lowenfeld, 1979, p. 326)

Although Lowenfeld presented a number of papers about the World Technique and her work with children, her book containing her theories and applications of sand tray therapy, *The World Technique*, was published posthumously six years after her death, in 1979. In the book, Lowenfeld detailed her own early history and a description of how sand tray therapy developed in her clinic. The book also contained three detailed case studies of children she had worked with, including analyses of the sand worlds created by the children.

The second major force in the development of sand tray therapy was Dora Kalff. Kalff was a student of Carl Jung's and with Jung attended a psychiatric conference where both heard Lowenfeld present her World Technique (Weinrib, 1985). Encouraged by Jung, Kalff studied with Lowenfeld in London for several years. Returning to Switzerland, she began to develop her own technique using sand, water and miniatures, which she called "Sandplay" (Kalff, 1980). It should be noted that although Kalff practiced and spoke extensively about her method, her first (and only) book on the subject was not published until late in her life. As noted above, Kalff was quite emphatic about restricting the technique of offering clients miniatures and sand to therapists who practiced analytic (Jungian) therapy.

Violet Oaklander, a Gestalt therapist working primarily with children, introduced an emphasis on attending to the *process* of sand tray/sandplay, theorizing that sand tray therapy enables clients to process boundary disturbances, to help heal a sense of self damaged by early childhood experiences, to promote awareness of self and surroundings, and to address resistance to therapy (Oaklander, 1994).

In 1995 Gisela DeDomenico elaborated a therapeutic treatment that she called "Sandtray-Worldplay." Based on research she performed with normal preschool children, she

documented children's sand tray process as consisting of the creation of gradually evolving worlds, moving from chaotic, conflict-dominated trays to orderly scenes that she postulated reflected the child's growing awareness of her ability to experience both inner and outer worlds in a way that makes sense and tells a story (DeDomenico, 1995).

Research on Sand Tray Therapy

The first major use of sand tray therapy was as a diagnostic tool. Buhler, a student of Lowenfeld's, developed a standardized set of miniatures and recruited teams of researchers in five countries who asked children with a variety of clinical diagnoses to create worlds (Buhler, 1951). Buhler did not offer children a tray filled with sand in which to work but rather simply presented the collection of miniatures to a child who was asked to create a world using the available table- or desktop. The method, which Buhler called the "World Test," yielded consistent findings that Buhler published as evidence that such a method could with some accuracy diagnose forms of emotional disturbance or mental retardation. Bowyer (1970) followed up on Buhler's work with a much more detailed set of parameters for clinical diagnostic categories she inferred from a set of three worlds created by 76 clients ranging in age from 2 to 50. She collected her data over a five-year period from clients who had received a clinical diagnosis as well as "normal" participants.

More recent research using sand tray therapy to determine specific stages of development in childhood and adolescence has been conducted, chronologically, by Kamp and Kessler (1970), Denkers (1985), and Jones (1986). In general, these studies, which had sample sizes ranging from 80 to 300 subjects, found that the trays of children aged 12 and older were generally indistinguishable from trays created by adults. Two of these studies are

of particular relevance to the current research as they provide an instrument for documenting sand tray worlds that has been standardized with children and adults. Jones (1986) examined initial sand worlds of 185 children ranging in age from 11 months to 18 years. Jones expresses her research intent as determining the relationship between a child's age and the type of sand tray world produced, and also whether certain types of sand tray worlds could be matched with Piaget's developmental principles and chronological stages. She developed a checklist that permits therapists to note sand use, sand formation, and the placement and relationship configurations of the miniatures. She also developed separate scales to rate overall complexity and the percentage of the tray that was used in each world. She was able to demonstrate that a number of therapists were able to use her scoring system with significant reliability to determine the developmental level of a child making a sand tray world (Jones, 1986).

A related study conducted by Denkers (1985) aimed to test Jones' scoring system for sand tray worlds when used with adult sand trays. Denkers looked at initial sand worlds made by 74 adults ranging in age from 18 to 50. Although this study used adults and not children, Denkers' findings confirm Jones' work in creating scales to score sand tray worlds. Denkers used Jones' scoring system to correlate clients' scores on the clinical scales of the Minnesota Multiphasic Personality Inventory (MMPI) to specific types of sand tray worlds. Specific correlations from this research that appear relevant to the current study include the finding that females with a high score on the MMPI Depression Scale were significantly less likely to create boundaries by figure grouping in their sand worlds. Also, both men and women who had low scores on the MMPI Social Introversion Scale tended to use significantly more area

of the sand tray, leading Denkers to suggest that the amount of sand tray used might be a good indicator of psychological well-being. In general, Denkers concluded that “the world of creative expression found in sandplay is structured by coherent patterns...at each stage of development” (Denkers, 1985, p. 176).

Substantive quantitative research on the effectiveness of sand tray as a therapeutic modality has been limited. Unlike other interventions that have an empirical research base, such as cognitive-behavioral therapy, sand tray therapy has not been standardized or manualized so that large-scale therapeutic outcome studies can be performed. In fact, the founders of sand tray therapy maintained a strong bias against such quantitative research, believing that the process and outcome of this type of therapy was highly unique and could not be generalized beyond the individual client (Kalff, 1980; Lowenfeld, 1964). Kalff’s only book on the subject offers a brief introduction to the method followed by nine chapters detailing the sandplay process for nine of her individual patients. Lowenfeld, who wrote more extensively about her “World Technique,” stressed that the therapy process in both children and adults was “personal, idiosyncratic, massive, and multidimensional, by its nature incommunicable in words to others” (Lowenfeld, 1964, p. 45). Peery (2002), writing about Jungian psychoanalytic therapy in general, of which sand tray therapy is generally considered a subset, states, “A purely analytic approach would be difficult to separate from other theoretical approaches, and so an empirical research ‘contest’ between any approaches is likely to be somewhat misdirected” (p. 51).

In a discussion of “the role of empirical research in the future of sandplay,” Mitchell and Friedman (1994, p. 112), highlighted the ongoing debate between “the intuitive and

rational polarities” (p. 113) existing in the community of therapists who use sand tray interventions extensively. The debate is similar to that concerning other types of therapeutic interventions: one group is concerned that empirical research will force sand tray therapy into a rigid, manualized approach that would hamper a client’s free expression of self and the therapeutic relationship between therapist and client. The second group, favoring a formal research effort, believe that large-scale experimental-type studies would provide better understanding of the method and legitimize the integration of sand tray therapy into mainstream psychotherapy (Mitchell & Friedman, 1994).

Sand Tray Therapy and Enhanced Competence

As developed by Kalff (1980), sand tray therapy is intended to facilitate a client’s access of “active imagination,” a concept basic to the analytic psychology of Carl Jung. Active imagination is a process in which the client is encouraged to find ways to tap parts of the unconscious that can assist with healing. The primary source of healing, in Jungian analysis, is the archetype of the Self. Archetypes can be described (briefly) as patterns that are postulated to exist in the unconscious; certain images, art work and stories (largely folk tales or myths) present examples of these archetypes such as the Good Mother, the Terrible Mother, the Wise Old Man, the Lovers, and so on. Jungian sand tray therapists believe that the images clients choose for their sand worlds are often representations of various archetypes and that the worlds themselves can be expressions of the healing Self archetype. When the therapist detects such a Self world, the client is deemed to be well on the road to recovery.

One need not, however, accept Jungian theory in order to see sand tray therapy as a positive, even healing process. Boik (2000) in her book on sand tray therapy subtitled “A step-by-step manual for psychotherapists of diverse orientations,” points out eight other ways in which sand tray therapy offers therapeutic benefits. Among these is its ability to facilitate fantasy play, which encourages a sense of mastery. Boik writes, “Humans have a need and desire for play to free creativity, inner feelings, perceptions, and memories and bring them into outer reality” (p. 10).

Boik notes that sand tray therapy allows the creation of a *concrete* world that can be “viewed, touched, experienced, changed, discussed, and photographed” (p. 10). Although this quality of sand tray therapy is not explicitly discussed by proponents of positive psychology (Karwoski, Garratt, & Ilardi, 2006), the pure physicality of the sand world allows clients a strong here-and-now experience that may, as Boik states, facilitate rapid insight into issues.

A third therapeutic power of sand tray cited by Boik and connected to enhancement of positive experiences in therapy is the element of control that the creation of a sand tray gives to clients. “Because clients are actively and consciously involved in the healing process, they can overcome feelings of helplessness and inferiority” (p. 13). In addition to the control and power felt by clients during the creation of sand worlds, builders of sand worlds simultaneously experience the therapist’s acceptance and respect of whatever they choose to create. Therapists do not offer interpretations of the sand world, so clients are free to determine meaning for themselves, another powerful gift of the process.

Hunter (1998) who used sand tray therapy in working with boys from inner-city neighborhoods in New York City, cites four attributes that she observed as developing from the course of sand tray therapy with these clients: social competency, problem-solving skills, autonomy, and a sense of purpose and future. She writes, “Sand play presents a language that is active yet safe, silent yet resonant. It can make the mysterious and unspeakable vividly visible and understandable. Sand play, like story and the arts, provides...a country where fantasy and reality meet, where metaphor and image rule over fact and word” (p. 28). Further connections between all these worlds have been developed in research into play and art therapies, as follows.

Play Therapy in Relation to Sand Tray Therapy

Given that the research base for sand tray therapy is somewhat limited, for the reasons cited above, several other related therapies seem to provide additional evidence to legitimize this form of intervention and help integrate it into more widely practiced forms of psychotherapy. The first form of related therapy, which has perhaps the strongest empirical support to date, is play therapy. Sand tray therapy, as previously mentioned, is very often viewed as a subset of play therapy. Recent books presenting a variety of play-therapy techniques include chapters on sand tray therapy (Drewes et al., 2001; Gallo-Lopez & Schaefer, 2005; Homeyer & DeFrance, 2003). The history of play therapy, which is almost as old as psychotherapy itself, also parallels the development of sand tray therapy, with both having their roots in psychoanalytic theory.

Play therapy is usually described as being first attempted by Anna Freud and Melanie Klein in their early work with children in the 1920s (Landreth, 1991). Both used an approach

to children derived from the psychoanalytic theories of Sigmund Freud, but their approaches differed because each held a different view of the developmental level of children. Klein (1932) believed that the main psychological structures of the child—ego, superego and related defense mechanisms—were already developed in children and therefore the techniques of therapist neutrality and free association, as understood in adult analysis, could be used with children. Her main alteration for working with children was to substitute spontaneous play with toys for verbal free association as employed with adults.

Anna Freud (1965), in contrast, believed the ego and superego of the child were largely undeveloped. She saw the task of the therapist/analyst as helping to develop healthy psychic structures within the child through a strong, nurturing emotional relationship between child and therapist. To that end, she structured play sessions, rather than allowing them to be spontaneous, and interpreted the child's play within the session as being parallel to adult dreaming.

In the 1950s, Carl Rogers developed client-centered counseling as a counter to the deterministic bent of psychoanalysis. A similar approach to children came from the work of Virginia Axline, a student of Rogers. Like Rogers, Axline (1969) believed that her clients had an inherent ability to heal themselves. Therapy was centered on the ability of children to express their feelings freely through play and have those feelings accepted and ratified in a calm "holding space" of the therapeutic relationship.

Recent developments in play therapy include development of cognitive-behavioral models (O'Connor & Schaefer, 1983) and efforts to integrate play therapy into other interventions with parents and families (Gil, 1991; Guerney, 2001). Tenets of play therapy

have also been extended to work with adolescents (Gallo-Lopez & Schaefer, 2005) and adults (Schaefer, 2003). Another development in the past 10 years has been the use of directed play therapy for specific diagnoses of child and adolescent issues and problems, including post-traumatic stress (Adler-Nevo & Manassis, 2005), bereavement (Ayyash-Abo, 2001), conduct disorder (Elliott & Place, 1998), anxiety (Tyndall-Lind & Landreth, 2001), attention deficit disorder (Landreth, Homeyer, Glover, & Sweeney, 1996), domestic violence (Webb, 2003), and physical and/or sexual abuse (Gil, 1991).

Research on Play Therapy

As can be seen from the extensive literature concerning models, theories and uses of play therapy, the modality is widely accepted in the community of therapists working with children. However, research supporting the efficacy and effectiveness of play therapy is less prevalent. As with sand tray therapy, there have been relatively few studies that would pass a requirement that therapeutic modalities be empirically validated by large-scale studies using control groups and random assignment of subjects. For example, a recent meta-analysis of play therapy treatment outcomes (Bratton, Ray, Rhine, & Jones, 2005) reviewed a total of 180 play therapy research studies published between 1953 and 2000 and found that only 93 of the studies used control groups. Within this group of 93 studies, many provided incomplete descriptions of the research methods. Missing factors included details of the training level of play therapists; age, gender, and/or ethnicity of participants; ill-defined presenting problems; incomplete or unclear research procedures; and other incomplete characteristics. Another meta-analysis (Leblanc & Ritchie, 2001) attributes the bulk of problems with play therapy research to three factors: inadequate definitions of what

constitutes play therapy; research methodology that often relies on case studies, small samples, and uncontrolled studies; and inadequate or non-measurable determinants of treatment outcome.

Although there continue to be problems in the reporting of outcome studies of play therapy, a number of such studies are published each year, and a total of six meta-analyses of play and other child therapies have also been published since 1985. Two of these meta-analyses focus exclusively on play therapy outcome studies; the remaining four include play therapy outcome studies in their analysis but play therapy studies comprise less than 20 percent of the total studies included in those analyses.

The first meta-analysis to report exclusively on the outcomes of play therapy studies is by Leblanc and Ritchie (2001). The authors offer a meta-analysis of 42 studies, both published and unpublished, from which a total of 166 effects were reported. This meta-analysis found an average treatment effect of .66 standard deviations, which led the authors to conclude that play therapy appears to be as effective as non-play therapies in treating children experiencing emotional difficulties. The authors also found that there was a strong relationship between treatment effectiveness and the inclusion of parents in the therapeutic process, and that duration of therapy appeared to be related to treatment outcome, with maximum effect sizes occurring after approximately 30 treatment sessions. There was, however, evidence to show that the average effect size determined in the meta-analysis, which was .66 standard deviations, corresponded to approximately 13 play sessions. Therefore, continuing play therapy for 30 sessions creates a maximum treatment effect, but play therapy that continues for at least 13 sessions can have a significant effect.

Another meta-analysis of play therapy conducted by Bratton et al. (2005) looked at 93 controlled outcome studies published from 1953 to 2000 and found an overall treatment effect of .80 standard deviations for play therapy interventions. Findings were similar to Leblanc and Ritchie in that involvement of parents in the play therapy process produced the largest effects. Bratton et al. looked at slightly different aspects of research than Leblanc and Ritchie, such as the type of intervention used, defined as either humanistic-nondirective (such as child-centered in the Rogers/Axline model) or nonhumanistic-directive, such as behavioral, cognitive and directive interventions. The authors found a significantly larger effect for humanistic interventions but concluded that the finding should be viewed with caution as there was a large variance of number of studies in the two groups, with 78 percent of the studies coded as humanistic. This meta-analysis also found that optimal treatment effects were obtained in 35-40 sessions, but noted that many studies included in the analysis reported medium and large effect sizes with fewer than 14 sessions. Again, this finding seems to indicate that between 12 and 14 therapy sessions produce a significant effect, with benefits continuing to increase up to about 35 sessions, after which effects level off and begin to decline.

In an earlier and somewhat more detailed meta-analysis, Bratton and Ray (2000) note that there are more than 100 examples of play therapy case-study research published and another 82 published studies that could be considered experimental, defined as having at least one treatment identified as play therapy and employing pre and post measures. Of these studies, four directly addressed treatment of depressive symptoms in children and adolescents. In light of findings that cognitive-behavioral therapy is an empirically proven

intervention for depression, it is not surprising that one of these studies (Wilde, 1994) found significantly less self-reports of depression in tenth-grade students who had played a board game called “Let’s Get Rational” in group sessions once a week for seven weeks.

Of particular relevance to the proposed research is a study by Hannah (1986), which used a time-series single-case design to look at behavioral changes in children who participated in school-based play therapy over an 11-week period. The author stated that his reasons for selecting this research design included a concern about “sparse” research on play therapy (p. 2). Further, the author found methodological problems in the experimental and quasi-experimental research that had been performed on play therapy up to that time (the early 1980s). He proposed that a single-case design, if adequately structured, would be superior to therapy outcome research that attempts an analysis of variance between two randomized groups. The model upon which he based his study is an interrupted time-series design, adapted from other sciences, which evaluates the progress of each client, maintains the integrity of individual differences, allows persons to act as their own controls, and permits the potential for exhaustive replication.

Hannah selected individual behaviors to observe in each of ten children based on reports of the children’s teachers. His analysis of their behavior over the period of therapy intervention revealed that eight of the ten participants exhibited a significant and positive change in the targeted behavior. One student who was selected for observation and comparison analysis, but who did not participate in play therapy, showed a significant increase in undesirable behavior over the same time period.

Play Therapy and Enhanced Competence

Fall (1999) studied the effects of play therapy on 31 students in three schools; the children were randomly assigned to control or experimental groups and matched by sex and age. Although this study focused on children ages 5-9, not adolescents, and has a small overall n, the findings are compelling. After only six child-directed (client-centered) play therapy sessions, children who had participated in the intervention showed significant gains in counselor and teacher ratings on self-efficacy. In particular, children who had participated in play therapy showed improved coping skills and had acquired positive beliefs in their ability to control their behavior and emotions and, as a result, functioned more effectively in the school environment.

Major play therapy theorists and advocates have pointed out the functions of play in a therapeutic setting as being essentially the same as in sand tray therapy. That is, play allows clients to feel in control, to express themselves symbolically, and to enjoy the experience of fantasy and creativity (Landreth, 1991). Axline (1950) believed that play was healing because “it provides a secure relationship between the child and the adult, so that the child has the freedom and room to state himself in his own terms, exactly as he is at that moment in his own way and in his own time” (p. 68). These words seem to sum up the power of play therapy as an activity that provides hope, meaning, expression of creativity, and here-and-now awareness, all positive experiences that can offset and perhaps eliminate depressive symptomology by increasing the sense of interpersonal competence.

Art Therapy and Sand Tray Therapy

Art therapy is another form of therapeutic intervention very close in structure and purpose to sand tray therapy. While art therapy is generally regarded as focused on

permanent artistic creations of clients, including drawings, paintings and sculpture, some researchers have included sand tray creations as examples of therapeutic art work and as such, sand tray therapy has been the focus of a number of articles in such journals as *The Arts in Psychotherapy* and *The American Art Therapist* (Carey, 1990; Grubbs, 1995; Tennessen & Strand, 1998; Walker, 1998).

Art therapy, like sand tray therapy, had for many years a theoretical base that could best be described as Jungian or perhaps Freudian. Art therapists are trained to look for symbols and expressions of unconscious conflict in clients' artwork, and as has been the case with sand tray therapy, much of the outcome research reports for art therapy focused on the individual, qualitative case study (Saunders & Saunders, 2000). As in sand tray therapy, a debate continues within art therapy about the benefits of empirical, large-scale, quantitative outcome research (Burleigh & Beutler, 1997).

Saunders and Saunders (2000) designed a large-scale art therapy program within a multi-program, private, nonprofit human service agency in Des Moines, Iowa. Conducted over a period of three years, the research collected pre-and post-test data for 94 clients ranging in age from 2 to 16 years. The researchers were looking at two specific variables—positive change in the relationship between client and therapist, and decrease in the severity and frequency of the presenting behavioral problems of the youth in the program from intake to exit. Their methods included pre-test reports by therapists, clients and caregivers on the severity and frequency of 24 common problem behaviors ranging from nightmares to sexual acting-out. After the first art therapy session, therapists evaluated each client on seven indicators of the client's level of rapport with the therapist. When each client exited the

program, therapists again interviewed clients and caregivers with the same 24-behavior checklist and also used the same seven-item instrument to indicate their assessment of client rapport with the therapist. Significant changes in positive directions were found for both the degree of rapport with the therapist and decrease in severity and frequency of problem behaviors.

In discussion of their findings, Saunders and Saunders attributed the changes largely to “one of the central features of art therapy...its ability to help children become more communicative about their feelings and less likely to either internalize them in unhealthy ways or to act them out in destructive ways” (p. 105). Although this study has at least one obvious weakness--the lack of a control group that would permit comparison of the effect of the passage of time on problem behaviors--it offers convincing empirical evidence that art therapy, which is largely nonverbal, can be an effective intervention for behavior change as well as enhancement of the therapeutic relationship.

Another study by Rousseau et al. (2005) looked at the effect of a creative expression program using drawing, story-telling and education on culture-specific myths and stories. The program was based in two elementary schools and involved 138 children from a variety of immigrant and refugee backgrounds who attended a series of 12 workshops. Due to scheduling requirements in the schools, random assignment was not used to determine participation in the creative workshops versus a control group that did not attend the workshops. Pre and post tests of children’s emotional and behavioral symptoms were obtained from children’s self-reports and from teachers. Children also completed a self-esteem scale before and after the series of workshops. The researchers report significant

improvements for participants in the creative workshops as compared to the control group, with the greatest gains found in reduction of externalizing symptoms and increases in feelings of popularity and happiness/satisfaction (measured by self-report). Reduction in internalizing symptoms, including depression, was also significant for the experimental group, although not as great as for externalizing symptoms.

Art Therapy and Enhanced Competence

Traditionally the creative process, which is directly tapped in art therapy, is described as being energetic and productive. Csikszentmihalyi (1990) names art—and also play—as major sources of “flow,” which he defines as “the process of achieving happiness through control over one’s inner life” (p. 6). Art therapists have written that the use of expressive arts in therapy allows clients to view themselves in new ways, to offer potential resolution to conflicts, to activate inner resources for healing, and to actively engage in a positive relationship with the therapist (Hadley, 1997).

As can be seen in the more empirical, large-scale studies of art therapy as described above, successful experiences with art therapy can lead to the development of positive states similar to those achieved through sand tray and play therapies. Results over time (as much as three years in Saunders & Saunders, 2000) show that the positive states achieved through art therapy interventions can lead to reduction of a variety of symptomology, including symptoms of depression.

Summary of Findings for Sand Tray, Play, and Art Therapy

Throughout the literature supporting sand tray, play, and art therapies, the same themes evolve. Client strengths and abilities are enhanced. Therapeutic techniques encourage

placing client problems “out there,” at a remove from the client so that the problems can be seen, understood, and eventually overcome. Creativity and playfulness within therapeutic sessions help clients summon internal resources and develop a reservoir of problem-solving skills. Within a therapeutic process that is largely client-directed, clients experience feelings of mastery and control.

Direct evidence that these types of therapy increase feelings of interpersonal competency is limited in the literature as reviewed above. Support for the efficacy of these therapies specifically in the treatment of depression comes from published reports of case studies that do not attempt to parse out components of treatment. For example, Lowenfeld (1979) reported work with a 13 ½ year-old boy who had depressive symptoms after his maternal grandmother began living with his family. Lowenfeld describes the first two sand worlds the boy made as appearing lifeless; the boy was completely nonverbal as he worked on the worlds. By the fifth session, however, he had begun saying “yes” and “no” in response to questions. Lowenfeld comments that making sand worlds “seemed to give him a chance to start communicating again at his own pace” (p. 151), and ends her discussion by saying that after another three sessions he “seemed strong enough to stop treatment.” It is perhaps because modern therapists have become impatient with the vagueness and generality of such case reports that more precise research techniques are being sought, which leads to the relevance of single-case research design.

Single-Case Design

Why is the single-case design an appropriate choice for sand tray therapy? Sand tray therapy is most often offered to clients as a nondirective or client-centered form of therapy. Specifically, the therapist does not tell the client what objects to put in a sand-tray world, nor does the therapist offer his or her own interpretation of any part of the sand tray creation process or the appearance of the sand world at the end of the creation process (Boik, 2000). Because the client is totally in charge of the sand tray therapy process, the therapy session itself can be as unique and unpredictable as individual clients can be. For this reason, researchers who report on process and outcome in sand tray therapy generally have not attempted to standardize or manualize the sand tray therapy process. In fact, there appears to be strong opposition in a large segment of the community of sand tray therapists to the idea of creating a “one size fits all” type of sand tray therapy that would be similar, for example, to manualized forms of cognitive-behavioral therapy for the purpose of conducting large-group outcome research. (Kalff, 1980; Mitchell & Friedman, 1994).

At the same time, therapists who decide to use sand tray therapy are becoming increasingly aware that use of this modality is not supported by empirical evidence defined as consistent findings from studies with large numbers of participants assigned randomly to either control or treatment groups. Positive results of such studies are generally cited in support of specific interventions, which are known as evidence-based psychotherapies (Kazdin & Weisz, 2003). The proposed research offers what could be considered middle ground between the qualitative and individualistic case study and the large-scale, random-assignment, manualized approach to therapy evaluation. The method that meets this definition is the single-case research design.

There is a growing awareness of the utility of the single-case design in showing efficacy of specific treatments. The American Psychological Association (APA) referenced research using the single-case design as being a method of identifying effective psychotherapy (APA, 2008). More recently, an APA-published guide to this design stated, “The practitioner-generated case-based time-series design with baseline measurement fully qualifies as a true experiment and ...it ought to stand alongside the more common group designs (e.g., the randomized controlled trial, or RCT) as a viable approach to expanding our knowledge about whether, how, and for whom psychotherapy works.” (Borckhardt et al., 2008, p. 77). In the field of child and adolescent psychotherapy, practitioners and well as researchers appear to be increasingly interested in learning how to conduct single-case research, for example, the International Association of Play Therapy in its 2007 annual conference included a workshop on the role of single-case design in demonstrating play-therapy effectiveness (Baggerly & Ray, 2007).

In this section I will present a brief history of the development of single-case research, addressing the issue of whether there is support in the literature for reliance on reports of internal states (such as depression), rather than on quantification of external, observable behavior, to generate data to evaluate the effect of sand tray therapy in treating depression.

Single-case research methods in psychology can be traced back to the work of Freud, Pavlov, and Skinner (Long & Hollin, 1995). The development of applied behavior analysis in the late 1960s led to a flow of scholarly work and journals dedicated to presentation of findings obtained using single-case research design. The use of single-case research

specifically to investigate psychotherapy outcome has found broad support in the literature (Barlow & Hersen, 2008; Barlow, Nock, & Hersen, 2008; Borckardt et al., 2008; Horner et al., 2005; Kazdin, 1982).

Because the single-case design developed out of behavioral psychology, its early use in psychotherapy outcome research focused on behavioral therapy interventions that emphasized the direct measurement of target behaviors that were observable to the researchers, e.g. effect of obtaining a positive reinforcement (praise) on time spent seated in the classroom. For many years, adherents of single-case designs held that cognitive or emotional changes as the result of therapy interventions could not be assessed reliably as such changes could not be directly observed by the researcher (Barlow, Nock, & Hersen, 2008). More recently, “behavior” has been more broadly defined; Lundervold and Belwood (2000), who describe the single-case design as a “scientifically credible means to objectively evaluate practice and conduct clinically relevant research” (p. 92), state that the target of change in single-case research can include “overt speech, scores on self-report questionnaires, daily self-ratings, motoric behavior, or physiologic responses” (p. 94). Barlow, Nock, and Hersen (2008) state that use of self-reports, including scores on self-report questionnaires, can be measures of important aspects of behavior that are not otherwise accessible to researchers.

Among the research studies that have been published that rely on self-reports as the source of data is a study by Botella, Banon, Villa, Perpina, and Garcia-Palacios (2000). In this study, the targeted behavior for change was the self-report of feelings of claustrophobic fear. Four participants with claustrophobic fear provided a daily record of the level of their

fear of closed places using a scale that ranged from 0 (no fear) to 10 (extreme fear). The design was multiple baseline across subjects, in which the four participants provided ratings during baseline periods ranging in length from 9 to 15 days. After the baseline, a cognitive-behavioral treatment began and all participants continued to provide daily ratings of fear. Three standardized assessments relying on self-report were also administered pre- and post-treatment. Results showed decreases in all measures; in accordance with customary practice in reporting results in single-case analysis designs (Kazdin, 1982), results were presented graphically.

Another study relying on self-reports of fear to determine results targeted participants' fear of movement after a back injury before and during a treatment of graded exposure to movement (Vlaeyen, de Jong, Geilen, Heuts, & van Breukelen, 2001). Four patients with chronic back pain provided self-reports of their level of pain-related fear, their cognitive distortion of pain and their control over pain, and their level of disability due to pain. These self-reports were created by the researchers specifically for the study and consisted of 11 statements (i.e., "I only walk short distances because of my pain") for which patients were asked to rank their agreement on a scale of 0 (do not agree) to 100 (totally agree). After a baseline period, patients received a sequence of two treatments to reduce fear. The first treatment was a cognitive-behavioral graded exposure in vivo; the second treatment was a graded activity program. The sequence of treatments was reversed for two patients so an evaluation of the effectiveness of the order of treatment could be made. Results revealed that improvements in pain-related cognitions and fears occurred only during the graded

exposure in vivo phase of treatment, irrespective of the treatment order. Results were analyzed both through visual inspection and by using an autoregressive time series model.

This study demonstrates several features of recent single-case designs that apply to the proposed research, including the reliance on self-reports for data and the creation of a shortened form of standardized assessments to provide a daily measure of the targeted behavior. The study also reports data in both statistical and visual form which both show significant change for the graded exposure in vivo treatment as compared to the graded activity treatment and baseline.

The presence or absence of psychotic delusions as reported by participants was the targeted behavior in an experimental single-case analysis on five people (Jakes & Rhodes, 2003). The patients were initially assessed in clinical interviews as having a chronic psychosis and a chronic delusion. Each patient reported weekly on their particular delusion for a baseline period, which ranged from four to nine weeks. The self-report was in the form of Likert scales; an 9-point scale assessed the degree of conviction in the delusional belief, ranging from 1, absolutely certain the belief is false, to 9, absolutely certain the belief is true. The researchers also asked for the level of preoccupation with the belief and for the level of emotional distress on two separate 5-point scales. These weekly measures were collected over a period of about one year of treatment with three successive forms of therapy, beginning with solution-focused therapy, then moving to schema-focused therapy and ending with cognitive therapy that actively challenged each patient's delusion. Results, which were presented visually and were not statistically analyzed, showed that two clients improved during solution-focused therapy, one client improved during cognitive therapy that

challenged the delusion and one client improved during the baseline period. The relevance of this study to the proposed research is in its reliance on self-reports and also its use of a short baseline period (in one case only four weeks which yielded four data points). This study also relied solely on visual inspection of the data.

A study reporting on the effects of cognitive behavioral treatment on symptoms of post-traumatic stress disorder (PTSD) and major depression relied on six standardized self-report assessments to show whether symptoms decreased over the course of treatment (Nishith, Hearst, Mueser, & Foa, 1995). The study reported on a single participant who was assessed on measures of PTSD, dissociative experiences, anxiety, and depression at five points in the 24-session treatment. The point of the study was to illustrate how periodic assessment of symptoms can facilitate appropriate treatment decisions, as the assessment after session 18 showed little change in symptoms but assessment after an additional six sessions of a different CBT technique resulted in dramatic positive change.

A study of the use of a cognitive defusion technique to reduce negative thoughts (Masuda, Hayes, Sackett, & Twohig, 2003) relied on self-reports of the discomfort and believability of negative thoughts that were self-generated. Participants were asked to assess their negative thoughts on two scales in which responses could range from 0 (not at all uncomfortable or not at all believable) to 100 (very uncomfortable or very believable). Eight volunteer female college students participated in an alternating-treatment design in which, after a baseline period, participants were randomly assigned to either a cognitive fusion treatment or a “thought control” comparison condition. Cognitive fusion, as described by the authors, requires repeating a single word over and over until it essentially loses its meaning.

The results of treatment were shown visually, with discomfort and believability scores graphed as reported at the conclusion of each session. Scores for both discomfort and believability were shown as lower for each subject for the cognitive fusion sessions as opposed to the thought-control sessions. This design would be described as a multiple-treatment design (Kazdin, 1982) in which the effectiveness of the experimental treatment, the defusion intervention, was supported as effective because the participants performed (in this case, reported feelings) differently under the different treatment conditions.

In considering these studies, it is clear that the methodology of the single-case analysis can be used to study clinical issues in which the primary source of data is some form of self-report by the participant. Most often in the studies cited, several types of self-report data were collected, ranging from one-item daily ratings to much longer standardized questionnaires completed on a periodic, but not daily, basis. In addition, these studies reveal variability in the use of statistical analysis, with several studies relying solely on visual presentation of the data. Further, the use of single-case analysis to address a variety of issues, ranging from perceptions of pain to psychotic delusion, show that it is possible to measure and assess the results of therapeutic interventions such as might be offered in “real life,” in a psychotherapy office or clinic.

Authors who review research using single-case design make the point that this method lends itself to use by clinicians who would like to evaluate their work with individual clients but lack the resources to put together a large-scale study with random assignment of participants. For example, Kazdin (1982) writes,

Single-case designs represent a methodology that may be of special relevance to clinical work. The clinician confronted with the individual case

can explore the effects of treatment by systematically applying selected design options. The net effect is that the clinician can contribute directly to scientific knowledge about intervention effects and, by accumulating cases over time, can establish general relationships otherwise not available from uncontrolled cases. Clinical research will profit from treatment trials where interventions are evaluated under the usual circumstances in which they are implemented rather than in academic or research settings (Kazdin, 1982, p. 15).

Reasons for learning and implementing single-case research designs may be even more critical than when Kazdin (1982) wrote, as the profession of therapy remains pressured to produce results that are evidence-based. While there seems to be a tendency to interpret an “evidence-based” treatment as one that has been shown to be statistically effective in one or more large-scale studies with participants randomly assigned to treatment vs. control conditions, it can also be argued that carefully designed single-case studies provide a similar evidence base to support therapy interventions that may not be easily reduced to a set of manualized instructions. Lundervold and Belwood (2000) state that education and training of counselors must change focus to provide instruction in “practice-relevant evaluation and research methods” (p. 92).

For these reasons, the use of the single-case research design in the proposed study would not only add to the evidence base to support the effectiveness of the treatment modality being studied but would also provide a model for research for other clinicians as well as illustrate by example that this type of research is eminently practicable within the framework of an individual counseling practice.

Summary of Literature Review

This literature review has focused on the history and research of three related types of therapy interventions: sand tray therapy, play therapy, and art therapy. Each intervention has

amassed a substantial body of research but with a few exceptions, this research has been on the order of the qualitative case study. Arguments may be made that the case study is appropriate for each of these interventions due to the highly individualistic nature of the therapy; that is, the process of therapy almost always follows the lead of the client, using material produced by the client within each session. For this reason, proponents of these forms of intervention generally argue that it would be impossible to design and execute research studies comparable to those used to investigate cognitive-behavioral therapy (CBT). CBT lends itself more readily to large-scale studies because CBT has been standardized into manuals, which can be used by a large number of therapists treating a large number of clients, all of whom are presupposed to be participating in essentially the same therapy process.

The fact that sand tray, play, and art therapies lack the type of research support garnered by CBT does not, however, seem to greatly affect the use of these therapies by clinicians. The presence of such a disconnect between dominant trends in research and in practice is not unusual (Heppner & Lee , 2002); however, in these days of increased demand for evidence-based interventions, the existence of clear research support for these types of interventions would be a good thing. This literature review, therefore, includes an appraisal of single-case research methodologies, which may be a solution for clinicians as well as researchers who are in search of more support for these treatment modalities.

A further argument for the choice of a single-case design in this study is that this methodology can and perhaps should be more widely taught in counselor education programs. The research methodology is theory free and can be used to evaluate any form of

intervention. The design is flexible and can be used in almost any practice setting. If more counselors are provided with details of this methodology, they may be more likely to use it as a basis for treatment decisions, thereby improving counseling effectiveness. Finally, counselors who learn and understand this methodology can follow the scientist-practitioner model, resulting in more effective and empirically supported therapeutic interventions (Lundervold & Belwood, 2000).

CHAPTER 3: METHODS

The procedural problem of this research is to examine the process and outcome of sand tray therapy as a treatment for symptoms of depression as experienced by young people in the stage of early adolescence. A basic theoretical assumption is that the process of sand tray therapy is a positive experience that leads to increased feelings of interpersonal competence. Further, this research looks at the process of sand tray therapy, examining a number of factors that may contribute to the overall effectiveness of this form of nonverbal, expressive therapy. To this end, participants evaluated each therapy session in terms of emotions experienced during the session, enjoyability of the session, and perceptions of the other person in session. This assessment was intended to provide a more detailed analysis of the process of this therapy over time as well as the ways in which this therapy was perceived by participants and their therapist.

Details of the study contained in this chapter include statement of research questions, basic research design, selection of subjects, selection of variables to be measured, instruments used in measurement, procedures for therapy, and methods of data analysis.

Research Questions

The study is guided by the following research questions and related hypotheses:

1. Will therapy participants who complete 14 sessions of sand tray therapy experience a significant change in self-reported depressive symptoms?

1a. Therapy participants who complete 14 sessions of sand tray therapy will report improvement in depressive symptoms that will appear as significant in a visual analysis.

2. Will changes in depressive symptoms over the 14-session period of therapy be supported by significant changes in scores on standardized questionnaires completed every two weeks by participants and parents?

2a. There will be a decrease in depressive symptoms over the 14-session period of therapy as revealed by visual analyses of changes in scores on standardized questionnaires completed by participants and parents every two weeks.

3. Will there be a steady improvement in the reduction of depressive symptoms through the duration of the therapy process or will there be fluctuations?

3a. Depressive symptoms as measured by self-report will steadily decrease throughout the period of the intervention.

4. Will changes within the process of therapy, as measured by a post-session questionnaire given to participants and the therapist at the end of each therapy session, be reported by participants and the therapist, and will participants and the therapist report similar changes or will their perceptions be different?

4a. Participants and therapist will report similar types of changes within the process of therapy, with steadily increasing scores on the 9 process rating items.

5. Will participants show an increase in positive self-concept as measured by the Piers-Harris Self-Concept Scale administered pre- and post-treatment?

5a. Participants will show a significant increase in positive self-concept as measured pre- and post-treatment.

Research Design

Following established single-case research design, the basic structure of the study is the establishment of a baseline measurement for depressive symptoms followed by administration of the treatment of sand tray therapy with measurement of depressive symptoms throughout the process of treatment. Each of the four participants was assigned a different baseline period determined by randomly assigning each participant to a start date of between 6 and 18 days after the initial session. The primary measurement was a five-question survey given every other day; therefore the baseline period ranged from three to nine data points. This design is a multiple-baseline single-case analysis (Kazdin, 1982) that has been shown to demonstrate experimental control when used with three or more subjects (Horner et al., 2005). Length of the treatment phase was 14 weeks, which provided a minimum of 42 separate data points (14 weekly sessions times 3 assessments per week) for the five-question symptom questionnaire. In addition, participants and parents each completed the relevant version of the Children's Depression Inventory (CDI) at every other session, providing a total of 8 data points for that measure.

Information about participants was collected before the start of treatment using several standardized questionnaires given to both the participant and his or her mother plus a semi-structured interview with each participant. One purpose of the pre-test questionnaires was to determine if any potential participant had significant co-morbidities that might confound results or was so severely depressed that it would be unethical to withhold treatment for the baseline period. In addition, the investigator/therapist assigned a Global Assessment of Functioning (GAF) score to each participant before treatment begins and at the conclusion of each therapy session. Therefore, during the treatment phase of the study

four separate measures of each participant's level of depressive symptoms were collected: one measure was the five-question symptom check administered three times a week; the second measure was a standardized questionnaire self-report, the CDI; the third measure was the CDI Parent Version; and the fourth measure was the weekly GAF completed by the therapist

Three separate standardized assessments were collected for each participant at the beginning and end of the study. These were the Behavior Assessment Scale for Children, 2nd Edition (BASC), completed by both the parent and the child, and the Piers-Harris Self-Concept Scale.

Another source of information in this study came from a therapy process questionnaire comprised of nine questions that was developed by the investigator/therapist as detailed below. Participants' answers to this questionnaire were examined and specific attention given to participants' reports of shifts and changes in their perception of the therapy process.

Finally, each therapy session was video recorded in its entirety. These videos serve two purposes. The first purpose is to allow a qualitative analysis of the therapy process of participants. This qualitative portion of the study provides a link between the theory basis of the study and the actual sand-tray creations of the participants. The work of two of these participants especially, when examined in depth, seems to offer support for the theoretical constructs of the study, specifically that creation of sand-tray worlds seem to provide a sense of control to participants and also gives participants a concrete method to illustrate and

examine, at a relatively safe distance, emotional issues that may be contributing to ongoing depressive symptoms.

The second purpose of the video record is to provide a reliability check on the therapy process as random sequences of video from each participant's sessions have been viewed by an experienced sand tray therapist who was blind to the overall purpose of the research. This therapist performed random checks on the videos to check for compliance of the primary investigator with the stated research protocol.

Participants

One of the strengths of single-case analysis is that subjects act as their own controls; therefore fewer subjects overall need to be recruited. At a minimum, two participants are needed for the design used in this research, which is a multiple-baseline across-participants design (Morgan & Morgan, 2009). In this study, a total of four participants were recruited. Three participants completed the full 14 therapy sessions of the study, with one participant completing a total of 12 sessions. Participants were recruited through a network of private mental health practitioners in northern Virginia as well as guidance counselors at six private Catholic schools in the same area. The initial contact with parents of participants was by means of a flyer that was distributed to private mental health offices and the Catholic schools. Parents then contacted the investigator/therapist directly to be enrolled in the study.

Inclusion and Exclusion Criteria

Basic requirements for inclusion in the proposed study were being 11 to 14 years old at the time the study began and parent/guardian and participant commitment to participating in the entire schedule of treatment. In the initial telephone screening, parents were asked

about any previous behavior or expressed intent to self-harm in their child. No such behavior was reported. At the intake appointment, parents and participants completed the appropriate form of the Behavior Assessment System for Children-2nd Edition (BASC) to determine the presence of any severe mental health condition, which would be a criterion for exclusion from the study as well as referral for immediate treatment. No participants scored in a range to indicate the presence of any such severe condition.

Participants were also assessed with the Children's Depression Rating Scale-Revised (CDRS-R) and if any participant had achieved a T-score of 75 or above on that measure, he or she would also be excluded from the study and referred for immediate treatment for depression. No participants achieved such a score.

Measures

Telephone screening interview. When parents called to indicate interest in the study, the investigator/therapist conducted a brief telephone screening interview with that parent by phone. A copy of the screening interview protocol appears in Appendix C. The purpose of this interview was to provide preliminary information to parents and to determine whether inclusion in the process would be appropriate for the participant, e.g. participant's level of distress and/or ability of parent and child to commit to a 14-week study.

Initial developmental history. Essential intake information was obtained through a semi-structured interview based on the categories assessed in the BASC Structured Developmental History for Children. Questions were asked of a parent or guardian in a interview conducted in the absence of the child to obtain information about the following issues: family structure and history to determine the child's living arrangements as well as

whether the child had experienced any parental separations, divorce, or death; developmental history to determine complications of pregnancy and delivery and child's age at attainment of significant milestones such as crawling, walking, and talking; a brief medical history to determine the existence of chronic medical issues and/or use of any medication for an extended period; and a brief educational history to assess specific problems with school such as poor academics, peer conflicts, and/or behavioral problems. This information was roughly comparable to what the investigator/therapist routinely obtains in intake interviews before beginning regular psychotherapy with a child. An outline of the parent interview appears in Appendix D.

Behavior Assessment System for Children (BASC) (Reynolds & Kamphaus, 2004). The BASC is a multi-method approach to evaluate the behavior and self-perceptions of children and adolescents. The BASC offers self-report questionnaires at three age levels: child (8 through 11), adolescent (12 through 21) and young adults (18 through 25). All children's self-reports are written on approximately a third-grade reading level. Questions require either an answer of True or False, or a rating on a four-point scale. The test takes approximately 20 to 30 minutes to complete. Given the fact that the age range in the proposed study straddles two of these levels, the youngest age level will be given to participants. There should be few problems with using this level as the items overlap to a considerable degree and the composite scales for child and adolescent are the same (Reynolds & Kamphaus, 2004).

The BASC has 18 primary scales, including Depression, Self-Esteem, Self-Reliance, and Sense of Inadequacy, and five composite scales: Emotional Symptoms Index,

Inattention/Hyperactivity, Internalizing Problems, Personal Adjustment, and School Problems. For the self-report, internal-consistency reliabilities for the composite scales range from .84 to .96; internal-consistency reliabilities of the individual scales are also high, with median values near .80. Test-retest reliabilities are somewhat lower but are above .70 for all scales. In terms of validity, internal validity measures show moderate to high values, with r values generally ranging from .50 to .86 depending on the scale. External validity is less robust; the BASC self-report for children has a correlation of only .29 between the Depression scale and the total score of the Child Depression Inventory (CDI). Reynolds and Kamphaus (2004) attribute this value to the difference in construction between the assessments; whereas the BASC generally requires a choice of either True or False, the CDI requires a choice between three options, which may have been confusing to younger children

The parent form of the BASC contains 23 primary scales and five composite scales: externalizing problems, internalizing problems, adaptive skills, school problems, and behavioral symptoms index. There are forms for each of three age levels: preschool, child, and adolescent. The parent form takes about 10 to 20 minutes to complete and is written at approximately a fourth-grade reading level. Internal-consistency reliability for the parent form is very high, ranging from the middle .80s to the high .90s. Test-retest reliability is also high, from the low .80s to the low .90s. Inter-rater reliability is somewhat lower, with a median of .69 for the child age level. Validity measured as scale inter-correlations and factor structure is lower for the parent form than for the self-report, with r values ranging from .22 to .80 depending on the scale. The BASC parent form has been found to be highly correlated with the Achenbach Child Behavior Checklist (ACBC), for example the correlation between

the BASC Behavioral Symptoms Index and the ACBC Total Problems score ranges between .73 and .84; the Internalizing Problems score correlations are somewhat smaller but still high, ranging between .65 and .75 (Reynolds & Kamphaus, 2004).

Children's Depression Rating Scale, Revised (CDRS-R) (Poznanski & Mokros, 2005). The CDRS-R is a form of the Hamilton Rating Scale for Depression that has been written for children and adolescents. It is in the form of a clinician-administered semi-structured interview, with 17 symptoms of depression, 14 of which are based on the client's self-report and three are symptoms observed by the clinician. Self-reported symptoms are anhedonia (difficulty having fun), social withdrawal, sleep disturbance, appetite disturbance, excessive fatigue, physical complaints, irritability, excessive guilt, low self-esteem, depressed feelings, suicidal ideation, and excessive weeping. Symptoms observed by the clinician in the course of the interview are depressed facial affect, listless speech, and hypoactivity. T-scores of 55 and above are suggestive of a depressive disorder; a T-score of 75 or above is considered to indicate a serious depressive disorder that requires further evaluation and/or immediate intervention. The symptoms are rated on a seven-point scale; administration takes approximately 15 to 20 minutes. Measures of reliability and validity are reported to be high (Frazier et al., 2007). Scores are reported as raw scores, ranging from 17 to 113, T-scores, and percentiles.

Child Depression Inventory-Short Form (CDI) (Kovacs & MHS Staff, 2003). The CDI is a 10-item modification of the Beck Depression Inventory designed for use with children aged 7 to 17. It requires a first-grade reading level. Each item consists of a list of three statements representing levels of severity of a common symptom of depression. Item

choices are assigned a numerical value from 0 to 2. High scores on the CDI indicate higher levels of depression; the highest possible score is 54. The cutoff score for a level of clinical depression is considered to fall between 12 and 19 (Kovacs, 2003). The CDI was developed from the longer CDI, which is the most widely used self-report measure of depressive symptoms in children (Nolen Hoeksema , Larson, & Grayson, 1999). Internal consistency reliability of the CDI has an alpha reliability coefficient of .8628; internal validity for the CDI is comparable to that of the CDI, which is greater than .80 (Bailey, Zauszniewski, Heinzer, & Hemstron-Krainess , 2007). CDI scores correlate positively with scores from the Revised Children’s Manifest Anxiety Scale and negatively with scores from the Coopersmith Self-Esteem Inventory (Bailey et al., 2007). The CDI is especially suited for research use as it eliminates any questions about suicidal thinking, which typically trigger concern from institutional review boards for the use of human subjects.

CDI-Parent Version (Kovacs & MHS Staff, 2003). The CDI-P is a 17-item questionnaire with items that correspond to items on the CDI, but rewritten to be appropriate for parents answering about their child. The items focus on observable manifestations of depression, such as “My child looks sad,” “My child does what he or she is told,” and “My child has disagreements and conflicts with others.” Internal consistency reliability of the CDI-P, assessed with Cronbach’s alpha, range from .76 to .89. The CDI-P has been shown to have significant discriminative and concurrent validity. Of interest to the proposed study is a finding that scores from the Piers-Harris Children’s Self-Concept Scale and the CDI correlated at .66 (Kovacs et al., 2003). The range of scores on the CDI-P is 0 to 51; the cut-

point for determining a clinically significant level of depression has been determined to fall between 17 and 20, corresponding to a T-score of 59 to 61 (Kovacs, 2001).

Global Assessment of Functioning. Also known as the Global Assessment Scale, this measure is a rating scale for evaluating the overall functioning of a person on a continuum from psychological/psychiatric sickness to health. Ratings can range from 1 (the lowest value, therefore the sickest or most disturbed rating possible) to 100, a rating that would be given to a person at the absolute peak of healthy psychological functioning. The GAF has been established as both highly reliable and possessing high concurrent and predictive validity (Hilsenroth et al., 2000). For the purposes of this study, the GAF provides a quantification of the primary investigator's clinical observation of each participant over time. This measurement is used as a descriptor, in the same manner as the scores on the CDI and the CDI-P, to offer additional information about the rate of change of symptoms in each participant over time.

Piers-Harris Self-Concept Scale, Second Edition (Piers-Harris) (Piers & Herzberg, 2002). The scale provides a rating of positive self-concept on a continuum from below average to above average. Its subscales include physical appearance and attributes; freedom from anxiety; intellectual and school status; behavioral adjustment; happiness and satisfaction; and popularity. The Piers-Harris has been used worldwide in different settings and its validity and reliability are well established (Rousseau et al., 2005). The Piers-Harris 2 contains 60 items and is written at a second-grade level. Studies of its internal consistency reliability report alpha, KR-20, or split-half coefficient values ranging from .88 to .93, and a

large body of evidence supports the construct, content, and criterion validity of the Piers-Harris (Piers & Herzberg, 2002).

Process-oriented therapy assessment – participant and investigator/therapist. This assessment was developed by the investigator/therapist. A survey of available standardized session assessments reveals a lack of an appropriate standardized instrument for the study. Standardized session assessments seem to focus either on the client's perception of the therapeutic relationship (Bachelor, 1991; Cecero, Fenton, Nich, Frankforter, & Carroll, 2001; Tichenor & Hill, 1989) or on elements of the therapy process that are largely (if not exclusively) verbal, that is, directly reflecting words spoken by client and therapist during the session (Duncan et al., 2003; O'Malley, Suh, & Strupp, 1983; Rounsaville et al., 1987). Relationship measures include the California Psychotherapy Alliance Scales, the Penn Helping Alliance Rating Scale, the Vanderbilt Therapeutic Alliance Scale, and the Working Alliance Inventory (Cecero et al., 2001). Measures that focus more on the nature of the session as opposed to the relationship include the Vanderbilt Psychotherapy Process Scale (which also measures the patient/therapist relationship) and the Session Rating Scale, a very short (four item) measure developed by Duncan et al. (2000) and designed for brief verbal psychotherapy.

This study attempted an evaluation of a therapy modality that is almost totally nonverbal; further, participants in the research were quite young and presumably less reflective and analytical than adult clients of psychotherapy. Therefore a customized session assessment seemed appropriate. Such a measure, however, lacks the strength of previously developed measures that have been evaluated for reliability and validity. On the other hand,

there appeared to be some value in presenting clients with a rating instrument that would make sense to them in the light of their specific experience with sand tray therapy.

It is possible to increase the likelihood that a customized session assessment would have some measure of both reliability and validity by basing such a measure on psychotherapy session factors that have previously been tested. For example, O'Malley et al. (1983), in reporting on the development of the Vanderbilt Psychotherapy Process Scale, isolated seven separate elements of the therapy process: patient participation, patient hostility, therapist warmth and friendliness, negative therapist attitude, patient exploration, therapist exploration, and patient psychic distress. These elements were developed into a session rating scale that both client-participant and therapist completed at the end of each session. In addition, the session rating scale included specific questions to measure the participant's experience of mastery, control, expressivity and creativity, feelings that were hypothesized to increase over the course of therapy as stated in the Research Hypotheses. The resulting therapy session assessment scales appear in Appendix E .

Short Depressive Symptoms Questionnaire (SDSQ). Frequent measurement of the targeted outcome, in this case symptoms of depression, is an essential feature of single-case research design. Standardized assessments of depressive symptoms such as the CDI are designed to be administered no more frequently than once every two weeks; therefore a shorter assessment of symptoms was necessary for this study. Analysis of the CDI reveals that its questions load into five factors: negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative self-esteem. All factors correlate significantly with the total CDI score. (Kovacs, 2001). For this study, therefore, a measure of ongoing

depressive symptom was constructed from five questions, one for each of the five factors, i.e. negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative self-esteem. To maximize sensitivity to change, each question contained a 5-point Likert-type scale. The original questions on the CDI contain a 3-point scale; addition of two intermediate levels of response was hypothesized to allow participants ample leeway to indicate more precisely the level at which they were experiencing that particular symptom. The five-item questionnaire, the SDSQ, appears in Appendix F.

Reliability for this questionnaire was determined using Cronbach's alpha, with a resulting Cronbach alpha coefficient of .89. An additional check of reliability was made by correlating average scores on the SDSQ for the first two weeks of therapy with the first two scores provided by participants on the CDI. This correlation provided a correlation coefficient of .89, showing that the SDSQ averaged total scores were highly correlated with scores on the standardized measure of depression, the CDI (short form).

Apparatus: Materials

The space used in conducting the research was the investigator/therapist's play-therapy office located in Gainesville, VA. The office is equipped with a sand tray and six open shelves containing miniature objects. Following established guidelines for sand tray therapy, the objects represent the main categories of sand tray toys as described by Kalff (1980). These include human beings, both fantasy and real; animals, both domesticated and wild; landscape items, such as trees, fences, bridges, and gates; houses and other buildings; means of transportation, such as airplanes, cars, trains, and ships; and natural objects, such as rocks and shells.

Procedure

The first step in the research procedure was obtaining preliminary information about participants from their parents or guardians by phone. The phone screening enabled the primary researcher to determine if the participant was likely to meet inclusion criteria and also gave information to the family to enable them to commit to the course of the research. The next step was a face-to-face meeting with the parent, in all cases the mother, of the prospective participant, with the participant being present. Informed consent and assent were obtained (Informed consent and assent forms appear in Appendix A; the informed consent also describes the research procedure in detail). Adult and child were then separated and a short developmental history obtained from the adult. The history included a question about medication that the child may be taking so that the effect of any anti-depressants can be factored into research results. As it happened, no participants were taking such medication at any point in the study. The mother was then given the BASC parent form and the CDI-P. The child filled out the BASC self-report, the Piers-Harris and the CDI self-report. The child was then interviewed by the investigator/therapist with the CDRS-R. These interviews and completion of assessments took approximately 90 minutes.

Also in the intake interview, participants and their parents were shown the questions comprising the SDSQ. The format of the questions was explained and a time determined when the child would be available to answer the questions by phone. Finally, the first treatment session was scheduled by random assignment to a day that was either 6, 10, 18, or 24 days after the initial session.

At every other treatment session, or approximately once every two weeks, each participant and his or her mother completed the appropriate CDI. The SDSQ was administered by telephone every other day. If a therapy session coincided with a day on which the SDSQ was to be completed, the participant answered the SDSQ in writing before beginning the therapy session. At the conclusion of 14 weeks of treatment for three participants, and 12 weeks for the fourth participant, participants completed another BASC self-report and the Piers-Harris while their mothers filled out the BASC parent report. To ensure the absence of unconscious researcher bias in administration of the CDRS-R semi-structured interview, a clinical psychologist who is a colleague of the investigator/therapist and naïve as to the details of the study administered a post-test CDRS-R as close as possible to the conclusion of each participant's final therapy session.

Treatment

At the initial sand tray therapy session, the therapist showed each participant the sand tray and the shelves of miniatures and demonstrated that the bottom and sides of each tray were painted blue so that lakes or rivers could be indicated by pushing the sand to the side. Participants were told that the only rule is that sand must stay in the sand tray. The initial researcher then invited each participant to “make a world in the sand.” Two participants required further clarification; the investigator/therapist explained that they could build any world, make any picture or scene, or create any story in the sand that they wished. They did not have to put thought into their choices but rather, could let their hands do the choosing. The researcher emphasized that there is no right or wrong way to do this work. These

directions have been recommended by various practitioners who routinely use sand tray therapy with children (Boik, 2000).

As the participant built his or her world, the researcher recorded the process by numbering and briefly noting each item selected for the world. Note-taking was minimal and unobtrusive. At the end of the building session, the investigator/therapist asked three questions: “Can you tell me as much or as little as you want to about your world?”, “Where would you be in this world?”, and “Can you give your world a title?” These questions have also been recommended by sand-tray practitioners as a minimally directive way of inviting participants to speak about their creations (Boik, 2000).

When each participant finished his or her tray, he or she was given a copy of the therapy process assessment designed to rate the experience of that day’s session. To encourage participants to be honest in reporting on their process, they were asked to fold their assessment and place it in a sealed box. This procedure was designed to help participants assume that the investigator/therapist would not immediately be reading their assessment of the session and making judgments about the participants. After the participant left the room, the researcher took digital photographs of the tray from several angles to allow a complete photographic record of the finished tray. The investigator/therapist did not put away items from the tray until after the participants had left the room.

Although each participant was asked to attend a total of 14 sand tray therapy sessions, the participant who could only attend 12 sessions was included in the study, as earlier play therapy research has found positive effects in as few as 12 sessions (LeBlanc & Ritchie, 2003). None of the participants were able to complete 14 straight weeks of therapy, but none

missed more than two weeks in a row. The therapy sessions were noncurrent; that is, each participant entered the study at a different point in time.

Analysis of Results

Traditional analysis of results in single-case research is visual (Barlow et al., 2008; Crosbie, 1993; Kazdin, 1982; Matyas & Greenwood, 1990). When the focus of single-subject research was behavioral research performed on laboratory animals, tight experimental control could be obtained by extending the baseline period for as long as necessary to obtain highly stable results. When the treatment intervention was applied, any behavioral change could be immediately observed. In this setting, a change was considered significant if it was large, abrupt, and sustained (Crosbie, 1993). In research with human participants when baseline periods may need to be shortened for ethical reasons, a controversy remains concerning the appropriateness of visual inspection alone in determining whether a change has occurred. The central question is determining the appropriate length of a baseline. As Barlow et al. (2009) state, a baseline should present stability in the assessed behavior, which would be conveyed visually by the absence of a trend, or slope, in the data points. A minimum of three data points is necessary to determine the presence or absence of slope. Ideally, the baseline phase will present data with no slope, indicating a stable level of symptoms, or an increasing slope, indicating a worsening of symptoms. In contrast, the slope of a line including all data points in the treatment phase would be decreasing, i.e. slanting downward as the graph is read from left to right. This downward or negative slope would therefore show an improvement of symptoms.

In this research, the primary data analysis method is a graph of scores on the SDSQ over time. To simplify the graph, weekly averages of the SDSQ were calculated. As none of the participants were able to keep to a regular weekly schedule of therapy, the graph also indicates the occurrence of each therapy session over time. The analysis of this graph includes assessment of differences in level, changes in trend or slope, and changes in variability. Support exists in the literature on single-case design that if the proposed treatment is effective, the desired change in participants' depressive symptoms will be available to the naked eye (Morgan & Morgan, 2009).

In addition, the graph of SDSQ scores over time provides data for two further methods of analysis. The first involves calculating the line of best fit for the data points, also known as the regression line or trendline. Visual inspection of this line is possible to determine if symptoms improved or worsened over the course of treatment. (Morgan & Morgan, 2009).

The second statistical analysis involves calculation of the percentage of nonoverlapping data (PND) statistic, which determines the percentage of treatment data that overlap with the highest value obtained on data collected during the baseline period. To determine PND in this study, for each participant a line was drawn through the highest score obtained on the SDSQ during the baseline period, and the percentage of scores during the treatment period that fall below that line was calculated. Scruggs and Mastropieri (1998) offer the following criterion for evaluating the PND statistic: 90 percent or greater, the treatment is very effective; 70-90 percent, treatment is effective; 50-70 percent, effectiveness is questionable; less than 50 percent, treatment is ineffective.

Additional data collected in the study is presented as descriptors to support the experimental data obtained with the SDSQ analyzed as described above. A total of 16 scores on two measures, the CDI taken by participants and the CDI-P taken by mothers, is graphed and inspected as above for differences in level, changes in trend, and changes in variability. This data cannot be used to prove the effectiveness of the treatment as there is only one point for the baseline period; however the overall trend of these standardized scores in some cases offers support to findings from the SDSQ graph. Comparison of the pre-and post-treatment scores on the BASC and the Piers-Harris Self-Concept Scale in the same way offer general support in some cases to the treatment effect and may, in fact, point to what actually changes for participants engaged in sand tray therapy.

Examination of the therapy process was the focus of two therapy process questionnaires completed by the participant and the investigator/therapist after each session. This data proved to be less useful than hypothesized as participants seemed to fall into repetitive patterns of answering the process questions. In addition, the absence of verbalization that was characteristic of three of the four participants inhibited the value of the process ratings made by the investigator/therapist. Further discussion of this measure appears in Chapters 4 and 5.

Finally, the video recording of all sessions provided an opportunity to conduct a qualitative analysis of the process of participants. The videos and photographs of individual sand trays provide an opportunity to explore particular patterns and themes that may relate to the participants' level of depression. Examination of specific sand trays and the investigator/therapist's informed interpretation of participants' process provides support to

the conceptual framework of the study, which is that elements of sand tray therapy such as the experience of control, enjoyment, and creativity actively combine to reduce depressive symptoms.

CHAPTER FOUR: RESULTS

This chapter presents the results of the single-case research design and supporting assessments completed by participants and their parents during the study. Also included is a focused qualitative analysis of the sand tray process. Four participants were enrolled in the 14-week study; one of these four completed the study after 12 weeks as her family was going on an extended vacation after the 12th session. For each of the four participants, a summary of background information and data from the initial assessment will be presented first. Then each research question and hypothesis is given, followed by results addressing that question and hypothesis from each participant. The final section of this chapter is the qualitative presentation, a narrative description of the sand tray process for participants that includes an analysis of patterns in the therapy process.

Participant 1: Lucy

Background

Lucy was a 13-year-old Caucasian girl in seventh grade in a public middle school in northern Virginia. Her mother was referred to the study by her sister (Lucy's aunt), who had seen a flyer describing the research in another therapist's office. Lucy was the sixth of seven children in the family, having two older brothers (ages 23 and 18), three older sisters (ages 22, 20, and 19), and one younger sister (age 11). Her parents had never been separated or divorced; her mother described her pregnancy with Lucy as normal. Lucy's developmental milestones were described as normal with the exception of night-time toilet-training: Lucy experienced bedwetting until she was approximately 10 years old. Lucy's mother said that

bedwetting tended to run in the family and believed that Lucy was not especially shamed or traumatized by that experience.

Lucy's mother described a history of mild depression for Lucy going back to the start of her fifth grade year. At that time Lucy visited a counselor for about three sessions but seemed to "turn a corner" and became happier as Christmas approached, discontinuing counseling. Lucy's mother believed that Lucy may have suffered some teasing at the start of fifth grade that could have brought on the depressive symptoms, which included irritability, looking sad, and frequent crying. In her sixth-grade year, Lucy experienced the death of her maternal grandfather in April, followed by the death of her maternal great-grandmother in June. Her great-grandmother had lived in the household for 20 years and Lucy's mother believed that this death was difficult for Lucy. Lucy's mother reported that Lucy tended to do well in school and had experienced no problems at school either academically or behaviorally. Her mother believed that Lucy might be experiencing depression currently because she looked sad frequently, had spells of crying every few days, and had verbalized some negative comments about herself, including that some people didn't like her and that she thought she looked ugly. Her mother said that Lucy generally refused to talk about her feelings.

Results of Initial Assessments

Lucy and her mother completed all pre-test assessments at the time of the intake appointment. Lucy's answers on the Piers-Harris indicated a high degree of self-esteem; her Total T-score was 60, which corresponds to an overall level of self-esteem that is higher than 84 percent of respondents. Her lowest T-score on the six sub-scales was 52, for the Physical

Appearance and Attributes scale. That T-score translates into a percentile score of 58 percent, indicating that even her area of lowest self-esteem is still at a higher level than the majority of respondents.

Lucy's results on the BASC also indicated a relatively high level of adaptive behaviors. None of her scores on any scales approached the At-Risk level (T-scores between 60 and 70). Her highest T-scores on the Problem scales were for Hyperactivity (T-score of 43), Anxiety (T-score of 42), and Depression (T-score of 42). On the CDI, Lucy's initial Total T-score was 39. On the CDRS-R, Lucy's overall T-score was assessed at 44, which falls within the range labeled "A depressive disorder is unlikely to be confirmed in further evaluation."

Lucy's mother's responses on the standardized assessments revealed a slightly different picture. On the BASC, the highest T-scores were assessed on Anxiety (48), Depression (51), Somatization (67), and Withdrawal (62), with the latter two scores indicating at-risk levels. The Internalizing Problems Composite T-score was 56, four points below the At-Risk range. In assessing the pattern of responses by Lucy's mother, it should be noted that high scores on Somatization can indicate the presence of mood and/or anxiety disorders even if the scores of Anxiety and/or Depression do not attain clinical or at-risk levels. A high Withdrawal score can also indicate the presence of depression (Reynolds & Kamphaus, 2004). Lucy's mother's scores on the CDI-Parent version did not place Lucy in an at-risk category; the Total T-score was 50, and the two sub-scales, Emotional and Functional, were both 47.

Although Lucy's own responses seemed to invalidate the presence of a depressive disorder, her mother's responses as well as her history of loss in the past two years seemed to bear out the need for some kind of treatment. In addition, there is the possibility that Lucy was not fully reporting the degree of depressive symptoms she experienced. Some researchers have found that children may have a tendency to minimize symptoms and to respond defensively (Kovacs et al., 2003). During the administration of the CDRC-R, the investigator/therapist noted as part of the formal assessment that Lucy had "mild suppression of affect" and "some lack of spontaneity." (Poznanski & Mokros, 2005).

The first sand tray therapy session for Lucy was scheduled for six days after the intake appointment, allowing for collection of three data points before treatment began. Lucy completed a total of 14 therapy sessions within a 17-week period.

Participant 2: Shara

Background

Shara was a 12-year-old Caucasian girl in sixth grade in a private Catholic school in northern Virginia. The school guidance counselor had recommended to Shara's mother that Shara be enrolled in the study after she had experienced several behavior problems in school. Shara was the youngest of four children. Her sister, age 18, was away from home at college and her two brothers, ages 16 and 15, lived at home with Shara and her mother. Her parents, who were both born in Iran, had been separated for more than 10 years. Shara's mother reported that her husband had begun using crack cocaine and heroin when Shara was two years old. The mother at that time asked her husband to leave the family until he was able to stop using. However, he ended up in prison for two years, then died three months after his

release while living apart from his family. His death occurred two years ago, and Shara's mother stated that she did not know much about the circumstances of his death, that it could have been drug-related or possibly a suicide.

Shara's developmental milestones were normal. She began kindergarten at age 5 at the same private Catholic school she was attending at the time of her participation in the study. Although she had generally done well in school, in the past two months she had received several warnings from school administrators about her behavior and had been given a one-day suspension for being part of a group of kids who were flouting school rules by throwing their jackets into the gym basketball hoops. Her mother reported that Shara had also started being more argumentative at home, seemed irritable, looked sad, and cried frequently. Her mother reported that she did not believe that Shara was suicidal, was using any drugs or alcohol, or otherwise engaging in any self-harming behavior.

Results of Initial Assessments

Shara and her mother completed all pre-test assessments at the time of the intake interview. Shara's T-scores on the Piers-Harris Self-Concept Scale indicated below-average assessment of her image of herself. Her total T-score was 38, with domain scales of 26 for Behavioral Adjustment, 38 for Intellectual and School Status, 52 for Physical Appearance and Attributes, 39 for Freedom from Anxiety, 60 for Popularity, and 47 for Happiness. Further, her T-scores on the CDI indicated the presence of moderate depression with a total T-score of 70. On the CDRS-R, Shara received a T-score of 63, which is interpreted as showing that a depressive disorder is possible, especially if there are moderate to severe ratings in any symptom area. Shara's CDRS-R ratings for Impaired Schoolwork, Sleep

Disturbance, Physical Complaints, Irritability, Depressed Feelings, and Morbid Ideation were all at the moderate level. She also presented with a “moderate restriction of facial affect” and looked “distinctly unhappy” during the interview (Poznanski & Mokros, 2005).

Her self-report on the BASC showed clinical levels on Attitude to School (T-score of 83), Attitude to Teachers (82), Depression (74), Attention Problems (78), and Hyperactivity (74). Her score on Locus of Control (61) fell in the range of being at-risk, and scores on Anxiety (58) and Sense of Inadequacy (58) were two points short of the at-risk range. On the Adaptive scales, in which high scores indicate high levels of adaptive skills, her score on Relations with Parents was at a level of clinical concern (18), while her score on Self Reliance (35) fell into the at-risk range.

Her mother’s ratings of Shara on the BASC parent version showed T-scores that were clinically significant for Depression (66), Aggression (67), and Conduct Problems (71), and approached at-risk levels for Anxiety (58), Withdrawal (58), and Attention Problems (58). On the Adaptive Scales, Shara’s mother gave responses indicating at-risk behavior for Social Skills (31) and Activities of Daily Living (37).

Shara’s first sand tray therapy session was scheduled for ten days after her intake appointment, allowing for the collection of five data points to comprise the baseline measurement. Shara completed 14 weeks of therapy within a period of 19 weeks.

Participant 3: Jane

Background

Jane was an 11-year-old Caucasian girl in sixth grade in a private Catholic school in northern Virginia. Her school was not the same school as Shara’s. She was the older of two

children; her younger sister was eight years old. Her parents were married and although they had never been formally separated, Jane's father was in the Naval Reserve and spent a great deal of time working in locations away from home. Jane's mother stated that both daughters tended to "fall apart" during periods when their father was away. The previous year, Jane and her sister had been in therapy together to address what their mother saw as problems in their relationship. The therapy lasted approximately four sessions.

Jane's mother reported multiple problems with her pregnancy with Jane, stating that she was required to be on bedrest, took "lots of drugs" to treat medical issues, and had pre-term labor and contractions. Jane was delivered vaginally at 38 weeks. Her developmental milestones were somewhat delayed. Jane's mother reported that she did not walk until 18 months and experienced some delay in development of fine motor skills. At age seven, Jane was diagnosed with Crohn's disease and has been on medication for that condition ever since.

Her mother described problems with Jane's behavior both at home and at school. At home she is irritable and has "meltdowns" almost every night, triggered by being told either that she cannot do something she wants to do or that she has to do something (such as go to bed) that she does not want to do. A year ago, Jane began taking money from her mother's purse surreptitiously and accumulated more than \$100 in that way, money that she produced when the family was on vacation in an attempt to buy gifts for all her classmates. Her mother believed the stealing and the attempt to buy gifts were attempts by Jane to assert control and feel power, and also could be her attempt to buy friendship. She did not have close friends either at school or in her neighborhood. In the past year Jane's school performance has also

deteriorated; her mother attributed part of the problem to a teacher who was relatively harsh and unsympathetic. Jane's mother stated that Jane seemed both sad and angry most of the time. Her mother was especially concerned, she said, because her husband's grandmother has been diagnosed with bipolar disorder and she worried that Jane may be at risk for developing the same type of illness.

Results of Initial Assessments

Jane and her mother completed all required initial assessments at the intake interview. Jane's scores on the Piers-Harris showed below-average assessments for all scales. Her total T-score was 34, her Behavioral Adjustment T-score was 46, her Intellectual and School Status score was 48, her Freedom From Anxiety score was 31, her Popularity score was 29 and her Happiness and Satisfaction score was 33. Her score on the CDI was 70; a clinically elevated score is one of 65 or higher. On the CDRS-R, Jane scored a total of 61, a T-score that is in the range of "possible depressive disorder." In addition, she gave responses leading to moderate ratings in the areas of sleep disturbance, irritability, depressed feelings, low self-esteem, and excessive weeping. During the interview she appeared somewhat hypoactive, earning a moderate rating for body movements that seemed "somewhat restrictive and/or slowed." (Poznanski & Mokros, 2005).

Jane's self-report on the BASC showed clinically significant scores on the following scales: Locus of Control (73), Social Stress (73), Anxiety (69), and Depression (74). She showed at-risk levels on Attitude to Teachers (66) and Atypicality (61). Her score on Sense of Inadequacy was 58, two points away from the at-risk level. Her composite scores for School Problems were at an at-risk level (64), while her Internalizing Problems composite

score was at a clinical level (71). On the Adaptive scales, Jane showed clinical-level scores for Interpersonal Relations (21) and Self-Esteem (22), while the other two scales were at at-risk levels (Relations with Parents at 41 and Self-Reliance at 42).

Jane's mother's responses indicated clinically significant scores for Jane for Conduct Problems (71), Depression (72), Somatization (72), and Attention Problems (71). Scores in the at-risk range included Hyperactivity (61) and both the Externalizing Problems composite (64) and the Internalizing Problems composite (66). The overall Behavioral Symptoms Index was also an at-risk value (64). On the Adaptive scales, Jane's mother reported a clinical level for Activities of Daily Living (24), while the scales for Adaptability (score of 31) and Leadership (37) were at at-risk levels.

The first therapy session for Jane was scheduled for 15 days after the intake appointment, allowing for the collection of eight data points to comprise the baseline period. Jane completed 12 weeks of therapy within a period of 14 weeks. She could not complete a full 14 weeks of treatment due to her family's commitment to vacation and travel that took them out of the area.

Participant 4: Henry

Background

Henry was an 11-year-old boy of mixed race whose mother was African-American and father was Latino. He attended sixth grade in a private nonsectarian school in northern Virginia. Henry lived with his mother, his grandmother, and one older sister, age 16. His parents were divorced two years ago; less than six months after the divorce Henry's father died suddenly of a heart attack while visiting his native Colombia. Henry was not able to

attend the funeral, which was held in Colombia. Henry's mother said that the children had not seen their father for more than a year before his death.

Henry's mother reported a normal pregnancy and delivery with Henry. At age two, he developed pneumonia and was hospitalized for two days. He had chronic asthma which was seasonal. He had had no previous counseling except for a single visit with a therapist immediately after his mother learned of the death of Henry's father. Earlier in the current school year, his mother became concerned that Henry was showing some attention deficits and arranged for psychological testing, which showed he had mild Attention Deficit Disorder. The tests also revealed his intelligence as "off the charts," his mother reported. She was concerned that he seemed to be sad fairly often but consistently refused to talk about his feelings.

Results of Initial Assessments

Henry and his mother completed all initial assessments at the intake appointment. On the Piers-Harris, Henry's scores were consistently above-average, showing a high level of positive self-concept. His total score was 70; scores on the sub-scales were all above 60. His score on the CDI was 43. His score on the CDRS-R was solidly in the average range, at 49, indicating that a depressive disorder is unlikely to be confirmed. In the clinical interview he reported feeling more irritable in the past few months, feeling more "grouchy" although these moods did not last long. On the CDI-P, his mother reported a total score of 44, which also fell into a range of slightly below average.

All of Henry's scales on the self-report of the BASC as well as his mother's scales on the BASC parent report were in an average range no more than three points above the mean

T-score of 50 for clinical scales. On the Adaptive scales, Henry's mother's report provided a T-score of 33 for Functional Communication, the only score showing an at-risk level. Although none of Henry's standardized assessments bore out a formal diagnosis of depression or revealed a clinical or at-risk level of depressive symptoms, the investigator/therapist enrolled Henry in the study on the strength of Henry's mother's concerns about what seemed to be an ongoing sadness and tendency to withdraw as well as the significance of the death of Henry's father. As noted above, some children may have a tendency to under-report symptoms and to engage in a defensive level of denial about sadness.

The first therapy session for Henry was scheduled for 12 days after the date of his intake appointment, allowing for the collection of six data points to comprise the baseline. Henry completed 14 sessions of sandtray therapy within 17 calendar weeks.

Research Questions: Question 1, Hypothesis 1a

1. Will therapy participants who complete 14 sessions of sand tray therapy experience a significant change in self-reported depressive symptoms?

1a. Therapy participants who complete 14 sessions of sand tray therapy will report improvement in depressive symptoms that will appear as significant in a visual analysis.

This hypothesis is addressed by examination of each participant's scores on the SDSQ. Figure 1 shows these results in a composite graph showing all four participants with staggered baselines, as required by the single-case design used in this study, a multiple-baseline-across-participants. To simplify results, SDSQ results for the treatment period are presented as weekly averages of the separate SDSQs that were administered at a rate of

approximately three per week. Therapy sessions occurred approximately once per week but were sometimes delayed, so that the total number of weeks in treatment is neither exactly 14 weeks nor is it the same for each participant. Individual therapy sessions for each participant are shown as dotted lines on the graph. As explained in Chapter 3, reliability of the SDSQ was determined using Cronbach's alpha, with a resulting Cronbach alpha coefficient of .89, showing the measure to have a high level of internal consistency. In addition, averaged weekly scores on the SDSQ were correlated with scores on the CDI self-report, resulting in a correlation coefficient of .89, a high level of correlation. Therefore the SDSQ seems to be as accurate a measure of depressive symptoms as the standardized assessment, the CDI, which has been used extensively in research and clinical practice (Kovacs et al., 2003).

It should be noted that for two of the participants, Lucy and Henry, initial levels of depressive symptoms were very low as assessed on all standardized measures. Accordingly, their SDSQ scores remained relatively low in comparison to the other two participants, Shara and Jane. Lucy's total SDSQ scores remained at 2 or below for the entire period of the study. A slight dip in SDSQ score can be seen in the first two weeks of treatment; however, her score rose slightly around Week 8. It is difficult to ascribe significant meaning to changes that are so slight. In comparison, Henry's scores, while also relatively low, show a definite decrease after treatment began, rise to a peak but relatively low value of 5, then decrease but remain relatively level until the very end of the study, when his reported depressive symptoms improve. For participants Jane and Shara, evidence of overall improvement in depressive symptoms seems present. Both girls had relatively high SDSQ scores before treatment began.

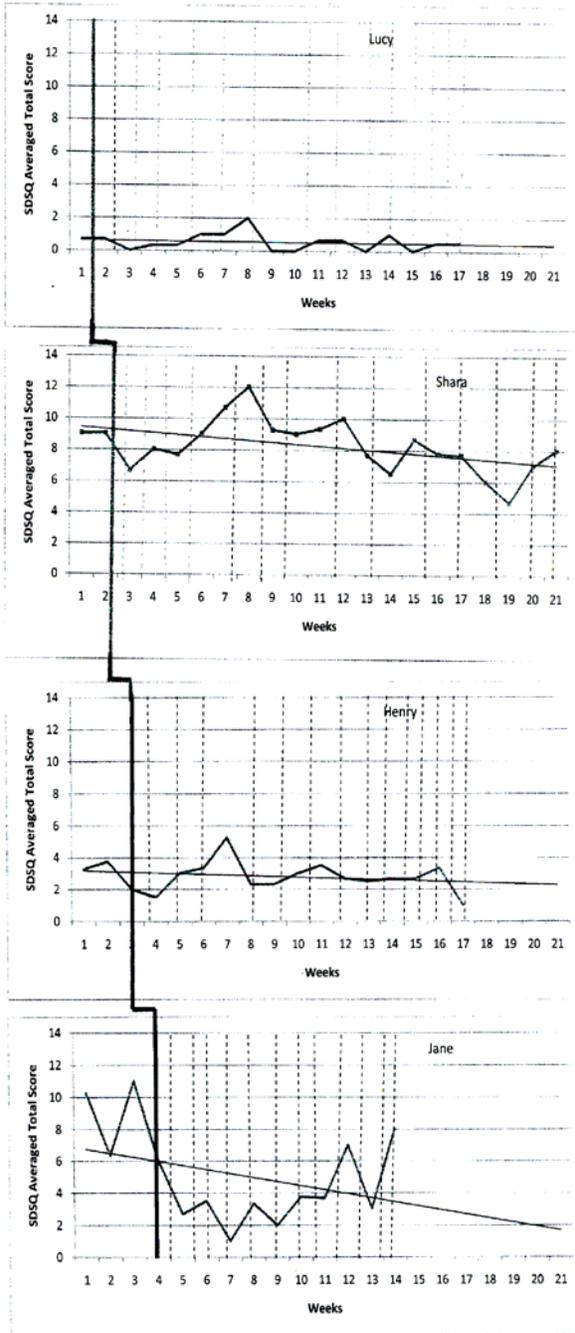


Figure 1: SDSQ averaged total scores over time. Variable baseline period indicated by thick stepped line; dotted lines indicate occurrence of therapy sessions.

Shara's scores remain high until week 3 and then fall off fairly consistently from that point. Jane's scores, however, decline after treatment begins. Her first three averaged scores occur within the baseline period and of the three scores, two are the highest attained in the entire study period. After treatment begins, her scores fall off and stay at a low level generally, although there is another lower-level peak at Week 12.

The visual analysis therefore offers support for a treatment effect for two of the four participants. In addition, a trend line can be calculated for the data for each of the participants and is displayed on the graph to show both the direction and rate of change (Kennedy, 2005; Morgan & Morgan, 2009). In this study, trend was calculated as a regression showing the line of best fit for the data, or in other words, the correlation between report of depressive symptoms and sand tray therapy sessions. This regression calculation provides an effect-size statistic of R^2 . Cohen (1988) established guidelines for interpreting the R^2 effect size, with an R^2 statistic of .25 demonstrating a "large" effect, an R^2 of .09 as demonstrating a "medium" effect, and an R^2 of .01 as a "small" effect. For the study's four participants, R^2 values were .01 for Lucy, .05 for Henry, .12 for Jane, and .20 for Shara. These values can be interpreted as showing a small treatment effect for Lucy, between a small and medium effect for Henry, and between a medium and large effect for Jane and Shara.

Finally, analysis of the SDSQ averaged total scores included calculation of the percentage of non-overlapping data (PND) for each participant. If PND is calculated using the averaged scores shown in Figure 1, some precision is lost as the baseline period for participants was originally not set in a number of weeks, but rather in a number of days. Lucy's baseline period was six days, close to one week; Shara's baseline was 10 days,

somewhat less than two weeks; Jane's baseline was 24 days, somewhat more than three weeks; and Henry's baseline was 18 days, or approximately 2 ½ weeks. For the sake of simplification, if Lucy's baseline is set at one week, her lowest baseline score is .67. Averaged SDSQ scores less than .67 were reported on 9 of the 16 weeks of treatment, resulting in a PND statistic of 56%. For Shara, setting a baseline period of two weeks, her lowest score during baseline was 9. She attained scores of less than 9 on 12 out of 19 weeks, for a PND statistic of 63%. For Jane, the baseline period was three weeks and her lowest baseline score was 6.33. She attained scores lower than 6.33 on 9 out of 11 weeks for a PND statistic of 82%. Finally, for Henry, assuming a baseline period of two weeks and a lowest score during baseline of 3.25, he attained scores lower than 3.25 on 12 out of 15 weeks for a PND statistic of 80%.

. Scruggs and Mastropieri's (1998) criterion for evaluating the PND statistic states that for PND's of 90% or greater, the treatment is very effective; for 70-90%, treatment is effective; for 50-70%, effectiveness is questionable; and for less than 50%, treatment is ineffective. Although none of the study's participants achieved a PND indicating a very effective treatment, the PND for Jane and Henry indicates that treatment was effective, while for Shara the PND indicates that treatment effectiveness was questionable and for Lucy, treatment was ineffective.

Pre- and Post Test Standardized Assessments

Data collected from pre- and post-treatment standardized assessments cannot by themselves prove the effectiveness of sand tray therapy in the treatment of depressive symptoms. It should be noted that neither parametric nor nonparametric statistical tests

returned any findings of significance for pre- and post-test differences on any of the standardized tests reported in this section. However, scores from the pre- and post-treatment assessments provide additional information that offers some support to the findings as noted above. Measures that were administered to assess change in depressive symptoms include the Children's Depression Rating Scale-Revised (CDRS-R) which is shown in Figure 2, the BASC Self-Report scale for Depression and composite scale for Internalizing Problems, and the BASC Parent Report scale for Depression and the composite scale for Internalizing Problems, both shown in Figure 3. Although the BASC Self-Report and Parent Report contain a number of other scales, these two seemed most relevant to the symptoms being assessed.

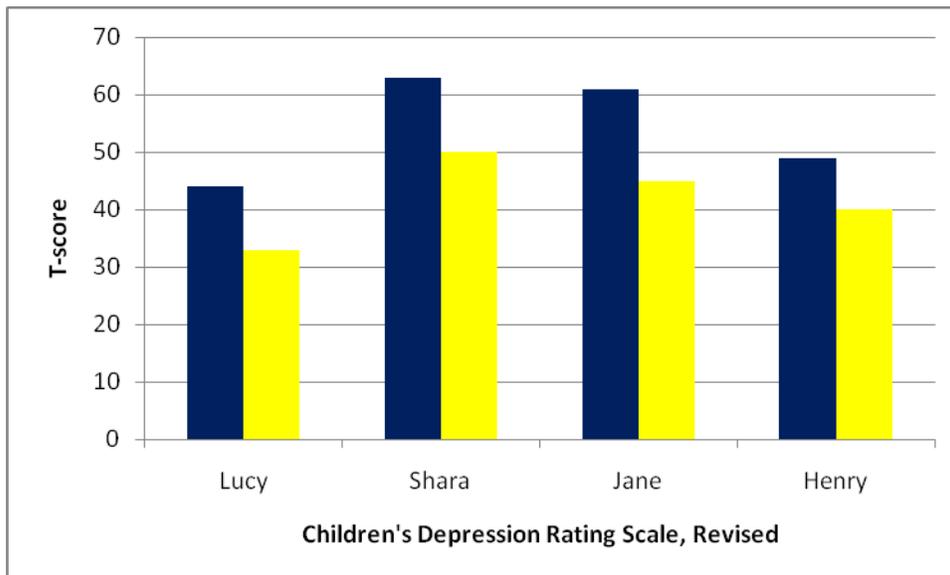


Figure 2: Participant's scores on CDRS-R.

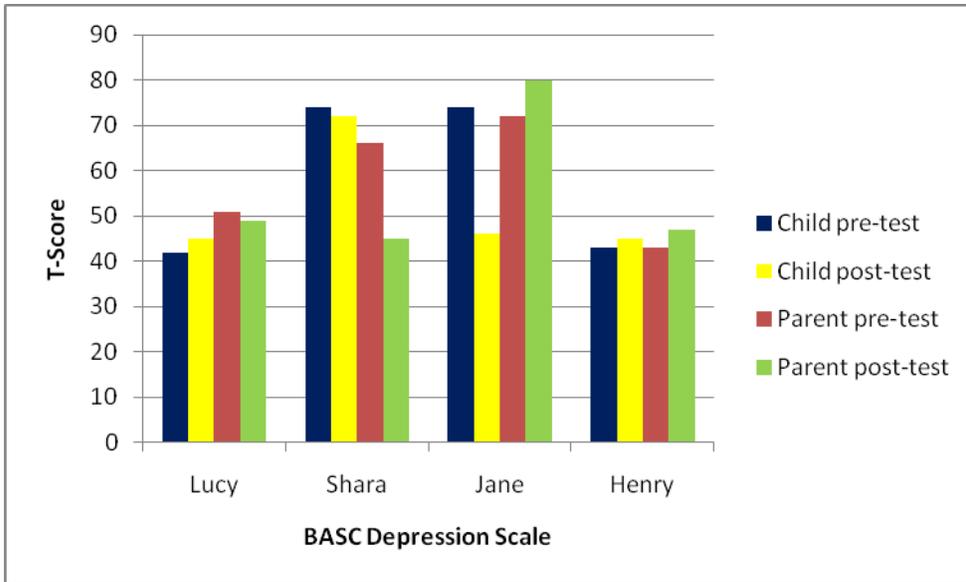


Figure 3: Participants' and parents' scores on BASC Depression Scale.

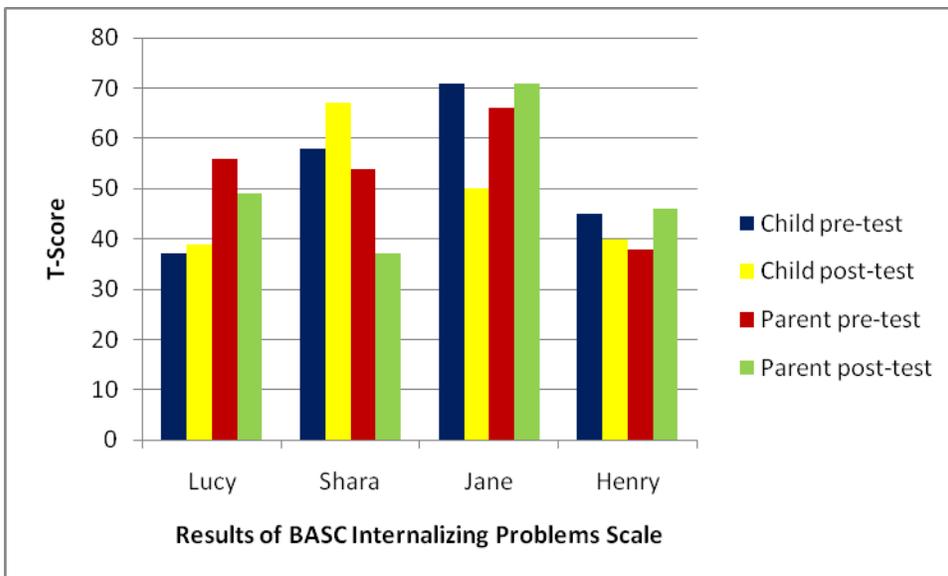


Figure 4: Participants' and parents' scores on BASC Internalizing Problems Composite.

These scores present a mixed picture. For all participants, scores on the CDRS improved after the treatment. This indicator may be more robust than the scores derived from the parent and child form of the BASC, as the CDRS is a therapist-administered semi-structured interview. The investigator/therapist administered the pre-treatment CDRS, while

a clinical psychologist who was otherwise naïve about the study administered the post-treatment CDRS.

Two scales of the BASC provide assessment of symptoms related to depression. The first scale is the Depression scale, the second is a more broadly based composite scale for Internalizing Problems. A visual inspection of the results of these scales shows mixed results. On the scale for Depression, Lucy and Shara show decreases on both the self- and parent reports. For Jane, her self-report shows a proportionately large decrease in Depression but her mother reports an increase in Depression. For Henry, both his self- and parent reports show relatively small increases in Depression. For the Internalizing Problems Composite, the self-report shows a decrease for two participants, Jane and Henry. However, for Lucy and Shara, the self-report showed an increase in internalizing problems from pre-treatment to post-treatment. For parents, an opposite effect occurred. Mothers of Jane and Henry reported more internalizing problems after treatment as opposed to before treatment, while mothers of Lucy and Shara reported a decrease in internalizing symptoms from pre-treatment to post-treatment.

Another measure of participants' progress throughout the course of the study was the investigator/therapist's assignment of a score indicating each participant's Global Assessment of Functioning at each therapy session. Figure 5 indicates the participants' GAF scores in the treatment period. For further clarity, a table showing each participant's score per session appears below the graph.

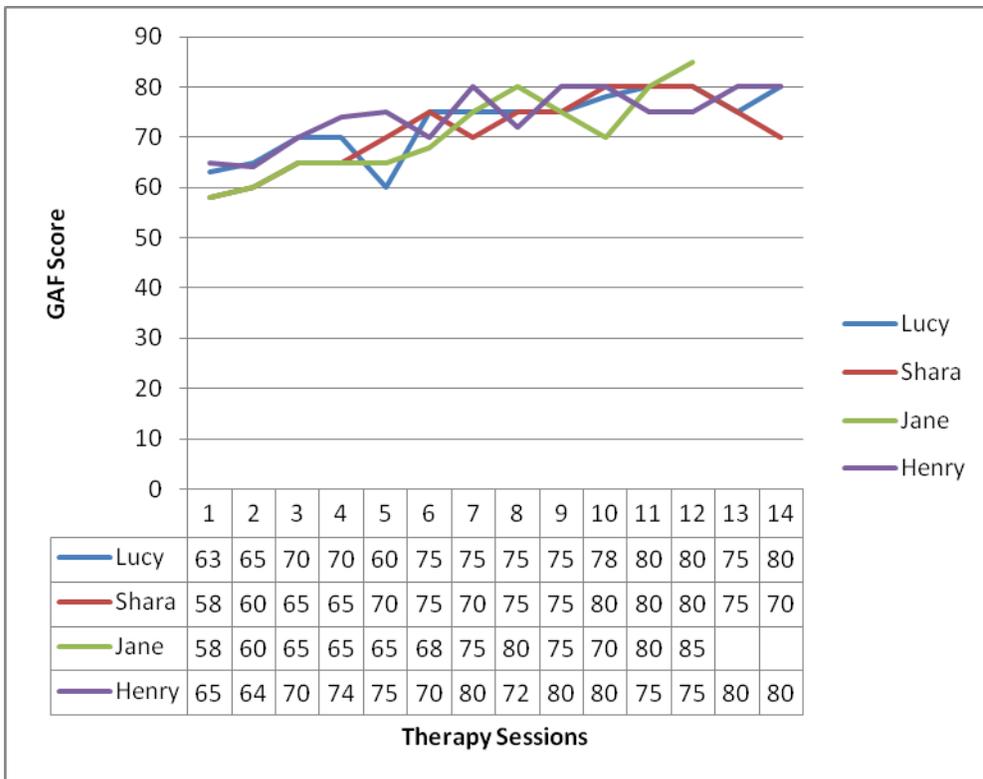


Figure 5: Participant’s Global Assessment of Functioning scores.

Generally all participants saw an increase in GAF scores over the course of the study. Levels of scores began around 60, which is defined as moderate symptoms or moderate difficulty in functioning. All participants with the exception of Shara ended the study achieving GAF scores at or near 80, defined as symptoms being transient or expected in response to psycho-social stressors and no more than slight impairment in functioning. Although Shara was rated as showing a decrease in functioning at the final session, overall her GAF improved over the course of the study,

In summing up findings for this first research hypothesis, the hypothesis is supported for three of the four participants. Visual analysis of the graph of SDSQ scores reveals that scores decreased over time for Shara, Henry, and Jane. Support of this analysis also can be

found in the calculation of the R^2 statistic, which shows effects greater than .01 for Shara, Henry, and Jane. Also, calculation of the PND statistic shows that treatment was effective for Jane and Henry while treatment was questionable for Shara. Therefore, there are relatively solid results showing treatment effectiveness for Jane and Henry and somewhat less supported, but evident, results for Shara.

Research Question 2 and Hypothesis 2a

2. Will changes in depressive symptoms over the 14-session period of therapy be supported by significant changes in scores on standardized questionnaires completed every two weeks by participants and parents?

2a. There will be a decrease in depressive symptoms over the 14-session period of therapy as revealed by visual analyses of changes in scores on standardized questionnaires completed by participants and parents every two weeks.

All participants completed the short form of the Children's Depression Inventory (CDI) at every other therapy session, roughly every two weeks throughout the course of the study. On the same day that participants completed the CDI, their mothers completed the parent version of the same assessment (CDI-P). Results of the self-assessments for participants are shown in Figure 6. Figures 7, 8, 9, and 10 compare each participant's assessment with that of his or her mother over time.

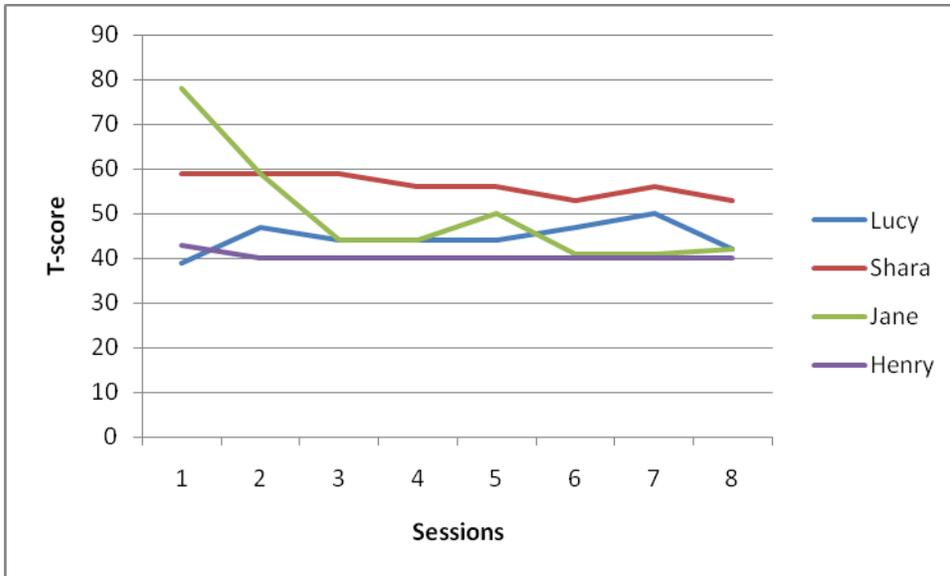


Figure 6: Changes in CDI scores (self-reports) over time.

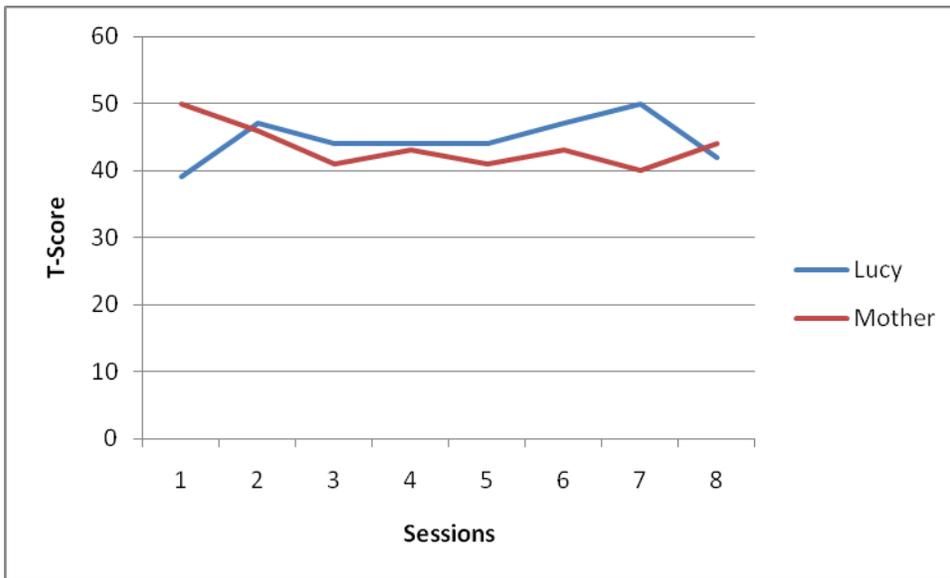


Figure 7: Changes in CDI and CDI-P over time for Lucy.

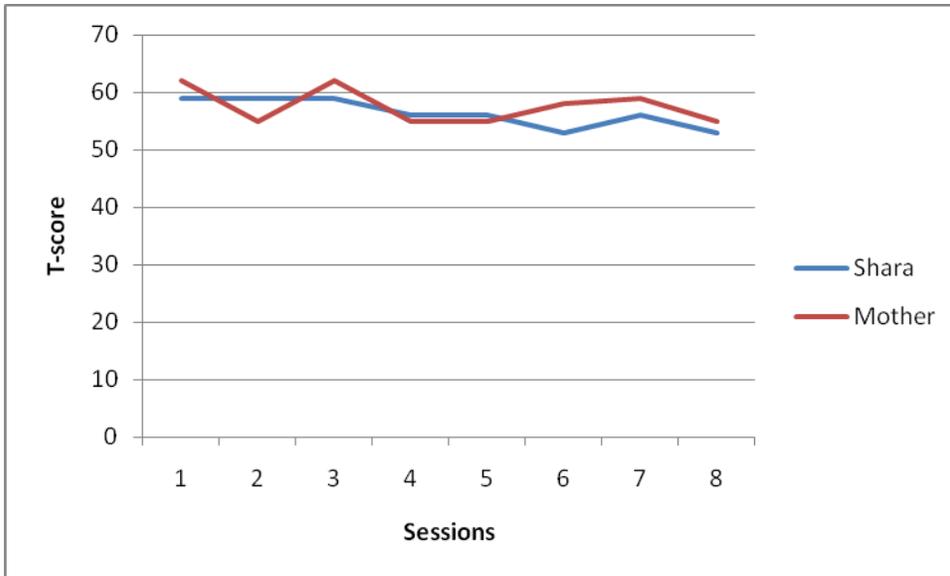


Figure 8: Changes in CDI and CDI-P over time for Shara.

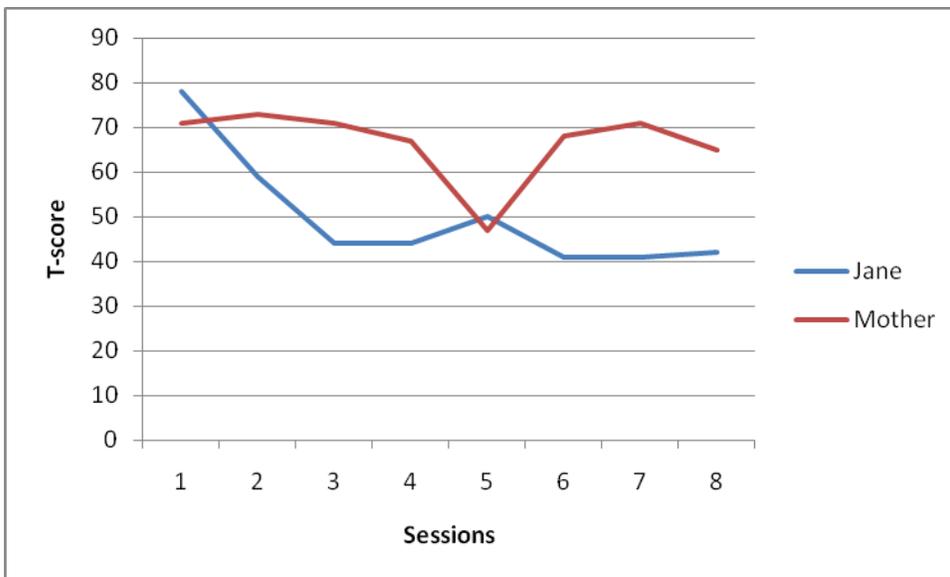


Figure 9: Changes in CDI and CDI-P over time for Jane.

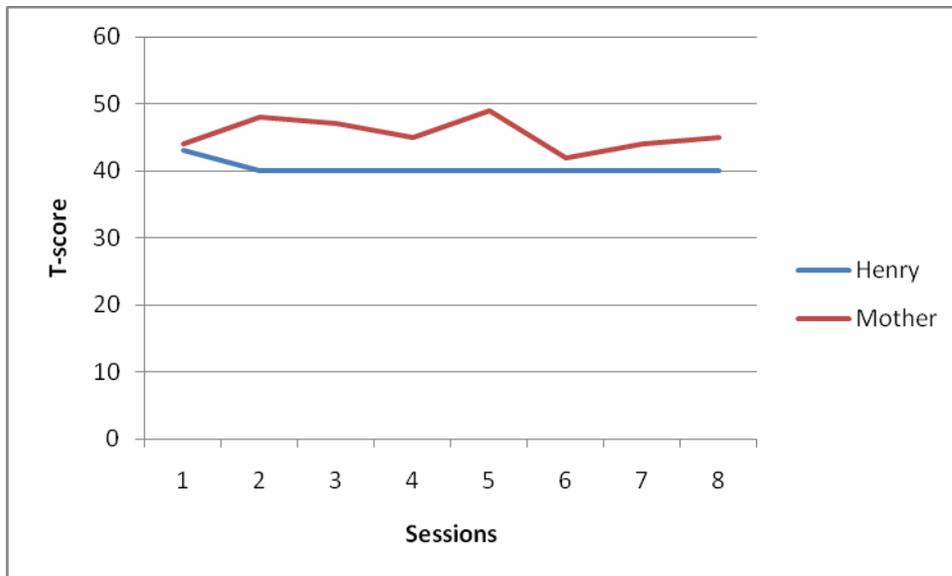


Figure 10: Changes in CDI and CDI-P over time for Henry.

Before analyzing the results of these scores, it is important to note that neither the CDI nor the CDI-P were intended to be primary measures of change for the single-case design. Because these measures are designed to be given only every two weeks, the investigator/therapist chose not to extend the baseline period to the extent that would be required to collect the three data points that is held to be the standard absolute minimum needed to determine a baseline (Kennedy, 2005). Therefore, the CDI and CDI-P fall into the category of supportive data—not by themselves determinant of treatment effect, but offering an expanded picture of what seemed to be happening to participants’ depressive symptoms as each continued in treatment.

Of the eight sets of depression assessments shown above, all but one shows a decrease in depressive symptoms over the course of treatment. The exception is Lucy’s self-report, which shows a worsening trend. Calculation of trendlines for each of the sets of data shown above resulted in the following R^2 values: Lucy self, .15; Lucy parent, .37; Shara self,

.76, Shara parent, .15; Jane self, .61; Jane parent, .08; Henry self, .33, and Henry parent, .09. By Cohen's (1988) guidelines, these values range from a small effect (Jane parent), through medium effects (Lucy self, Shara parent, Henry parent), to large effects (Lucy parent, Shara self, Jane self, and Henry self). By this analysis, Research Hypothesis 2a is generally supported.

Research Question 3 and Hypothesis 3a

3. Will there be a steady improvement in the reduction of depressive symptoms through the duration of the therapy process or will there be fluctuations?

3a. Depressive symptoms as measured by self-report will steadily decrease throughout the period of the intervention.

Although it is generally assumed that improvement in therapy will be a slow, steady decrease of debilitating symptoms, there is some research evidence that a substantial percentage of therapy participants make large, sudden gains in the reduction of symptoms, gains that are generally sustained during the course of treatment (Tang & DeRubeis, 1999). This phenomenon of sudden gains has been reported in a large study of depression in adolescents and was shown to occur during different types of therapy: CBT, family therapy, and supportive therapy (Gaynor et al., 2003). For this reason, the pattern of change during the current study is of interest. Referring to Figure 1, it can be seen that the trend line calculated from SDSQ averaged total scores shows a relatively steady rate of improvement for three of the four participants. However, there is considerable variation in the scores themselves. Shara's symptoms initially improve following introduction of the intervention, but then reappear and in fact worsen beyond the level shown during baseline, achieving a peak

immediately following the fifth therapy session. Her symptoms then decline, level out, and decline again until just after her twelfth session, but begin increasing again and appear to be on an upward trend when therapy ends.

Jane's SDSQ scores show a more consistent pattern of overall decline but also have peaks and valleys, with a noticeably increase in depressive symptoms occurring after the ninth session and again at the time of the twelfth and final session. Henry's scores also show variation, with a peak occurring after the third session following by a leveling out and final dip after his twelfth session. Lucy's scores are generally flat except for a slight worsening of symptoms between her fifth and sixth sessions. Generally, then Hypothesis 3a is not supported, but neither is it possible to show support for an alternative finding of sudden and sustained gains during the course of treatment.

Research Question 4 and Hypothesis 4a.

4. Will changes within the process of therapy, as measured by a post-session questionnaire given to participants and the therapist at the end of each therapy session, be reported by participants and the therapist, and will participants and the therapist report similar changes or will their perceptions be different?

4a. Participants and therapist will report similar types of changes within the process of therapy, with steadily increasing scores on the 9 process rating items.

At the end of each therapy session, all participants completed a 9-question therapy process questionnaire. Without exception, the four participants provided unvarying answers for 7 of the 9 questions throughout the therapy process. All participants gave an answer of "Very much" to Question 1, "I enjoyed today's session," Question 2, "My therapist seemed

warm and friendly,” Question 8, “I felt as if I was in control of what happened in today’s session,” and Question 9, “I felt creative in today’s session.” All participants also gave an answer of “Not at all” to Question 4, “I felt angry in today’s session,” Question 5, “My therapist seemed negative,” and Question 7, “I felt depressed and overwhelmed in today’s session.” Therefore, for these seven questions the hypothesis above was not supported. There were no changes in scores from beginning to end of the therapy process in the responses of the participants.

For the remaining two questions, Question 3, “I felt like I worked on what was bothering me” and Question 6, “My therapist helped me,” the four participants provided answers that varied from session to session. However, their answers did not vary in any consistent pattern, and definitely not in the pattern hypothesized, that their scores would steadily increase over the treatment period. As an example, the participants’ answers to Question 3, “I felt like I worked on what was bothering me,” are shown in Figure 11, with a data table providing their actual ratings for additional clarity.

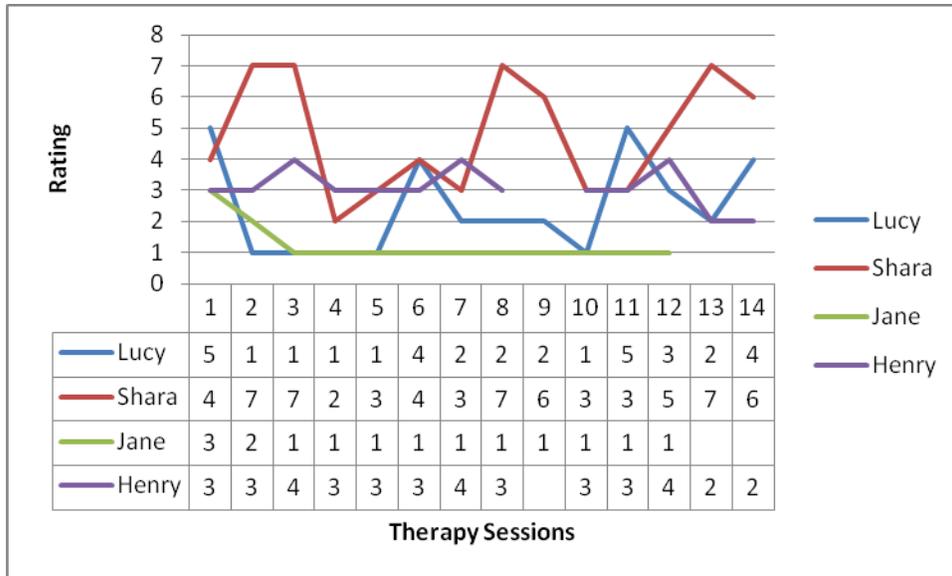


Figure 11: Participants’ answers to therapy process question, “I felt like I worked on what was bothering me.”

The investigator/therapist ratings of participants’ sessions are equally unhelpful and generally consistent, primarily because there was very little to work with in evaluating any participant’s process. Of the four participants, only Jane talked to any extent during the sessions. Lucy, Shara, and Henry all worked without speaking and offered minimal comments at the end even when prompted by specific questions, as listed in the Methods section, by the investigator/therapist. Therefore the investigator/therapist’s responses on the process questionnaire were unchanging throughout the treatment and did not support the research hypothesis.

Research Question 5 and Hypothesis 5a.

5. Will participants show an increase in positive self-concept as measured by the Piers-Harris Self-Concept Scale administered pre- and post-treatment?

5a. Participants will show a significant increase in positive self-concept as measured pre- and post-treatment.

Total scores on the Piers-Harris pre- and post-treatment for the four participants are shown in Figure 12. It should be noted that unlike other scales presented to this point, higher scores on the Piers-Harris indicate higher levels of adjustment and functioning.

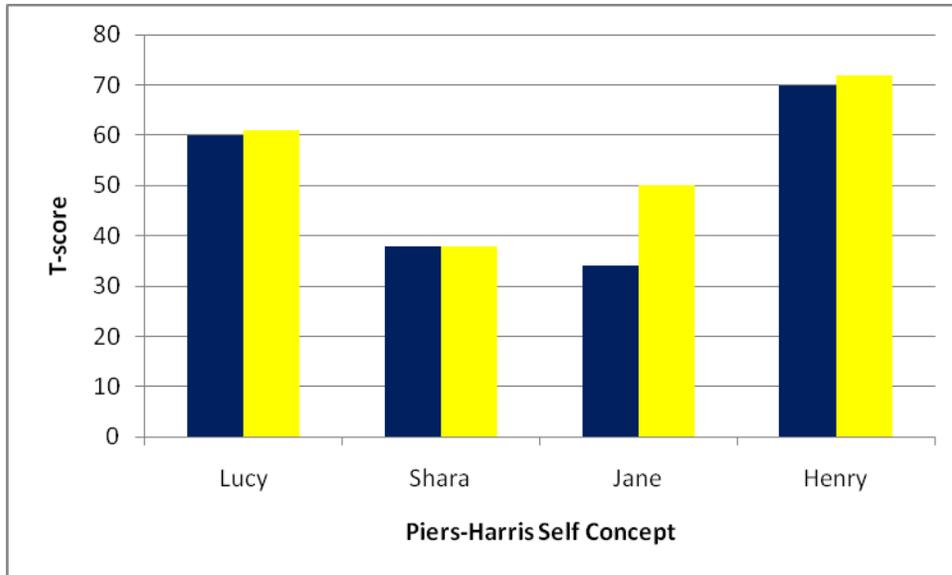


Figure 12: Participants' pre- and post-treatment total scores on Piers-Harris Scale.

The Piers-Harris provides a total score and six domain scales: Behavioral Adjustment (BEH), Intellectual and School Status (INT), Physical Appearance and Attributes (PHY), Freedom From Anxiety (FRE), Popularity (POP), and Happiness and Satisfaction (HAP). In interpreting results of the Piers-Harris, its authors advise checking the level of scores across the domain scales. Of the four participants, the only child showing a degree of variation across the domain scales was Shara; her scores for PHY and POP were some 20 points higher than her scores on the Total and all other scales. Shara's Piers-Harris profile for pre- and post-treatment scores appears in Figure 13.

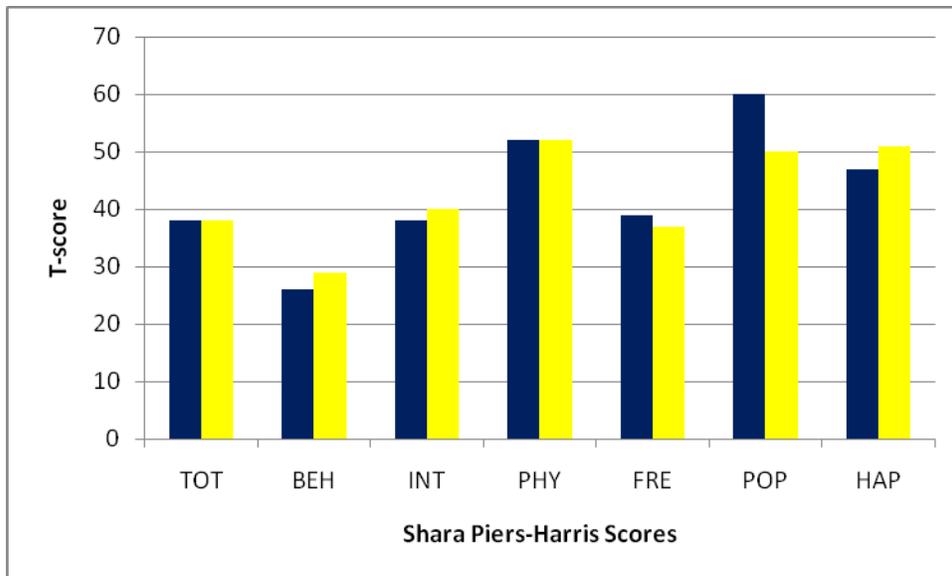


Figure 13: Piers-Harris scores for Shara, pre- and post-treatment.

Returning to Figure 12, it can be seen that the total Piers-Harris score improved for Lucy, Jane, and Henry. Thus the research hypothesis is supported for these three participants. For Shara, examination of her domain scores indicates improvement in behavioral adjustment, intellectual and school status, and happiness and satisfaction, while her scores for freedom from anxiety and popularity decreased. Her score for physical attributes remained the same and her total score remained the same; therefore results for Shara are mixed and cannot be said to support the research hypothesis.

Therapy Process Analysis

Given the lack of variation in participants' answers to the therapy process questionnaire, another method of examining process seemed appropriate. As all therapy sessions were video recorded, this video record provided another means of analysis. Although a simple factual accounting of the steps taken in creating each sand world ("fence placed in near left corner, sand smoothed around fence," etc.) could be written, such an

account would be tedious and of dubious value. A more pointed and arguably more valuable analysis would be a narrative that combines elements of the participant's world-building process with the meaning of the process as inferred by the investigator/therapist. In the case of Shara and Jane, the two participants whose results showed most marked changes in the level of depression from the beginning of the study to the end, such a narrative would add depth to the results and perhaps go a distance to explain why these two participants may have experienced such shifts in feelings and behavior related to depression.

Before making such a qualitative analysis, the nature of the investigator/therapist's subjectivity as well as her experience with this type of interpretation should be explored. At the very beginning of training as a counselor, she was exposed to the modality of sand tray therapy at a national-level convention for play therapists. For the next 12 years, she explored the modality through formal courses and seminars as well as by reading most books published to date on the topic. Formal training included a 72-hour seminar that involved seven separate weekends spent with the same trainer and group of colleagues. In this group, the emphasis was on experiential learning and each therapist in the group worked extensively on her own sand tray process, getting to know the possibilities of expressing problems and reaching resolution through nonverbal creation of sand tray worlds. Although the theoretical emphasis in this initial training was Jungian, subsequent training and additional seminars built up a conviction, ultimately leading to the current research, that sand tray therapy could be an effective treatment that could be used by therapists who did not have the benefit of extensive training in Jungian symbolism and theory. At the point at which the

investigator/therapist began this research, she had been using sand tray therapy with a variety of child, adolescent, and adult clients for more than eight years.

Overview of All Participants' Processes

As has been noted earlier, sand tray therapy is a nondirected type of therapy in which clients determine exactly how to proceed. For this reason, no two sand tray therapy sessions are the same. In this research, each participant worked in a unique style, although their approaches had some commonalities with sand tray process as studied by other researchers. Lucy created her worlds in complete silence, speaking only when she had completely finished. Her worlds were generally concrete, meaning that each object was intended to be what it appeared to be. She never used any fantasy figures and tried throughout the study to create scenes that were reflections of actual reality. For example, her second world was a beach scene, her fourth world was New York City, with the Statue of Liberty and several streets lined with buildings, and her sixth world was Disney World, populated with all the Disney cartoon characters in the miniature collection. Her worlds were always static and unchanging, and she had very little to say about them beyond identifying each situation briefly as noted above.

Henry's worlds were more typical of a younger child in that they were closer to being scenes of active play. Kalff (1980) and others describe an early developmental stage of sand-world creation as being chaos and struggle, and Henry's worlds often featured two sides doing battle. His first three worlds all had warfare themes. He then created two successive worlds that he titled "World of Peace," in which the battle was over and the good guys had won, but he returned to an aggressive theme in his sixth world, which he titled, "World of

Chaos.” After that world, he refused to give titles in subsequent sessions but army figures and static fighting scenes dominated the next five worlds. His final world, also untitled, had two longhorn bulls in a fenced-in pen, seeming to face off against each other over the body of a woman. Henry added the figure of a knight between the bulls; when asked to say as much or as little as he wanted, he stated that it was a bull fight, and the knight was “that guy who waves the red flag around,” meaning a matador. When asked where he would be in the world, he selected the knight/matador figure, and stated that he would “save the day” by defeating the bulls and rescuing the woman. One way of interpreting this tray as the capstone of Henry’s process would be that after exhibiting and working through scenes of his own interior struggle in earlier worlds, he was able to see himself as ultimately being central and heroic in his world.

In contrast to the fairly consistent presentation of similar types of worlds in Lucy’s and Henry’s process, Shara created a wide variety of types of sand tray worlds. Some had only one or two figures; some were more elaborate with as many as 20 separate figures. In creating some worlds, she took time to sculpt mounds and clear sand from areas that then represented oceans or rivers. In other sessions she began adding figures immediately to the tray and seemed uninterested in creating a landscape. A consistent theme, however, emerged: herself against everyone else. Most of Shara’s worlds will be examined in some detail as her process seems to illustrate her own growing awareness and resentment of the ways other people might be trying to control her.

Finally, Jane created an evolving set of very complex worlds that seemed to explore her need to integrate herself with the world around her as well as her struggle to overcome

what she experienced as obstructions in her efforts to engage with others. Several of Jane's worlds, also, serve to illustrate the ways in which sand tray therapy can serve as a vehicle to greater self-understanding.

Shara's Process

Shara's first world, completed in less than one minute, was of a little girl (a Fisher-Price dollhouse figure) standing by herself at the edge of a cleared space that signified water. Behind her seated on the sand were figures of a mother, a father, a baby, and a grandmother. Shara titled this world, "The Beach," and had nothing further to say about it. In her second world, after a reminder that 45 minutes were available to make the world, she worked equally quickly, placing only two figures in the tray—the same Fisher-Price girl from the beach world, lying down, and another figure of a woman who seemed to be screaming with her hands in front of her face. Shara titled this world, "Gymnastics," and said it was herself lying on a gym mat and her mother watching her. She did not comment on the fact that the mother seemed to be screaming. She explained that she did gymnastics and her mother often came to watch her at practices and meets.

Shara's third world was much more detailed. She divided the tray into three sections by brushing sand from narrow sections to indicate rivers. In one corner she placed all the witch figures from the miniature collection, plus two police cars and a three-headed dog. In another corner she placed four men, two fairy-tale princes, a pioneer with a rifle, and a hiker with a backpack. The rest of the tray, which connected to the section with the men by means of a wooden bridge, had a castle, a jeweled tree, and figures of Glinda the Good Witch from the *Wizard of Oz* and Belle from *Beauty and the Beast*. Shara titled this world, "Many

Worlds,” and explained that one corner held all the bad people, who couldn’t get across the river she had brushed in the sand and were therefore isolated from the “everyday people” (the four men) and the “princesses and stuff.” These two groups were able to connect with one another over the bridge. This sand tray makes explicit the theme of isolation and people being cut off from each other; at this point, however, it was difficult to tell if Shara saw herself as one of the bad people or as part of the princess world. It seemed unlikely that she would self-identify with the everyday people, who were all male.

Shara’s fourth world also shows isolation: in one corner there is a single figure of a young girl (not the same figure from her first two trays). A wooden bridge sits in the middle of the tray, and on the far side of the bridge is a collection of everyday objects—a chair, table, baby stroller, wheelbarrow, shovel, mirror—several animals, including two deer and a fox, and a dozen people, including a nun, the father figure from the first beach world, a doctor, a nurse, and a Japanese geisha, who is standing on the bridge but facing away from the young girl. Shara titled this world, “World By Myself,” and stated, “Sometimes I like to be by myself, and sometimes I don’t.” The part of the world with the objects and people is “the world going on, while I’m not there.” In response to a question by the investigator/therapist, Shara stated that the young girl in the corner was neither happy or unhappy, “just in the middle.”

Her next world stayed with this theme. She selected a set of figures representing a farm family—mother with milk can, father with pitchfork, and two boys. Placing these figures on one side of the tray, she added a bridge in the middle of the tray, then selected the Fisher-Price figure for herself that she had used in the first two worlds, and placed that figure

on the other side of the bridge but blocked off from it by a section of fence. She titled this world, "By Myself and Happy." Pointing at various figures, she said, "There are these people and then there's me, and then there's this wall, but I put up the wall. People annoy me a lot. If I wanted to, I could go over there, but I don't want to." At this point, Shara seemed to be aware that other people, especially her mother and teachers at school, seemed to have strong negative reactions to some of her choices, especially those that led to her getting in trouble at school for hanging out with other kids who broke rules. However, in creating her sand worlds she seemed to be placing herself defiantly on the side of the bad people, the people who were cut off.

Four subsequent worlds continued the theme of Shara on her own. In one, she created an island of sand in the middle of the tray and placed the Fisher-Price girl, lying down, on the island. She titled this world, "A Safe Place," explaining briefly that she had been falling down and having accidents a lot recently and wanted to be in a place where no accidents could happen. Her next all-alone world was of the Fisher-Price girl standing on her head in the middle of the tray, surrounded by gold coins and a circle of other items including a rainbow and a palm tree. This title was "Free World," and Shara stated that the girl was doing cartwheels.

After returning from a family vacation, Shara created a world she called "Vacation Time," which included Disney figures and the entire Fisher-Price dollhouse family. The theme of her own isolation was shown by her selecting another figure to be herself (the same girl from her "World By Myself") and drawing clear lines around this girl in the sand so she was set off from all the other figures. Shara explained the lines as being a beach blanket, but

the image is of a person clearly cut off, even during supposedly carefree vacation time. Shara's next-to-last world combined the island theme of "A Safe Place" with the isolated feeling of most of her other trays. The figure isolated on an island in the middle of the tray was the girl from "Vacation Time," facing away from a selection of other figures including the farm family from "By Myself and Happy." Asked to say as much or as little about this world as she wanted, Shara stated, "That's supposed to me and I'm on an island and these people just look at me and they're ignoring me and they don't want to help me. They see me but they don't want to help me." She titled this world, "All Alone." At this point in her life outside therapy sessions, Shara's mother had decided to change schools for Shara, taking her out of the school she had been in since kindergarten and placing her in another Catholic school. Shara reported that she was very unhappy to be leaving all her friends; Shara's mother stated that she felt that a new school would give Shara a chance to change the pattern of misbehavior that had gotten her in trouble in the past.

Shara's unhappiness at this point in the research process and after completing her "All Alone" world seemed acute; the investigator/therapist attempted to help her reframe her distress while staying within the metaphor of the sand world by asking Shara if she could select another item from the miniature shelves that might help the girl on the island. Shara found a large dolphin and placed it on the island with the girl, saying "I like dolphins and I think this one could swim in and rescue this girl." Although this intervention went beyond the scope of the nondirective therapy characterizing the research to this point, the investigator/therapist hoped that Shara's ability to take positive action to help herself in the metaphor of the sand world might translate to a greater ability to cope in her world outside

the therapy session. Shara's final tray, however, seemed to reveal Shara as continuing to feel overwhelmed by life events. She placed two "bad" figures, Jafar from *Aladdin* and the Evil Emperor from *Star Wars* in the tray, off-center, then added the Fisher-Price girl, a pile of gold coins, and two police cars. She explained the world as being the two bad men trying to steal the gold and being caught by the police. The girl is an innocent bystander but she is going to be captured by the police as well. Shara titled this world, "Guilt By Association."

Jane's Process

In contrast to Shara's relatively simple worlds that generally featured a scant handful of figures and a single situation, Jane's worlds were from the beginning complex and intricate. She combined buildings, fences, fantasy figures, gemstones, and architectural elements such as columns. Detailed descriptions of her worlds would be difficult; adding to the complexity of her process, Jane often kept up a running stream of commentary throughout her building process. For her first eight worlds, she tended to explain how each item related to how she saw herself or what was happening in her life; as an example, when she placed a blue glass figure of a bluebird in one of her worlds, she said, "The bluebird is always a sign of hope, and there's always going to be a sign of hope somewhere, sometime." A general idea of Jane's process and how it might relate to her self-reports of depressive symptoms can be derived from a description of just two of her worlds, her first and her third. At the time of creating her first world, Jane was reporting relatively high levels of depressive symptoms on the SDSQ; by the time she created her third world, her SDSQ score had fallen from a total of 16 to 5.

Jane's first sand world was divided roughly into thirds by a set of fences. In addition, she had piled a small mound of sand in the corner of the tray closest to her and brushed sand away so that the mound was separated from the rest of the tray by a clear space indicating water. On the mound she placed an igloo and a figure of a woman that can best be described as a Goth princess—a woman dressed all in black and designed to be holding a sword (she did not have the sword when selected by Jane). Jane identified this figure as herself and said that the igloo was a cave, because she felt like going into a cave a lot of times to be alone. She placed a wooden bridge over the expanse of water separating this space from the rest of the tray, but added fencing on the other side of the bridge blocking access from that side. In the rest of the tray, one fenced-off section had a section of houses, a wishing well, and a gazebo. Jane described this part of the world as "the place where people want to be nice to you." The final part of the tray, cut off from the "nice" world by a set of small stone walls, contained a thatched-roof cottage and a number of animals, including a dog, a horse family, and a pig. Jane described this section as "the imaginary part, the best part, where I really want to live." However, she, as the Goth princess, was cut off from both the nice place and the imaginary part by the fence at the end of the wooden bridge and by three threatening figures—a figure of Death in a long hooded robe carrying a scythe that was standing on the bridge, and two large Chinese Foo dogs that look something like dragons. Placing these figures to face the igloo and Goth princess, Jane stated, "Sometimes I feel like I just can't get out, like some weird force is stopping me from doing it. Sometimes I feel like something stronger than me, a lot stronger than me, is keeping me out...like, I know there's a world out

there that's better than the one I'm in." Jane titled this world, "The Better World and the Scary World."

As Jane was beginning work on her third world approximately three weeks later, she commented, "I haven't been feeling so depressed lately, I've been happy." This shift, also shown in her SDSQ responses for this time period, quickly appeared in her world as well. She placed four columns in the center of the tray and began searching for small items to place on the top of the columns. She found a blue glass bluebird, commenting that the figure made her think of hope. She added, "I like how it's so colorful." As opposed to her first tray, this tray featured open space. Fences were placed around the very edges of the world, "to keep everyone safe," Jane explained. The presence of fences possibly indicated that Jane was aware there were still difficult elements in her life, but she was willing to place limits on them and attempt to control what was allowed to enter. She added figures of dancers, princesses, and fairy-tale characters such as Belle and Glinda. "Everybody is happy and dancing," she said. She continued to populate her world, adding houses, crystal balls, fish in the river running through the tray, and a blue glass heart in the very center, on a bridge crossing the river. Her title for this world was "Being Who I Feel I Am."

Jane went on to make nine more worlds in subsequent sessions, each containing a multiplicity of elements. The worlds remained generally open and the figure in each that she identified as herself was usually able to move into all parts of the world if she chose. Jungian sand play analysts might see elements of the mandala in several of Jane's trays, including her third world. The mandala, the Sanskrit word for circle, is an elaborate design that in sand trays can take the form of an element at the very center of the tray surrounded by

symmetrical balances of items in squared or circular patterns. Jane's third tray presents such a mandala design, with the blue heart on a bridge in the very center, surrounded by a symmetrical square with columns at each corner, and circles of items ringed around the square. Such mandala designs also appear in her fifth and seventh trays. Kalff (1980) believed that a person who without conscious awareness created a mandala in a sand tray was expressing an experience of wholeness and healing.

Summary of Results

This chapter has presented two sets of results of this study. The first is related to the single-case analysis based on SDSQ scores and supporting data provided by a number of standardized assessments. The second is a qualitative, narrative presentation of participants' sand tray process in general and two participants' process in some detail. What can be summarized about these findings?

Visual analysis of the graphed SDSQ results indicate that change did occur for three of the four participants: Shara, Jane, and Henry. The trendline calculated from the relationship between time elapsed and SDSQ averaged total scores shows small to medium effects (R^2 values) for these three participants. At the same time, calculation of the PND statistic for the participants shows a definite effect for Jane and Henry; Shara's PND statistic, while higher than Lucy's, falls into the "questionable" range. Results on the descriptive standardized measures show that all participants except Lucy improved on the CDI, for both self and parent reports. Lucy's parent reported an improvement on the CDI-P while Lucy herself reported a relatively slight increase in depressive symptoms. On the BASC scale for Depression, Shara and Jane showed improvement in symptoms on their self reports, while

Lucy and Shara showed improvement on parent reports. For the BASC scale for Internalizing Symptoms, Jane and Henry showed improvement on self reports, and Lucy and Shara showed improvement on parent reports. One way to look at these results is that everyone improved on something; however, differences between self and parent reports will be further explored in Chapter 5.

In terms of process, the therapy process questionnaire proved to be unhelpful in determining how participants viewed this type of therapy. The investigator/therapist's own view of each participant's process revealed that Shara and Jane seemed to explore problems and issues in their lives, while Lucy and Henry presented more concrete and objective worlds. The relation of this finding to the overall results of the study is further explored in discussion of the results in Chapter 5.

CHAPTER 5: DISCUSSION

This study examined the effects of sand tray therapy on the reduction of depressive symptoms in young adolescents. The design was a single-case analysis. Single-case analysis, with participants serving as their own controls, permits an examination of research problems that is more rigorous than a qualitative case study, but does not demand the type of constraints, such as manualization of treatment, that may be necessary for a large-scale, randomized controlled study of treatment (RCT). Single-case design also permits a more detailed examination of process than is possible with an RCT as well as the ability to review exactly how the dependent variable changes over time. This particular single-case design, multiple-baseline-across-participants, required that the baseline period be randomly varied across the four participants to provide four systematic replications of the treatment. Variation of the baseline period was intended to show more definitely whether the treatment itself was the cause of change in depressive symptoms.

In single-case research generally, researchers hope that when the independent variable is introduced, there will be a change in the dependent variable that is abrupt, large, and sustained (Crosbie, 1993). This type of change allows results to be determined fairly easily through a visual analysis of data. Such a result did not occur in this study. There were, however, changes in the reported level of depressive symptoms over time, such that three of the four participants—Shara, Jane, and Henry--can be viewed as having experienced a treatment effect from participating in sand tray therapy. These changes are supported by data derived from the SDSQ, the primary data source for the design, structured as a five-question self-report on depressive symptoms. Examination of the graph of SDSQ scores shows that

Shara, Jane, and Henry concluded the study with lower SDSQ scores than when they began. Also, for these three participants, a decline in SDSQ scores occurred immediately after treatment began, but the decline for Shara and Henry was not large and was not sustained. Scores for Shara and Henry rose after an initial dip to levels that were actually higher than beginning levels approximately one-third of the way through the study, then fell off again to conclude at levels below that of the starting level. Calculation of R^2 values and the PND statistic also confirm significant changes in depressive symptoms for Henry, Jane, and to a lesser degree, Shara.

The second part of this study was an attempt to explore the process of sand tray therapy. The original aim was to have participants and the investigator/therapist record their session-by-session experiences by answering a therapy process questionnaire designed for this study. Results of the questionnaire did not support research hypotheses concerning the sand tray therapy process; however, analysis of the video records of therapy sessions did permit assumptions about how sand tray therapy may have been perceived by the participants and how the process unfolded over time to help reduce depressive symptoms.

Given that results did not fulfill the expectation that a clear improvement in depressive symptoms would be revealed in a visual analysis, the first part of this chapter will explore reasons why such a change did not occur, followed by a more general discussion of limitations of the study. This chapter also includes recommendations for future research and for clinical practice as regards the treatment of depression and also the use of single-case analysis to track change in psychotherapy.

Why the Predicted Change Did Not Occur

There are, broadly speaking, two possible explanations for why there was no abrupt, large, and sustained change in the dependent variable, depressive symptoms, after introduction of the independent variable, sand tray therapy. The first explanation is that sand tray therapy is not an effective treatment for depressive symptoms. Although this explanation remains a possibility, the primary argument against its likelihood is that change did in fact occur in depressive symptoms after introduction of the therapy for three of the four participants. In addition, over the entire course of the study, these participants reported decreases in depressive symptoms as measured by a standardized assessment, the CDI. The question therefore becomes, why was the change in depressive symptoms not immediate and large?

As noted earlier, single-case design has traditionally been used to measure observable changes in behavior following the introduction of an equally measurable intervention, such as a pellet of food rewarding manipulation of a lever. In this study, both the change being measured and the intervention are less clearly defined. In the study of depression treatment (the intervention), for example, there is no clear evidence that a therapist treating depression can expect an immediate improvement in depressive symptoms, whatever the intervention may be. There is, however, some evidence, as cited earlier, that sudden improvements in depressive symptoms do occur in a number of interventions, with such improvement occurring as early as the second session (Tang & DeRubeis, 1999, Tang, Luborsky, & Andrusyna, 2002). To date, however, no researcher has been able to state why such changes occur; therefore, the lack of such an occurrence in the current study is not proof of the ineffectiveness of the therapy.

The final element to be examined in a search for explanation is the measurement of the dependent variable, symptoms of depression. In the current study, the assessment of depressive symptoms was accomplished with the SDSQ, a five-question survey derived from the CDI. Although each of the questions was intended to assess the presence and strength of one of the five factors shown to be associated with depression (Kovacs, 2003), it is possible that participants did not view these questions as having much relevance to their own internal experience of depression. For example, Question 2 states, “I get into fights,” with participants selecting a number from 0 to 4 to indicate their agreement with the statement. The question was worded to attempt to evaluate irritability, which is a symptom of depression commonly seen in children. However, participants may have interpreted the statement more literally to mean physical fights, rather than arguments. The quality of snappiness or having an interior feeling of being irritated was also not tapped by this question. It seems possible, therefore, that the SDSQ was not sufficiently sensitive to capture changes in depressive symptoms. As suggested in the section on research recommendations below, an approach in which the self-report was crafted specifically for each participant’s particular symptoms—for example, “I had arguments with people”—could well have resulted in findings that would have reflected more immediate, large, and sustained changes as had been predicted.

Limitations of the Study

The first set of limitations concerns the nature of the participants involved in the study. Participants were drawn from potential clients for the primary investigator’s private counseling practice as well as a pool of students in private Catholic middle schools in

suburban northern Virginia. The five mothers of participants reported that they had been referred to the study either by seeing a flyer describing the study that had been left in the waiting rooms of private counseling practices in the area or from counselors at private Catholic schools. This convenience sample necessarily limits any generalization of results to children of families who were already familiar with therapy services or had children in private schools. In addition, participants in the study had parents who were willing to bring their children to weekly therapy, indicating a degree of commitment and involvement with their child's well-being as well as access to private transportation. Another source of limitation is the nature of the instrument used to measure change. The primary measurement of change in therapy was a self-report on five symptoms of depression. Self-reports especially from children can be of questionable validity (Piers & Herzberg, 2002; Poznanski & Mokros, 2005; Reynolds & Kamphaus, 2004). Mothers of the participants also reported on their child's depressive symptoms in the CDI-P, administered every two weeks. However, the parent reports for all four participants differ in varying degrees from the self-reports of their children, both as assessed by the CDI self-report given every two sessions and the SDSQ completed every other day. Why do these differences occur and which should be considered more reliable? The issue is not unique to this study. Kazdin (1994) cites research that the level of correlation between ratings of child dysfunction between parents and the children themselves is relatively low ($r = .25$). Several possibilities present themselves as reasons for the discrepancy. Children may be less willing to disclose negative information about themselves, or may have more difficulty parsing out subtle differences in their internal feeling states. Parents, on the other hand, can be biased in their perceptions of their child,

seeing the child as more or less symptomatic than may be the case. Parents also can experience a need for social desirability, to present their child as better than may be the case, in hopes of avoiding the researcher's possible negative judgment about their parenting skills. In addition, research has shown that the presence of maternal psychopathology can affect mothers' perception and reporting of psychological states in their children. The presence of maternal anxiety and depression, in particular, relates to such differences (Kazdin, 1994). However, researchers have noted that in general, self-reports of children about their internal states may carry more weight than reports of parents (Kovacs et al., 2003). Depression is primarily an internalized state, which makes behavioral measures, such as classroom observations, of limited value. Further, time and economic constraints impeded the feasibility of independent behavioral observations of participants. It is well within possibility that the instrument used, the SDSQ, was not sufficiently sensitive to reflect changes in an internalized state that might well have been poorly understood by the young participants in the study.

Another limitation possibly affecting the outcome of the study concerns the length of the baseline period. Kazdin (1982) suggests that the baseline period be extended until the behavior targeted for change becomes stable. In the current research, significant variations in baseline behavior can be seen in the chart of Jane's SDSQ scores. Henry's baseline scores also contain variability. Therefore, when treatment began, it was difficult to determine whether the changes in SDSQ scores were actually a result of treatment or were evidence of further variability in measurement. On the other hand, there is always a question of whether it is ethical to delay treatment in order to achieve a stable baseline.

Individual differences in the participants may also have limited the study. An examination of the processes of Shara and Jane, coupled with information from the intake assessments, suggest that both participants suffered from co-morbid conditions that were more externalizing in nature. Shara achieved clinically significant BASC scores on the parent report for aggression and conduct problems, plus clinically significant scores on the BASC self-report for attention problems and hyperactivity. Jane as well had evidence of externalizing problems as evidenced by her mother's BASC report which showed clinically significant scores for conduct and attention problems and at-risk scores for hyperactivity and aggression. For both participants, these issues may well have interfered with the success of a treatment intended to target depressive symptoms.

Individual Differences

Given that the results of the research did not show the type of large and immediate change in the dependent variable that was anticipated, the question arises as to what other types of relevant information can be derived from this study that make a contribution to the literature. An examination of the individual process of participants within the study was also an initial aim of this study. Such an examination reveals elements that may add to understanding about the nature of sand tray therapy and its ability to facilitate positive change. It should be noted that the ability to examine such differences is a particular strength of the single-case design. Hilliard (1993) presents an argument that the discovery of what aspects of a particular psychotherapy modality actually result in therapeutic change will only be possible if investigators can break down "global outcome" (such as is presented large RCTs) into "a series of smaller interrelated changes" that focus on the variability within

therapy sessions and between therapy dyads, which Hilliard describes as “the very heart of psychotherapy research.” (p. 374).

Change in Participants: Lucy

Lucy was the first participant enrolled in the study and stands out in several ways. Her initial assessments showed very few if any depressive symptoms. Her self-reports on the SDSQ were consistently very positive, with scores changing only on one item, “I feel sad.” Beginning therapy already at normal levels of functioning, Lucy not surprisingly did not show improvement over the course of treatment, demonstrating what has been called the floor effect. The decision to include Lucy in the study was made not only on the strength of her mother’s wishes that she be included, but also on the investigator/therapist’s belief that Lucy could be denying her depression out of a desire to look good, or that she might not actually be aware of the extent of her depressed feelings. The nature of Lucy’s sand tray process could be seen as supporting the theory of denial, as her sand worlds were uniformly concrete and emotionally unrevealing. She generally did not place herself in the world either spontaneously or when asked directly to choose a place where she might be. On the other hand, it could also be the case that Lucy never suffered any depressive symptoms and made concrete, unexpressive worlds because she remained at the Piagetian level of concrete operations. If this latter explanation is in fact the case and Lucy was not at all depressed, then including Lucy in the study weakened the findings. In future research, this error could be avoided by making and adhering to a clear definition of pre-existing depression in terms of both a minimum as well as a maximum score on a screening instrument such as the CDRS-R.

Change in Participants: Shara.

Shara's results show a mixed blend of improvement in some areas while other measures seemed to show a worsening of symptoms. Her scores on the SDSQ as well as scores on the CDI-S showed some improvement from the beginning of treatment to the end. Her mother's assessment, however, as reflected in scores on the CDI-P, showed very little improvement in Shara's symptoms. Examination of what Shara was saying and creating during her sand tray sessions also revealed a mixed blend of positive and negative expressions. Her initial worlds seemed to reflect a feeling that there were both positive and negative forces in her life; for example, her third sand world showed "bad people" being kept away from "everyday people" who were separate from but linked to a positive fantasy world of princesses, castles and jeweled trees. Shara then created a series of positive worlds, the first such world having the title, "By Myself and Happy." In subsequent worlds she also presented herself as alone and content, for example, turning cartwheels in the middle of a world containing gold coins, gems, and a rainbow, or lying quietly on an island in a world she identified as a safe place. These expressions could be evidence that Shara was beginning to use the sand world creation process to explore more positive ways of viewing herself. Alvarez and Phillips (1998) identify this type of play as a way of trying out different ideas, "tentative explorations of a feeling of hope and security" (p. 101). In terms of the theoretical framework of this study, Shara was perhaps beginning to use a metaphorical language of self-competence and resilience to overcome feelings of depression that may have been a part of her life since her father's sudden death two years earlier.

As the school year ended, however, Shara's mother informed her that she would be leaving the school that she had attended since kindergarten, primarily because her mother and

school administrators believed that Shara had fallen in with the wrong crowd. This news seemed to undermine Shara's ability to maintain a positive outlook; her final three worlds reflected a view of herself as overwhelmed by negative forces. She presented herself as alone and needing help, stating that the other figures in these worlds ignored her and refused to help her. As her participation in the study ended, her level of depressive symptoms seemed to increase, perhaps as a result of feeling that she had lost significant control and was experiencing direct challenges to her feelings of competence.

Shara's therapy process seems to illustrate a kind of middle ground for sand tray therapy. It cannot be said that this type of therapy proved to have lasting effectiveness in building her sense of self-competence and increasing resilience, as her depression seemed to be returning to some extent despite the intervention. However, her therapeutic process, in another set of circumstances, could have proved an effective way to facilitate more directed interventions that could help Shara develop more insight and coping strategies. The investigator/therapist in this study was constrained from elaboration or interpretation of Shara's sand worlds, as the treatment protocol was as minimalist as possible to allow evaluation of sand tray therapy on its own merits. Sand tray therapy, however, may be more pragmatically viewed as one tool in a comprehensive bag of therapist techniques. In this case, its greatest value may well have been its ability to allow Shara to identify feelings about herself and other people in her life and to help her develop ways to break through her sense of isolation and helplessness.

Change in Participants: Jane

Jane's therapy process and outcome show perhaps the most direct benefit of sand tray therapy as a way of allowing a client to conceptualize and reframe issues. From her first session, Jane was able literally to seize hold of the elements of her life and identify both her limitations and her resources. In that first world, she identified herself as a person who wanted to retreat into a cave, symbolized by an igloo. At the same time, she could see places that were much more attractive than her cave-island, places containing symbols of love, family, and security (a blue heart, animal families, a cottage). In this first world, she saw herself as cut off from these desirable places; her choices for the forces that kept her from happiness included fierce dogs representing her own anger and a figure of Death holding a scythe, possibly representing her view of her chronic illness, Crohn's disease.

In her second world, the barriers between the negative and positive worlds were gone, and Jane identified herself as standing on the bridge connecting those worlds. Negative elements in this world included multiple symbols of death: tombstones, a coffin, a ghost, and scary figures including a werewolf; on the positive side were symbols of love, security, and family, mainly the same figures used in the first world. Although the negative world is larger in this second world, Jane's self-representation (a figure of a young woman) is not prohibited from leaving the negative world. In terms of narrative therapy theory, Jane was visualizing and externalizing the interior conflict she felt, and was therefore able to see herself as having a choice about what she thought and felt. Beginning with these first two worlds, Jane was able to use sand tray therapy as a way to tell a coherent story; by relating the story to the investigator/therapist, Jane may have experienced not only acceptance of her feelings, but

also a sense of wholeness or integration about her life outside therapy (Russo, Vernam, & Wolbert, 2006).

Jane experienced a rapid decrease in depressive symptoms at the beginning of treatment. Although it seems likely that treatment played a role in this decline, it cannot be stated with certainty that treatment was the causative factor. Nor can it be inferred that the specific modality, sand tray therapy, was the cause. At the same time that Jane was able to access the particular expressive and creative aspects of sand tray therapy, she was also exposed to the benefits of beginning a therapy relationship. It could be that simply having the opportunity to be with an adult who did not have expectations or an agenda for her could have been transformative. She might also have experienced a lessening of depressive symptoms because she believed the investigator/therapist was genuinely interested in her and showed concern for her well-being. These relationship elements of any therapy have been shown in many cases to be the single greatest contributor to client improvement (Beutler, Machado, & Neufeldt, 1994).

In Jane's case, the positive impact of the therapeutic relationship may have been particularly meaningful given her apparently conflictual relationship with her mother. Jane's mother reported clinical levels of conduct problems and attention problems as well as depression; scores on the post-treatment parent BASC showed even higher levels of conduct problems as well as aggression, which approached a clinical level. In brief conversations during the course of treatment, Jane's mother expressed ongoing frustration with Jane's "temper tantrums" which she reported as occurring nearly every evening. In considering Jane's mother's reports on her daughter, however, it is also necessary to consider whether the

mother's own level of anxiety and depression might be high, given that Jane suffers from Crohn's disease. As noted above, maternal anxiety and depression can affect perceptions and reports of a child's behavior (Kazdin, 1994).

Change in Participants: Henry

In many ways Henry's treatment outcome parallels that of Lucy. Both began treatment at relatively low levels of depressive symptoms as measured by the CDRS-R and both the CDI-S and CDI-P. Henry, however, reported changes over time in all five factors measured by the SDSQ, which perhaps indicated a willingness to acknowledge depressive symptoms. Lucy seemed intent on denying any such symptoms with the exception of occasionally admitting she felt sad.

Interestingly, Henry's depressive symptoms seemed to peak between his third and fourth sessions to a level higher than any reported during baseline. His third world was a scene of conflict very similar to his first two worlds, but his fourth world was markedly different. It contained a bride and groom, a rainbow, a cross and a figure of Jesus. He titled this world, "The World of Peace." This shift in Henry's process can be seen as supporting a view of sand tray therapy as at least partly cathartic (Kalff, 1980). By acting out his angry feelings in his first three worlds, Henry was able to reach some resolution and move into a calmer, more settled experience. Henry continued to create peaceful worlds until his twelfth session, which again was a fighting scene with a fence dividing the world in half. At this time Henry also reported via SDSQ scores an increase in feelings of sadness, ineffectiveness, and negative self-esteem. His mother also reported at the same time via the CDI-P an increase in Henry's symptoms of depressive emotionality. Unfortunately, these scores were not charted

until the conclusion of therapy so the investigator/therapist did not inquire if any life events occurred at this time to contribute to these changes. As noted above in Chapter 4, Henry was able by the end of treatment to place himself in his world as a central, heroic figure. His process therefore can be seen as supporting the conceptual framework of the study: by experiencing control and demonstrating competence during the building of sand tray worlds, Henry was able to broaden and build his positive emotional experiences (Frederickson, 2001).

What Was Learned

The current study has specific limitations as discussed above in terms of design, participants and assessment methods. In addition, the very small number of participants and what was essentially their self-selection for the study restricts generalization of results. Given the lack of large, abrupt, and sustained change in the dependent variable immediately following introduction of the intervention, the cause of the ultimate changes in depressive symptoms cannot with certainty be determined to be that intervention. Results must be viewed in terms of the individual cases involved, and extraneous factors such as history, maturation, or other events co-occurring with the intervention cannot be ruled out.

Nonetheless, this study attained several goals. It is perhaps the first attempt to systematically study sand tray therapy in a design that is more rigorous than what has to this point been predominant, the qualitative case study. Although the multiple-baseline-across-participants design did not deliver expected results, reduction in depressive symptoms occurred for three of the four participants, giving credence to the efficacy of sand tray therapy in the treatment of depression in young people. In addition, results of this study

confirmed the investigator/therapist's experience that sand tray therapy is a pleasant, positive activity for young adolescents. This confirmation came from the unanimous reports by participants that the sand tray sessions were enjoyable and that they felt creative and in control during the sessions. Taken together, these specific contributions mean that therapists that are interested in effective techniques, could incorporate sand tray into their practices with the expectation that such techniques will be well-received and will be helpful in effecting change.

In addition, this study can provide a guide to other researchers seeking to expand the evidence base for other therapies by using single-case design. As noted earlier, the American Psychological Association (APA) has referenced research using the single-case design as being a method of identifying effective psychotherapy (APA, 2002). More recently, an APA-published guide to this design stated, "The practitioner-generated case-based time-series design with baseline measurement fully qualifies as a true experiment and ...it ought to stand alongside the more common group designs (e.g., the randomized controlled trial, or RCT) as a viable approach to expanding our knowledge about whether, how, and for whom psychotherapy works" (Borckhardt et al., 2008, p. 77).

Finally, this study shows that single-case analysis can be carried out in the context of a private therapeutic practice; it is possible to assess a set of symptoms in a relatively nonintrusive way and continue to monitor those symptoms throughout the course of therapy to determine the effectiveness of treatment. As Lundervold and Belwood (2000) note, single-case designs are flexible, evidence-based methods designed for use in practice settings. Their use in clinical practice can provide clinicians with an evidence-based decision-making tool.

Using the current study as an example, information collected about each participant during the treatment phase could have led to a decision to re-evaluate or possibly terminate Lucy after several weeks of SDSQ scores indicating low or no levels of depressive symptoms, while Jane and Shara would have been continued in treatment, with possibly another intervention, such as cognitive-behavioral therapy, added to or substituted for sand tray therapy.

Recommendations

Research

The current study examines a complex form of therapy, sand tray therapy, that is client-centered and nondirective. Up to this point, such therapies have been investigated primarily through qualitative case-study analyses. However, the relative ease with which single-case analysis can be carried out even with such a complex type of therapy suggests that future research be aimed in this direction. Research by Schottelkorb (2007) and Garofano-Brown (2007) on play therapy using a single-case design indicates that such work is feasible and could strengthen the evidence base of sand tray therapy, which to date appears to be a popular but under-researched modality.

A major issue to be confronted in such research would be the accurate assessment of dependent variables. One researcher who studies play therapy using single case analysis has called the lack of appropriate instruments “the single biggest problem we have right now in conducting single case design” (D. Ray, personal communication, April 21, 2009). One possibility for conducting accurate assessments of children as a source of data for single-case design is the Direct Observation Form (DOF), a part of the Child Behavior Checklist

(Achenbach & Rescoria, 2001). The DOF contains 96 items rated on a four-point scale following a 10-minute observation. It includes scores for internalizing as well as externalizing behavior. This type of data collection would work best in situations where the observer could remain naïve to the purposes of their observations; its use by a single investigator who also conducts therapy would be problematic. Teams of researchers, however, could put such a system in place, ideally in a school allowing access to children in naturalistic settings.

Another, less complex method of developing an adequate measure of change would be to adapt the method used at the Practice-Research Integrative Project of the University of Tennessee Psychological Clinic, as described by Borckardt et al. (2008). The protocol for this work follows an A-B design: During a one- to two-week baseline phase and throughout the treatment phase, patients keep a daily record of their symptom status on a general distress scale (a Likert-type item ranging from 1 to 10) and also provide daily ratings on two or three behavioral or self-report items that are crafted at intake by the therapist. If this method were applied to the current research in place of the more general SDSQ rating scale, Shara (for example) might be asked to keep a daily count of how many arguments she had with other people, while Jane might be asked to keep count of how many times she cried during the day. Crafting assessment measures that are more specific to each participant's pattern of presenting symptoms would create rating systems that are more clearly understandable to participants as well as more accurate reflections of problem behaviors or feeling-states.

This study also attempted to study process variables in therapy with young adolescents. The fact that participants in this study reported little, if any, meaningful

differences in their experience of therapy process raises questions for subsequent research. Earlier research on the therapy process of children relies upon behavioral observations rather than self-reports (Berg, 2000). Therefore, this study represents a first attempt to compile a working measure of process as a self-report by clients. It may be that clients at this age are either unable or reluctant to make clear assessments of how they feel about themselves and their therapist during therapy sessions. It could also be true that another form of assessment might result in more accurate findings. For example, a neutral third party—another therapist—could meet briefly with the child after each therapy session and ask for responses on an instrument such as the one developed for this study. Perhaps even such a simple step as having the child complete the therapy process assessment while the therapist is out of the room might result in more accurate assessments. It is also possible that a third party, a neutral observer, could make objective assessments about process by watching the video record of each sand tray session if, unlike in this study, the camera was set so as to catch all movements and facial expressions of participants. The use of such a third party would provide a measure of reliability to process studies. Adding neutral evaluators and assessing for interrater agreement would strengthen the research design for future investigations of sand tray therapy effectiveness and mechanisms of change.

Future investigators might consider doing a comparison of sand tray as it is currently used by practitioners, namely as part of a battery of strategies such as cognitive behavioral interventions, rather than a stand- alone therapy. Finally, future research might compare sand tray to CBT or interpersonal psychotherapy, both of which are recommended for the

treatment of adolescent depression. A control condition using group education about depression might have some ecological validity as a neutral comparison.

Clinical Practice

This study supports the use of sand tray therapy in the treatment of depressive symptoms in young adolescents. As a therapy modality, it was readily accepted by participants. Working on sand worlds helped at least two participants recognize and talk about some of the problems they face in the world outside therapy. Even when the sand tray worlds did not directly relate to a child's issues, the creation of the world at a minimum provides a jumping-off point for the therapist to begin engaging with the child.

There remains a question about the ability of sand tray therapy by itself to bring about significant and lasting change in clients. The purpose of the current study was to assess sand tray therapy on its own, without supplementation with any kind of talk therapy. Given that the results of the multiple-baseline-across-participants visual analysis did not support sand tray therapy as a mechanism of change for all four participants, it is not possible to conclude that sand tray therapy would be effective on its own. However, in real life, therapists rarely if ever use sand tray therapy as a stand-alone technique (Boik, 2000). Even Kalff (1980), who might be seen as the most proactive advocate of sandplay, described the therapy process as an alternating flow of sand tray creation and verbal processing by both the therapist and client. The circumstances of the current study, in which talk was restrained only to what the participant said, would not occur in a typical therapy practice. One of the strengths of sand tray therapy as a modality to be offered to clients would seem to be that it provides a foothold for therapists: clients become engaged in an enjoyable activity, relax, and thereby may be

more open to other therapeutic interventions. Moreover, sand tray can be helpful to clients as an effective way to build trust with the therapist, making the development of a therapeutic working alliance more efficient. The quality of the working alliance remains one of the most effective mechanisms of change (Sexton, Ridley, & Kleiner, 2004). As is described in the process that Jane worked through, sand world building opened up the therapy relationship by allowing the client to comment on aspects of her life. There were many moments within Jane's process during which the investigator/therapist might have asked questions or made comments that would have further strengthened the therapy relationship. Building on a foundation of creative expression, the therapy process can become deeper and richer. As Russo, Vernam, and Wolbert (2006) point out, sand tray allows clients to use play and metaphorical language to express their stories and worldviews, while at the same time involving the therapist in the client's own experience. Such a process allows therapists to develop their ability to better understand and therefore to help their clients.

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APPENDIX A

INFORMED CONSENT FORM

Single-Case Analysis of Sand Tray Therapy

In Treatment of Depressive Symptoms in Early Adolescence

IRB #120903

Investigator: Sue Dawson, 703-307-7467

I. INTRODUCTION

Your child is invited to take part in a research study supervised by Sylvia Marotta, Ph.D. and conducted by Sue Dawson as part of the requirements for her Ph.D. degree in Counseling at the George Washington University. You are being asked to take part in this study because you have indicated that you are concerned about your child who seems to be having symptoms of depression. Before you decide if he or she should be a part of this study, we ask that you read this form and ask any questions you may have.

Talk to the research team at any time if you have questions, including questions, if you have concerns or complaints, or think that you have been harmed--you can call Sue Dawson at 703-307-7467. If you want to talk to someone about your rights as a human research participant, call the Office of Human Research at George Washington University at 202-994-2715. Taking part in this research is up to you. You can refuse to take part. You can join now and quit later. Either way, it won't affect how we treat you.

II. PROCEDURES

The study determines the effects of a certain kind of therapy, sand tray therapy, in relieving symptoms of depression in children aged 11 to 14. Sand tray therapy involves choosing miniature objects from my collection and placing them in a shallow tray to create a world. People can choose to make whatever kind of world they would like. It is a creative kind of therapy that most people enjoy. Its effectiveness in helping children who have symptoms of depression has not been proven. This study will run approximately four months and will involve four to six children who have mild to moderate depression. Here is a description of the procedure:

1. Today, after you have signed this consent form and your child has signed the assent form, you will each complete two questionnaires: the Behavior Assessment System for Children and the Children's Depression Inventory. Answering these questionnaires should take about 30 minutes. I will then score these questionnaires to make sure that your child is a good fit for this study. If the answers either of you provide on these questionnaires indicate that your child may be seriously depressed or may have some other serious mental illness, I will stop today's session at this point, explain the results to you, and make a referral to someone else, another mental health professional, who can begin appropriate treatment with your child if that is your choice.

2. If we continue with the procedure, the next step will be for me to talk briefly to you by yourself to get some basic information about your child's medical and developmental history. While you and I are talking, your child will be answering another questionnaire, the Piers-Harris Self-Concept Scale. This part should take about 20 minutes.

3. Next I will meet with your child by him- or herself to complete another standardized questionnaire called the Children's Depression Rating Scale. Even though you and your child have already answered one questionnaire about depression, this second questionnaire will allow me to get a more detailed picture of your child's symptoms of depression. Completing this questionnaire takes about 20 minutes.

4. Our final task today will be for me to explain the very short questionnaire (only five questions) that your child will be answering all the way through the study. We will set up a convenient time for me to call your child on a schedule of every other day to get the answers to these questions. We will also set up a time for your child to come to my office to begin sand tray therapy. We will set the first appointment at a time that will be convenient for you and your child. Although your child may not begin this therapy right away, I plan to have every child in the study begin therapy within 24 days, or about three and a half weeks, of this first interview. I hope that we will be able to schedule one therapy session every week for 14 consecutive weeks.

5. When your child comes for his or her first session, I will explain the process of sand tray therapy. Each session will be 45 minutes long, although some children may choose to leave earlier. The therapy sessions will all have the same format. I will show your child my sand tray and my collection of miniature items and ask your child to make a world in the sand. Children generally find this activity to be relaxing and enjoyable. Children can choose whether or not to talk during this process. During the process I will be taking notes to record the steps and items your child chooses to make his or her world. At the end of each session I

will ask your child to complete another short questionnaire about how they felt during the therapy session.

6. Every two weeks I will ask you and your child to fill out the Children's Depression Inventory, the same questionnaire you both will fill out today; this should take about 10 minutes or less for each of you.

7. I will also videotape the process of creating the sand world. The video camera will be set up to record only the sand tray and not the face or body of any person participating in the research. A separate form giving consent for videotaping is attached.

8. At the very end of the study, I will ask you to complete another Behavior Assessment System for Children, the same form you will answer today, and another Children's Depression Inventory. I will also ask your child to complete the child's version of both these forms plus another Piers-Harris Self-Concept Survey. I will then help you schedule an appointment, which should be no more than 30 minutes, with another psychologist, Dr. Lorraine Schooner, who will administer another Children's Depression Rating Scale to your child. Dr. Schooner has agreed to help me with this part of my study. She will not know anything about you or your child except for your child's first name. I will be helping you set up this appointment so that she will not need your phone number. Her office is next door to mine and we will make every effort to have this last piece scheduled at a time that is convenient for you.

III. POSSIBLE RISKS

The possible risk in having your child participate in this study would be having your child work with a stranger who would know that he or she has symptoms of depression.

Some children may feel uncomfortable in this situation. Although your child is not required to talk about any of his or her feelings, sometimes the sand tray therapy process can bring up feelings that may be upsetting. If your child becomes upset during any therapy session, we can stop the session at any time the child wishes. If your child would prefer to have you in the room with him or her as a source of comfort, we can arrange for that to happen.

As part of my initial assessment of your child's symptoms of depression, I will be conducting an interview with him/her asking about these symptoms. One section of this interview asks whether your child has thought of harming him- or herself, whether your child knows what *suicide* means, whether your child has ever thought of committing suicide or has ever attempted suicide. Some people believe that by asking someone about suicidal thoughts or feelings, I would be planting ideas to commit self-harm or suicide in that person's mind. This belief is not true. In fact, if someone does have any kind of thoughts or feelings about suicide or self-harm, being given the opportunity to talk about those thoughts or feelings can be a great relief.

If your child does report having any kind of thought or feeling about self-harm or suicide, I will immediately stop the questionnaire and follow up on what your child has said. If I believe your child is at serious risk of attempting an act of suicide or self-harm, I will call you in, inform you, and provide you with instructions and directions to take your child to the nearest emergency room. I will follow up with you until I am sure that your child is getting the services that he or she needs.

IV. POSSIBLE BENEFITS

There is no guarantee of direct benefit to you or your child for participation in this study. Your child may experience some relief of symptoms of depression, as the therapy they will be receiving, sand tray therapy, has been used for many years in the treatment of children with similar symptoms. I have received more than 200 hours of training in this specific form of therapy and have used it with many children; I have more than 8 years experience as a child and family therapist working in agencies and in private practice. Even if your child experiences no direct benefit, the information collected in this study may be important in instructing and informing people who work with children who have symptoms of depression. Depression is a serious problem for children and adolescents and this study will add to research and knowledge to be made available to parents, teachers, therapists, and others who help depressed children.

V. TREATMENT ALTERNATIVES

The type of therapy that your child will receive, sand tray therapy, has not been conclusively proved to be effective in the treatment of symptoms of depression. Other treatments are available from other mental health professionals. These alternatives include cognitive-behavioral therapy for depression, which is offered by a variety of counselors and therapists, and anti-depressant medication, which can be prescribed by your child's pediatrician or by a child and adolescent psychiatrist. If at any time you believe that one of these treatment alternatives would be more effective for your child, you are free to pursue those alternatives.

VI. RIGHT TO WITHDRAW FROM THE STUDY

Your child's participation in this study is voluntary. He or she may withdraw from the study at any time.

VII. CONFIDENTIALITY OF MEDICAL AND RESEARCH RECORDS

The records of this study will be kept private. In any publications or presentations, we will not include any information that will make it possible to identify you or your child as subjects. Research records will be stored securely and only researchers will have access to the records.

I am required to inform you that there are two exceptions to your right to confidentiality. The first is if I learn of any abuse or neglect of a child. If that occurs, I am mandated to call Child Protective Services to report the abuse or neglect. The second exception is if I believe that your child is at serious risk of committing suicide or homicide. In that case I will provide you with immediate referrals for emergency help and will follow up, to the extent of calling Child Protective Services if necessary, to ensure that your child gets the help that he or she needs.

VIII. PROTECTED HEALTH INFORMATION

Federal laws require that researchers and health care providers protect the privacy of information that identifies you or your child and relates to your past, present, and future physical and mental health or conditions, or the provision of health care. If you agree to participate in this research, protected health information (PHI) will be used and shared with others for purposes of the study. The specific PHI collected in this research includes your and your child's name, phone number, your child's age, ethnicity, and gender, your child's grade in school, the zip code of your residence, video-recordings of your child's sand therapy

session, the notes that Sue Dawson takes during the sand therapy session, and the results of the questionnaires outlined above assessing your child's mental health.

This PHI will only be seen by the principal coordinator of the research, Sue Dawson, but may be requested by officials at the George Washington University who are responsible for compliance with procedures regarding the use of human subjects in research. In addition, Dr. Lorraine Schooner will not view any of the data collected by the Sue Dawson, but she will contribute PHI to the study record in the form of results of the depression questionnaire that she will conduct with your child.

Not signing this form or later canceling your permission to use your PHI will not affect your health care treatment outside the study or ability to get health care benefits. However, if you do not give permission to use your PHI, you may not take part in this study because your PHI is needed in order to conduct this study.

This authorization does not have an expiration date. You may withdraw your authorization for us to use your PHI, however, by telephoning Sue Dawson at 703-307-7467.

VII. SIGNATURE

Please sign below if you agree to participate in the study.

(Signature)

(Date)

VIII. INVESTIGATOR STATEMENT

I certify that the research study has been explained to the above individual by me or my research staff including the purpose, the procedures, the possible risks, and the potential benefits associated with this research study. Any questions raised have been answered to the individual's satisfaction.

Linda Sue Dawson, M.A., L.P.C.

Date

DO NOT SIGN AFTER EXPIRATION DATE OF: 1/6/11

APPENDIX B

Assent Form

Single-Case Analysis of Sand Tray Therapy
In Treatment of Depressive Symptoms in Early Adolescence
IRB #120903
Investigator: Sue Dawson, 703-307-7467

I understand that I am participating in a research study about children my age who feel depressed. I know that I will be asked to answer questions on paper about my feelings and my behavior. I know I will be coming to a total of 14 individual therapy sessions. I know that the purpose of this study is to see if this type of counseling works. I have been told that sand tray therapy involves the creation of a “world” in a shallow tray filled with sand, using miniature objects that have been collected by the therapist.

If I get upset at any time in these session, I know I have the right to ask to take a break, to stop or to talk to my parent or guardian. I know that as part of this study I will answer five short questions on the phone every other day about how I feel. I understand that what I say and do and how I answer the questions in this study will be kept private. The only exception to my right to privacy would be if the person conducting the research learns about any neglect or abuse of a child. If that case, information will be given to an agency such as Child Protective Services that will investigate that report of neglect or abuse.

Signature

Date

DO NOT SIGN AFTER EXPIRATION DATE OF: 1/6/11

APPENDIX C

Telephone Screening Protocol

Hello, my name is Sue Dawson. I'm in the Ph.D. program in Counseling at The George Washington University and I'm conducting research for my dissertation on a specific way to do therapy with children ages 11-14 who are experiencing depression. I understand that you have a child that may be depressed, a son/daughter who is 11/12/13/14. I would like to ask you a few questions now to see if you would be interested in having your child participate in this study.

I'd like to ask first about your child. When children are depressed they seem sad. Does your child seem sad once in a while, many times, or all of the time?

Does your child cry once in a while, many days, or every day?

Sometimes children that are your child's age seem more irritable when they are depressed. Is your child irritable all of the time or most of the time?

Has your child ever expressed the feeling that

...he/she has no friends. Does your child say this once in a while, many times, or all the time (*ask for each of the following*)

...he/she feels alone most of the time or all of the time...

...nobody really loves him/her.

...he/she does everything wrong.

...he/she looks ugly.

Has your child ever talked about hurting himself/herself or has your child ever actually hurt himself/herself? *If no, continue with protocol below. If yes:* It sounds as if your

child might be seriously depressed and needs more help and needs treatment sooner than I would be able to provide. Would you like the names of child therapists in your area who might be able to see you and your child soon? (*Offer names of therapists as referrals and end conversation*)

Continuing screening protocol:

It sounds as if your child might be a good fit for my study. Let me tell you about it. I would like to offer 14 weeks of therapy for your child with no charge to you. The type of therapy is called sand tray therapy, where kids use my collection of miniature objects to create a world in a special sand tray. People have been doing sand tray therapy for about 80 years, but there isn't much really solid research to support it. That's why I want to do this study.

I would need to know that you and your child could commit to all 14 weeks of therapy. The sessions would be at my office, which is in Gainesville. I can schedule evening or Saturday times to make it convenient for you. Each session will be about 45 minutes, except for the first one, which will be about an hour and a half. I'll have some questionnaires for you and your child, mostly about how your child is feeling and the kinds of behavior you notice him/her doing. You will both be able to see the office and I'll be able to answer any questions you might have. What would be a good time for you to come in?

APPENDIX D

Protocol for Intake Questionnaire for Parent/Guardian

1. Who lives in the household with this child and what are their relationships to the child?

2. Has your child ever experienced any parental separations, divorce, or death?

(If divorce), Who has primary custody of the child? How often does the child see the other parent?

3. Is the child adopted? (If yes) Do you know anything about the biological mother's pregnancy?

4. Was the pregnancy normal? (If any complications, please explain).

5. Were there any complications with delivery? (If yes, please explain).

6. Developmental history: At what age did the child first

Sit alone

Crawl

Walk alone

Speak first words

Speak in sentences

Complete toilet-training (day)

Complete toilet-training (night)

7. Medical history: Has the child had any serious illnesses, injuries, or hospitalizations?

Including any sustained high fevers, head injuries, medications for more than 6 months.

8. Any previous history of counseling or psychiatric treatment?

9. School history, including preschool:

At what age did the child begin preschool or kindergarten? What schools has the child attended to the present?

Have there been any academic problems? Any behavior problems? Problems with peers, including teasing and bullying?

10. Is there anything else that you consider to be significant in the child's life so far that we haven't talked about?

APPENDIX E

**Sand tray therapy session rating
Participant**

	Not at all				Very much		
1. I enjoyed today's session.	1	2	3	4	5	6	7
2. My therapist seemed warm and friendly.	1	2	3	4	5	6	7
3. I felt like I worked on what was bothering me.	1	2	3	4	5	6	7
4. I felt angry in today's session.	1	2	3	4	5	6	7
5. My therapist seemed negative.	1	2	3	4	5	6	7
6. My therapist helped me.	1	2	3	4	5	6	7
7. I felt depressed and overwhelmed in today's session.	1	2	3	4	5	6	7
8. I felt as if I was in control of what happened in today's session.	1	2	3	4	5	6	7
9. I felt creative in today's session.	1	2	3	4	5	6	7

**Sand Tray Process Rating
Therapist**

	Not at all				Very much		
1. My client seemed to enjoy today's session.	1	2	3	4	5	6	7
2. I believe I was warm and friendly to my client today.	1	2	3	4	5	6	7
3. My client seemed to work on what was bothering her/him.	1	2	3	4	5	6	7
4. My client seemed angry.	1	2	3	4	5	6	7
5. I believe I was negative in today's session.	1	2	3	4	5	6	7
6. I believe I helped my client today.	1	2	3	4	5	6	7
7. My client seemed depressed and overwhelmed in today's session.	1	2	3	4	5	6	7
8. My client seemed to be in control of what happened in today's session.	1	2	3	4	5	6	7
9. My client was creative in today's session.	1	2	3	4	5	6	7

APPENDIX F

Short Depressive Symptoms Questionnaire

Feelings can change from day to day. When you answer these questions, please think about how you have been feelings in the past two days, since the last time we talked. For each statement, please pick a number from 0 to 4 to show *how much* the statement has been true for you in the past two days.

1. I am sad.

0	1	2	3	4
Not at All true				Very true

2. I get into fights.

0	1	2	3	4
---	---	---	---	---

3. I do things wrong.

0	1	2	3	4
---	---	---	---	---

4. Nothing is fun.

0	1	2	3	4
---	---	---	---	---

5. Nothing works out for me.

0	1	2	3	4
---	---	---	---	---