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The Efficacy of Treating Adolescent Depression with Interpersonal Psychotherapy for Adolescents (IPT-A) in the School Setting

Steven Pasquinelli

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THE EFFICACY OF TREATING ADOLESCENT DEPRESSION WITH
INTERPERSONAL PSYCHOTHERAPY FOR ADOLESCENTS (IPT-A) IN THE
SCHOOL SETTING

A Dissertation

Submitted to the School of Education

School Psychology Doctoral Program

Department of Counseling, Psychology, and Special Education

Duquesne University

In partial fulfillment of the requirements for
the degree of Doctor of Philosophy

By

Steven J. Pasquinelli, M.S. Ed.

May 2009

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2009

DUQUESNE UNIVERSITY
SCHOOL OF EDUCATION
Department of Counseling, Psychology and Special Education

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ABSTRACT

THE EFFICACY OF TREATING ADOLESCENT DEPRESSION WITH INTERPERSONAL PSYCHOTHERAPY FOR ADOLESCENTS (IPT-A) IN THE SCHOOL SETTING

By

Steven J. Pasquinelli

March 2009

Dissertation Supervised by Tammy Hughes, Ph.D.

Depression affects the lives of an estimated 2 to 8% of adolescents in the United States. This disturbance of mood impacts many facets of the individual's life, including the ability to participate in and benefit from educational experiences. School psychologists are challenged to find effective treatments for adolescents experiencing depression that can be delivered in a school setting. Interpersonal Psychotherapy for Adolescents (IPT-A; Mufson, Dorta, Moreau, & Weissman, 2004) has been found effective for adolescents in clinical settings as well as in urban, school-based clinics. Its use as an efficacious treatment with adolescent students in a traditional public school setting needs to be examined. The current study used a multiple-baseline design to measure the progress of four depressed adolescents in a public school setting with IPT-A

treatment. Data was collected prior to intervention, weekly during intervention, after the intervention, and approximately three months later for follow-up. The adolescents, a parent, and a teacher responded to the Behavior Assessment System for Children (BASC-2; Reynolds & Kamphaus, 2004) rating scale before intervention, post-intervention, and at follow-up. The adolescents also responded to the Children's Depression Inventory (CDI; Kovacs, 1992) and a researcher-created rating to assess mood and social interaction. Each was administered on a weekly basis. Results indicated significant reduction in reported depressive symptoms, confirmation of IPT-A as an efficacious treatment for adolescent depression in the public school setting.

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CHAPTER I

INTRODUCTION

There is substantial evidence indicating that depression is under-treated in the United States. This finding is consistent regardless of the age, gender, or ethnicity of the individual (Hirschfeld et al., 1997). According to the Consensus Statement from the Journal of the American Medical Association on the under-treatment of depression (Hirschfeld et al., 1997), there are numerous barriers contributing to this significant problem. Included among these are patient variables such as failure to recognize symptoms, fear of the stigma of becoming involved in treatment, limited access to treatment services, and lack of health insurance. Possible health care provider variables accounting for under-treatment is the use of inappropriate/inadequate medical interventions, limited training on depression, and failure to consider psychotherapy as an option.

Identifying and treating adolescents suffering from depression is a challenge for school systems (Cullinan & Sabornie, 2004; Vander Stoep, Weiss, Saldanha, Cheney, & Cohen, 2003) that are committed to helping all children learn (No Child Left Behind Act, 2001). According to Slade (2003), approximately 50% of schools do not have any on-site access to mental health services in the United States. Youth who experience emotional problems such as depression report higher dropout rates than non-depressed peers (Vander Stoep et al., 2003) and poor career outcomes (Berndt et al., 2000). These poor educational outcomes have a significant negative impact on the individual and to society as a whole in lost production (Berndt et al., 2000).

The number of people affected by depressive symptoms varies greatly according to research studies. Age of onset can occur at any time. Prevalence rates of Major Depressive Disorder (MDD), ranging from 2 to 8% of the population, are defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) specifically for adult populations; prevalence for mood disorders in adolescents is not nearly as well documented (Roberts, Attkisson, & Rosenblatt, 1998). Historically, prevalence rates for psychiatric disorders have been difficult to discern in child and adolescent populations due to measurement issues such as inadequate sample size, poor quality of samples that do not represent the various types of children experiencing depression, and lack of uniformity in the definition of the disorder, as researchers noted the presentation of symptoms often varies with the age of the child (Roberts et al., 1998). More recently, researchers have focused on identifying prevalence rates more accurately in child and adolescent populations using larger, more ethnically diverse samples of students (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Kubik, Lytle, Birnbaum, Murray, & Perry, 2003; Roberts, Roberts, & Chen, 1997). Although prevalence rates for MDD in a general population range from 2% to 8% (American Psychiatric Association, 2000), prevalence rates of mild to severe depressive symptoms in school populations of adolescents have been observed above 30% (Connelly, Johnston, Brown, Mackay, & Blackstock, 1993; Ehrenberg, Cox, and Koopman, 1990; Kubik et al., 2003).

No single risk factor is implicated in the development of depression (Margolese, Markiewicz, & Doyle, 2005; Ohannessian et al., 2005; Reinherz, Paradis, Giaconia, Stashwick, & Fitzmaurice, 2003), rather both environmental influences such as

relationships with parents and friends and genetic influences such as family history of depression have been shown to be related to its development. Family instability has been a significant predictor of depression (Hazel, Hammen, Brennan, & Najman, 2008; Melhem et al., 2007; Ohannessian et al., 2005; Sheeber, Hops, Alpert, Davis, & Andrews, 1997; Tully, Iacono, & McGue, 2008) as well as a predictor of depression for the adolescent as they transition into adulthood (Reinherz et al., 2003). Also, Reinherz and colleagues (2003) identified early symptom onset, especially in childhood, as a significant indicator of future depression in adolescents and adults. The results of this work indicate that clear markers of depression can be identified and treated at early ages.

These results highlight the important role of interpersonal relationships, and they have implications for treatment protocols. Specifically, intervention should be initiated as soon as the depression is known to school personnel. Further, interventions should focus on key relationships, and likely family relationships (Essau, 2004; Margolese, et al., 2005; McFarlane, Bellissimo, Norman, & Lange, 1994; Paunesku et al., 2008). There is research to suggest that an adolescent's positive social bond with his or her school can also influence problem behavior (Simons-Morton, Crump, Haynie, & Saylor, 1999) that includes depressive symptoms (Haavet, Dalen, & Straand, 2005). The quality of interpersonal relationships with peers, romantic partners, or, particularly, with family members, has a direct influence on the presentation of depression in adolescents (Beam, Gil-Rivas, Greenberger, & Chen, 2002; Essau, 2004; Joyner & Udry, 2000; Kidd et al., 2006; Margolese et al., 2005; McFarlane et al., 1994; Paunesku et al., 2008).

Although there is not consensus on a treatment protocol for depression in youth, there are numerous treatment options that have been shown to be effective (Kazdin,

2003). In general, treatment options include medication and/or psychological counseling. The use of medication with children has become more routine in recent decades. For example, in 2003 researchers reported antidepressant medications were prescribed to approximately one half of all children and adolescents treated for depression in the United States (Olfson, Gameroff, Marcus, & Waslik, 2003).

Today, the use of medication to treat adolescents is not without controversy as there have been significant negative consequences associated with its use (Antonuccio, Danton, DeNelsky, Greenberg, & Gordon, 1999; Garland, 2004; Virani, 2004; Vitiello & Jensen, 1997). Most importantly, an increased risk in suicidal ideation has been reported from adolescents using certain serotonin reuptake inhibitor (SSRI) medications (Cheung, Emslie, & Mayes, 2006; Garland, 2004). Other researchers have demonstrated results that strongly disagree with this finding (Bridge, Barbe, Birmaher, Kolko, & Brent, 2005; Gibbons, Hur, Bhaumik, & Mann, 2006). For instance, Bridge and colleagues (2005) found that emergent suicidal ideation was also observed in individuals who *only* received psychotherapy as treatment. Despite inconsistent findings, the Food and Drug Administration now requires a warning affixed to all antidepressant medications noting the increased risk for suicidality in children and adolescents (United States Food and Drug Administration, 2004).

In addition to medications, there are numerous therapies suited to address depression and can address depression in adolescent populations. Each therapeutic approach attempts to alleviate depressive symptoms experienced by the adolescent, yet their theoretical foundations lead them to approach this task in various formats.

Psychoanalytic, Existential, Behavioral, Cognitive Behavioral, and Reality Therapy are among those that have been used for years to treat depressed individuals.

Beyond selecting interventions based on theoretical assumptions about the causes of the child's depression, many institutions (e.g., clinics, schools, hospitals) are required to show that the treatment is evidence-based (Kazdin, 2003; Weisz, Hawley, Pilkonis, Woody, & Follette, 2000). Though viewed as important, there are not many evidence-based treatments available to address adolescent depression (Kazdin, 2003).

Complicating this issue is that the criteria for determining if a treatment is evidence-based have not been established (Stoiber & Kratochwill, 2000). More clinically focused groups identify as an evidence-based treatment one that includes random assignment of subjects in clinical studies, evaluation of outcomes using multiple measures, and the use of a treatment manual (Weisz et al., 2000). Other groups argue that therapeutic practice does not mirror randomized clinical trials, but rather individual preferences, characteristics and culture heavily influence the therapeutic relationship that is necessarily unique. Thus, outcomes are not a simple exposure to a prescribed treatment protocol (Hunsley, 2007). While the details of this debate move forward, all agree that the selection of treatments should have some informed basis that is guided by science. Kazdin (2003) lists cognitive behavioral and relationship-based humanistic therapy as the only known evidence-based practices for the psychotherapeutic treatment of adolescent depression. Cognitive behavioral therapies have a long history in school psychology (Christner, Forrest, Morley, & Weinstein, 2007) and are used in school settings by psychologists and other mental health professionals (e.g., counselors, social workers, developmental and behavioral specialists). Because socialization experiences are critical

to a child's development (Brazelton & Greenspan, 2000), the current study seeks to examine the efficacy of a relationship-based therapy applied in a school setting: Interpersonal Psychotherapy for Depressed Adolescents (IPT-A; Mufson, Dorta, Moreau, & Weissman, 2004).

IPT-A, a treatment specifically designed for adolescents experiencing depression, was developed in the early 1990s. This psychotherapy was a modification of Interpersonal Psychotherapy (IPT) that was initially used with depressed adult populations (Weissman, Markowitz, & Klerman, 2000). A revised second edition of IPT-A was published in 2004 (Mufson, Dorta, Moreau, et al., 2004) that provided updates to the initial manual.

IPT-A has a manualized treatment protocol. That is, there are three segments of treatment: the Initial Phase, Middle Phase, and Termination Phase that all clients experience. The number of sessions for each segment can vary according to patient need, but treatment is typically completed in 12 to 16 sessions (Ravitz, 2003).

The assumptions of IPT-A are that depression has three pathways of development: symptom formation, social functioning, and personality (Mufson, Dorta, Moreau, et al., 2004). Symptom formation involves the development of symptoms and depressive affect that might derive from psychodynamic or biological factors such as family history of depression. Social functioning involves the development of behaviors from learned social interactions. These might be based on childhood experiences, current social experience, and/or current response to the social results of depression such as rejection by parents or peers. Personality involves the traits of the individual, methods of handling feelings of guilt and anger, or the depressive thoughts that are unique to the

individual. IPT was developed to address the first two issues, symptom formation and social functioning; while personality might be addressed through therapy, changing traits of the individual is not a goal of IPT (Mufson, Dorta, Moreau, et al., 2004).

IPT-A is well suited for use in schools because of the social nature of the learning environment that matches the emphasis of this treatment's focus. Also, the importance of symptom reduction is highlighted in schools to help children return to a functional level so that they may benefit from the educational environment (Mufson, Dorta, Wickramaratne, et al., 2004).

Because it is a time-limited treatment, IPT-A is not a long-term approach. IPT-A addresses one or two problem areas for the individual, providing a focus on specific problems and solutions. The driving assumption regarding the importance of relationships keeps therapeutic sessions focused on the present social circumstance of the individual (Mufson, Dorta, Moreau, et al., 2004). Intrapsychic defense mechanisms such as denial may be recognized, but are addressed only through the interpersonal context: How does the behavior impair the functioning of the patient? While personality is recognized and important, changing personality is not targeted in this therapy (Weissman et al., 2000).

IPT-A is a good treatment choice when the adolescent is able to establish a therapeutic relationship and willing to work one-on-one in a time-limited therapy. The adolescent should be able to agree that there are difficulties of an interpersonal nature occurring at the time of treatment. Finally, family members should be supportive, or at least willing to let the adolescent participate in treatment. This therapy is not designed for

adolescents who fall within the mentally retarded range of cognitive functioning and the adolescent should not be actively suicidal (Mufson, Dorta, Moreau, et al., 2004).

Initial research into the efficacy of IPT-A was conducted in 1993 and 1994. Both Phase I and Phase II of this research did not use a waitlist control group or multiple baseline in treatment, but the results of each study were successful: None of the participants met criteria for a depressive disorder at the conclusion of the study. The initial treatment protocol was used with 5 subjects in Phase I, and 14 in Phase II. Subjects were recruited through a city clinic and diagnosed by a psychologist and psychiatrist. Six evaluations occurred over the course of treatment, and at the conclusion of the sessions none of the subjects met criteria for any depressive disorder again through results of clinical interview (Mufson et al., 1994).

Mufson and Fairbanks (1996) found IPT-A to be a successful treatment, though their study was limited by lack of control group and lack of diversity in the sample (the sample consisted of only African-American and Hispanic females). Results from Mufson, Weissman, Moreau, and Garfinkel (1999) were characterized as successful and used a larger sample with a control group. The authors found that the individuals who were treated with IPT-A developed better social functioning and better problem-solving skills. Rossello and Bernal (1999) compared IPT with a Cognitive Behavior Therapy for use with depressed adolescents in Puerto Rico. Results from both treatments were superior to the waitlist population of the study, and the individuals who received IPT demonstrated clinically significant improved social functioning and self-concept than the control subjects.

IPT-A has been found to be a beneficial treatment for use in a school clinic. Mufson, Dorta, Wickramaratne, et al. (2004) completed an investigation of the effectiveness of IPT-A in a large, urban school setting. Multiple therapists with brief training and limited supervision worked with the students in a school-based mental health clinic. Despite therapists with limited experience with IPT-A, significant improvements were observed in the students who received IPT-A as compared to a control group who received the typical treatments offered through the clinic.

The purpose of the present research is to investigate the effectiveness of IPT-A in a traditional public school setting. Results will measure depressive symptoms and social functioning. A certified school psychologist with training in IPT-A will implement the treatment. An independent evaluator will diagnose the participants in the study prior to the beginning of the treatment. The adolescents will report depressive symptoms, as will one of the adolescents' parents and one of the teachers who works with the students. The long-term effectiveness of this treatment will also be assessed.

Research Questions and Hypotheses

1. Does IPT-A effectively reduce depressive symptoms of adolescents when implemented in a public school setting?

Hypothesis: Depressive symptoms decrease significantly following treatment as described by the treatment manual as reported individually by the adolescent, parent, and teacher.

2. Does the implementation of IPT-A treatment increase the social functioning of the students receiving the treatment in the school setting?

Hypothesis: Social functioning of the adolescent will increase significantly following treatment in the school setting as described by the treatment manual as reported individually by the adolescent, parent, and teacher.

3. Are treatment gains maintained over time with the use of IPT-A in the school setting?

Hypothesis: Treatment gains are maintained over time as reported individually by the adolescent, parent, and teacher.

CHAPTER II

LITERATURE REVIEW

Historical Background and Significance

Little attention was paid to the possibility that children and adolescents could be depressed prior to 1970. The philosophy prior to this time assumed that younger individuals were not emotionally or cognitively developed well enough to truly experience depression (Kaslow, Croft, & Hatcher, 1999). In the adolescent population, depression was believed to be a normal part of one's development, sometimes referred to as the storms of youth (Harrington, 2001). When the Fourth Congress of the Union of European Pedopsychiatrists recognized childhood depression as a true disorder in 1970, rapid growth in research, prevention, and intervention began in this area (Kaslow et al., 1999).

Conservative estimates on the prevalence of depression are between 2 to 5% of the adolescent population (Kaslow et al., 1999). In regards to school performance, problems such as higher dropout rates, poor academic outcomes, and poor career outcomes are related to depression (Berndt et al., 2000; Cuffe et al., 2001; Slade, 2003; Vander Stoep et al., 2003). Poor educational outcomes such as reduced concentration, declining grades, failure to complete high school, and failure to complete a college degree come as a substantial loss not only for the individual but also for society as a whole (Berndt et al., 2000; Vander Stoep et al., 2003; Wagner, 2003).

Prevalence

The number of people affected by MDD varies greatly according to research studies. Lifetime prevalence rates have been found to be between 10 to 25% for women

and 5 to 12% for men. Prevalence rates do not appear to be related to cultural factors such as ethnicity, but are related to family history of MDD; age of onset can occur at any time (American Psychiatric Association, 2000).

While the numbers provided through the DSM-IV-TR are variable, it must be noted that these prevalence rates are defined specifically for adult populations. Prevalence for mood disorders in adolescents is not nearly as well documented (Roberts et al., 1998). In fact, prevalence of any psychopathology in children or adolescents has been extremely difficult to discern with accuracy in meta-analysis of studies conducted over previous decades due to issues such as sample size, quality of sample, and differences in the definition used for the disorder (Roberts et al., 1998). Only in more recent studies have researchers attempted to identify prevalence rates more accurately in child and adolescent populations using larger, more ethnically diverse samples of students (Costello et al., 2003; DeBar, Clarke, O'Connor, & Nichols, 2001; Kubik et al., 2003; Roberts et al., 1997).

In adolescents, more females than males have been diagnosed with MDD, though more males than females complete suicide (Stanard, 2000). Difficulties in the measurement and the expression of affect between adolescent males and females might account for the greater number of females identified in the population. Males tend to express depression in a more disruptive, risk-taking manner than females, and would not, therefore, be as likely to be diagnosed as depressed (Stanard, 2000).

In Costello and her colleague's (2003) study of over 1,400 children from ages 9 to 13, they found 1 in 3 children would have at least one psychiatric disorder by age 16. By mid-adolescence, depression becomes more prevalent. Kubik et al. (2003) investigated

not only those who suffer from MDD, but also those who displayed depressive symptoms without meeting threshold criteria for MDD from the DSM-IV. In their sample of over 3,600 seventh-grade students, approximately 40% of the girls and 30% of the boys reported elevated depressive symptoms. Girls, minority youth, and low socioeconomic status (SES) adolescents were most at risk to experience depressive symptoms. Roberts et al. (1997) found that lower SES minority adolescents had essentially the same risk for MDD as compared to lower SES majority adolescents with one exception: Mexican-American students in their sample of over 5,400 middle school students from grades 6 through 8 were at an increased risk.

General prevalence rates of depression in adolescents were obtained in a study of non-patient Canadian high school students (Ehrnberg et al., 1990). In this study, 31.4% of the sample ($n = 366$) was mildly to clinically depressed. In contrast, prevalence rates obtained from a population of 2,698 Canadian adolescents identified 7% of the males and 12% of the females within a moderate or severe range of depression (Connelly et al., 1993). In a larger study of over 80,000 children and adolescents serviced through an HMO, 1.4% of the children (ages 6 to 11) and 5.1% of the adolescents (ages 12 to 17) were identified as having a mood disorder (DeBar et al., 2001). As the children moved through adolescence, an increasingly higher number of females received treatment for mood disorders. A majority of the mood disorders from this research were identified as Depression Not Otherwise Specified (NOS), but diagnoses ranged from MDD to Adjustment Disorder with Depressed Mood (DeBar et al., 2001).

Many argue that practitioners and researchers must take into account the variability of depression between individuals when investigating prevalence (Zeiss &

Lewinsohn, 2000). Depression is not necessarily a life-long condition. Some individuals who experience depression move into remission, never to have the depression return. Some adolescents and adults have depressions that resolve without the need for treatment (DeBar et al., 2001; Zeiss & Lewinsohn, 2000). It appears that the use of studies that rely on clinical populations rather than community samples of depressed individuals might skew results to represent those who suffer from more chronic forms of depression (Zeiss & Lewinsohn, 2000).

The role of family history in the occurrence of adolescent depression has not fully been evaluated (Klein, Lewinsohn, Seeley, and Rohde, 2001; Ohannessian et al., 2005). Klein et al.(2001) presented the findings from the Oregon Adolescent Depression Project family study, a large community study that investigated first-degree relatives of adolescents. Results indicated that there was an elevated rate of MDD, dysthymia, and alcohol abuse in the first-degree relatives of adolescents with MDD, which suggested that there was a familial transmission of this mood disorder. The authors reported that these results supported the validity of MDD as an appropriate and valid diagnosis for adolescent populations (Klein et al., 2001). More recent research (Hazel et al., 2008; Klein et al., 2005; Melhem et al., 2007; Tully et al., 2008) has identified familial pathways to higher incidence of depressive disorders.

Adolescent depression tends to recur at higher rates as the adolescent progresses into adulthood (Fergusson & Woodward, 2002; Holsen, Kraft, & Vitterso, 1999; Lewinsohn, Rohde, Seeley, Klein, & Gotlib, 2000; Pine, Cohen, Cohen, & Brook, 1999; Weissman et al., 1999). In a study of 1,265 New Zealand adolescents over a 21-year period, Fergusson and Woodward (2002) found that 13% of this population developed

depression between the ages of 14 and 16. The individuals that developed depression within this age range were at a much higher risk for later MDD. These individuals were also at a higher risk for developing anxiety disorders, alcohol abuse, and poor educational outcomes, among other social problems. Lewinsohn, Rohde, Seeley, Klein, and Gotlib (2000) reported similar findings. Their study of 274 Oregon high school students determined that those who were depressed as adolescents tended to not only be at higher risk for MDD as adults, but to experience a more severe depression as adults.

Defining Depression

The DSM-IV-TR identifies four primary categories of mood disorders: depressive disorders (i.e., unipolar depression), bipolar disorders, mood disorder due to a general medical condition, and substance-induced mood disorder. Depressive disorders consist of depressive disorder NOS, dysthymic disorder (DD), and MDD. Depressive disorder NOS is diagnosed when depressive symptoms found in an individual do not meet criteria for DD or MDD. By definition, DD is characterized by chronic feelings of depression more days than not that may be less severe in number and impact than depression categorized as MDD, though it can often be difficult to discern between DD and MDD (American Psychiatric Association, 2000).

There are a number of criteria for major depressive episode listed in the DSM-IV-TR. The individual must meet at least five symptoms during the same two-week period that is a significant change from previous functioning, with at least (a) depressed mood or (b) loss of interest or pleasure. The other seven criteria, of which four to five must be present, include: (a) significant weight loss when not dieting or weight gain (in children, consider failure to make expected weight gains); (b) insomnia or hypersomnia nearly

every day; (c) psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down); (d) fatigue or loss of energy nearly every day; (e) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick); (f) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others); (g) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without specific plan, or a suicide attempt or specific plan for committing suicide (American Psychiatric Association, 2000). According to the DSM-IV-TR, for one to meet criteria for MDD a minimum of one major depressive episode must be present (MDD, single episode).

MDD, Recurrent is diagnosed when at least two months have passed between major depressive episodes. Symptoms of major depressive episodes cannot be accounted for by other delusional or psychotic disorders (such as schizophrenia or delusional disorder).

There also cannot be a manic episode, mixed episode, or hypomanic episode that would be indicative of a bipolar disorder or other condition. The symptoms must cause distress in social, occupational, or other areas of functioning, and the symptoms are not due to substance abuse or a general medical condition. Additionally, the symptoms must not be accounted for by normal grief (American Psychiatric Association, 2000).

Presentation of Depression in Adolescents

The DSM-IV-TR recognizes some differences in adult presentation of MDD as compared to adolescent presentation. In the first criteria for major depressive episode, depressed mood nearly every day for adults could present as irritable mood for children and adolescents. As mentioned previously, weight loss or weight gain could also include

failure to make expected weight gains in children. There is criticism that the DSM-IV-TR criteria, while an improvement over past editions, do not take developmental issues into context for either children or adolescents (Kaslow et al., 1999).

Presentation of depression can be variable in adolescents. Other descriptions of behavior include unreasonable anger, too much or too little sleep, and poor concentration that result in falling grades (Lamberg, 2002; Wagner, 2003). Social problems are readily observed. Sudden loss of peer relationships, declining interest in family activities, a worsening relationship with parents, and potential increases in drug use are risk factors that have been identified (Field, Diego, & Sanders, 2001). Substantially reduced self-esteem has been also been reported in populations of depressed adolescents either mildly or severely depressed, with a typically greater degree of severity found in females (Dori & Overholser, 1999; Korhonen, Laukkanen, Peiponen, Lehtonen, & Viinamaki, 2001).

Hammond and Romney (1995) found cognitive features of depression in adolescents that were similar to the cognitive features found in adults. Their sample of 45 was split into three segments: clinically depressed, somewhat depressed, and non-depressed adolescents. In the clinically depressed population, Hammond and Romney found lowered self-esteem, a perception of social isolation, a tendency to think in concrete, either-or terms, a tendency to be pessimistic, and an external locus of control. In their moderately depressed sample they found similar symptoms, only to a lesser degree of severity.

Carmanico and colleagues (1998) also found features of depression in an adolescent population that was similar to adults. In their work, subgroups of depression were identified in an adolescent inpatient population, from subclinical, to clinical and

severe (endogenous) groups. A negative cognitions subgroup was identified that appeared to be a future match for more significant personality-disordered subgroups in adults (Carmanico et al., 1998).

The onset of depression in adolescence can be a determining factor in the severity of the depressive symptoms and on the risk of recurrence later in life (Jaffe, et al., 2002; McGlashan, 1989). In a comparison of adult-onset and adolescent-onset unipolar depression by McGlashan (1989), a number of differences were observed between the two populations. Members of a long-term residential facility were evaluated 15 years after discharge. Those who developed depression while adults suffered from a significantly higher level of alcohol abuse; those who were diagnosed with adolescent-onset depression were less developed socially, sexually, occupationally, and educationally than the sample that was diagnosed with unipolar depression as adults. While in their behavioral and affective presentation the two groups appeared very similar, McGlashan concluded that depressive problems that developed in the adolescent population limited the ability of those individuals to develop relationships in an adult manner. This stagnation limited the adolescents' ability to develop into mature adults, leading to a significant difference in the prognosis of the patient.

Zisook and colleagues (2007) reviewed data collected from the Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study and found similar results. Those who experienced depression at an earlier age tended to be more impaired socially, have a more negative view of life and themselves, have a reduced quality of life, and have a greater number of suicide attempts as compared to those with later ages at onset of

MDD; the younger the age of onset, the more significant issues were prevalent later in life.

The work of Jaffee et al. (2002) also investigated the differences between adolescent-onset and adult-onset depression. In a longitudinal study spanning 26 years, their results found similar significant patterns as reported in the McGlashan (1989) study. Those who had first onset of depression in adolescence experienced many more risk factors in childhood. Risk factors included motor skill deficits, elevated instability and emotional disturbances in their families, and increased behavioral and socioemotional problems at a younger age. These problems persisted over the course of the individuals' lives. In comparison, the adult-onset population was distinct in that they resembled the never-depressed control group through childhood and adolescence with few exceptions (Jaffee et al., 2002). While presentation of risk factors did not imply causation, the authors noted the importance of identifying risk factors to provide targeted treatment for our child and adolescent depressed populations.

Family and Social Systems in Adolescent Depression

In the social world of the adolescent, the quality of their relationships can significantly influence their affect (Bearman & Moody, 2004; Joyner & Udry, 2000; Margolese et al., 2005; Paunesku et al., 2008; Seals & Young, 2003). The adolescent's perception of his or her school environment can have a significant impact on affect; the quality of school supports can act as a protective factor against depression and other problem behaviors (Haavet et al., 2005; Simons-Morton et al., 1999). Interpersonal relationships with peers and romantic partners in school can also have a direct influence on the affect of the adolescent (Kidd et al., 2006; Margolese et al., 2005).

Using a sample of over 8,000 subjects from the National Longitudinal Study of Adolescent Health, Joyner and Udry (2000) found that both males and females who had been in a romantic relationship were at higher risk for depression when the relationship ended. Males were less vulnerable than females to become depressed following the breakup of the relationship, but their risk was also higher than average. Using the same data set, Bearman and Moody (2004) found that students with a friend who had committed suicide increased the likelihood that they would make a suicide attempt. Social isolation was also noted as a key factor in the depressed affect of these adolescents. Seals and Young (2003) found higher levels of depression in middle school students who were either victims or bullies. The quality of either negative relationship related significantly to higher self-reports of depression for these students.

Higher reported levels of intimacy with friends do not necessarily correlate with higher self-esteem and better relationships with parents for adolescents. Giordano, Groat, Pugh, and Swinford (1998) found that relationships with family members were a much more relevant factor in the affect of the adolescent. The ability of the adolescent to navigate the relationship with their parents was of high importance.

Family instability has been found to be a predictor of depression for adolescents (Beam et al., 2002; Gilman, Kawachi, Fitzmaurice, & Buka, 2003; Hazel et al., 2008; Lasko et al., 1996; Lau & Kwok, 2000; McFarlane, et al., 1994; Ohannessian et al., 2005; Paunesku et al., 2008; Reinherz et al., 2003; Robertson & Simons, 1989; Sheeber et al., 1997). In Keitner and Miller's (1990) review of the literature, they identified consistent results that a depressed parent negatively impacted their child's functioning, and significantly increased the likelihood that the child would develop an affective disorder.

These children matured in homes that have a substantially higher level of instability and feel much higher levels of parental rejection.

Early childhood adversity and family stressors through adolescence have been shown to significantly increase the possibility of depression (Hazel et al., 2008). Children with depressed parents (Klein et al., 2005; Tully et al., 2008) or parents with any mood disorder (Melhem et al., 2007) were found to be at significantly higher risk for depression themselves. In their study of 426 adolescents and their parents, Ohannessian and colleagues (2005) found that the impact of the family on the adolescent's behavior and affect was significant: parental depression and maternal depression were highly predictive of adolescent conduct disorder and depression. In Ohannessian and colleagues' work, parental psychopathology (i.e., alcohol dependence and depression) had a substantial impact on the development of the adolescent. The authors believed that the exposure of the adolescent to an unhealthy family environment likely had an effect on the emotional development of the adolescent. Adolescents with relatives that were depressed were also at a substantially higher risk for psychopathology (Keitner & Miller, 1990; Klein et al., 2001).

When the adolescent has the perception that parents and siblings provide positive support, it becomes a key protective factor against the development of depression (Bogard, 2005; McFarlane et al., 1994). Positive parent relationships have been identified as the most consistent protective factor for suicide (Kidd et al., 2006), while poor parental relationships have been associated with an increase in suicidal ideation (Fotti, Katz, Afifi, & Cox, 2006). Frye and Garber (2005) reported that maternal criticism was a significant factor in the development of adolescent depression whether or not the mother was

depressed. Adolescents who feel that they come from “happy” families and who assume positions of responsibility in their family report significantly less depression (Lasko et al., 1996; Taylor et al., 1997).

Social stressors significantly impact on the adolescent’s development.

Victimization by peers, including ridicule or other acts of bullying, adds a significant risk factor for the development of depression (Aslund, Nilsson, Starrin, & Sjoberg, 2007; Klomek, Marrocco, Kleinman, Schonfeld, & Gould 2008). A loss of relationships was noted as one significant life stressor that occurs periodically through adolescence and might influence the development of depression; how the adolescent copes with the changes and stresses of his or her life mitigate this development (McFarlane et al., 1994).

The stigma of “mental illness” tends to lead to a further increase in social distance and avoidance from others (Martin, Pescosolido, Olafsdottir, & McLeod, 2007).

However, the use of positive coping strategies to address problems directly was found to be protective factors against depression. While avoidance of problems or other negative coping strategies might act to alleviate a current social issue, these strategies do not solve problems and raise the risk level of further emotional problems developing in the future (Dumont & Provost, 1999). Positive family and peer relationships can act as another buffer to the presentation of social challenges (Giordano et al., 1998; McFarlane et al., 1994), thus interventions should focus on key relationships, particularly family relationships (Essau, 2004; Margolese et al., 2005; Paunesku et al., 2008).

Theoretical Perspectives and Treatment of Depression

Medical Treatments for Depression

Antidepressant medications are given to approximately one half of all children and adolescents treated with depression in the United States (Olfson, Gameroff, et al., 2003). In this mode of treatment, neuro-chemical imbalance is viewed as the cause for depression (Doris, Ebmeier, & Shajahan, 1999). In the late 1980s and 1990s, a number of antidepressant medications (e.g., SSRIs) were developed to treat depression. These medications were developed specifically for the treatment of depression, unlike other antidepressant medications in use that were discovered by coincidence. Other medications used for the treatment of depression include monoamine oxidase inhibitors (MAOIs), originally developed as an anti-tuberculosis drug, and tricyclic antidepressants (TCAs), originally developed as an antipsychotic medication (Keltner, 2000).

While overdoses of SSRIs are not often toxic, other medications such as TCAs can be fatal if used improperly and must be monitored by parents (Brent & Birmaher, 2002). A higher risk of suicide has been observed for adolescents using TCAs (Kapur, Mieczkowski, & Mann, 1992). Research by Kapur et al. (1992) indicated that overdose with TCAs was a dangerous risk factor for patients treated with this medication..

A number of professionals in the psychological and psychiatric fields have found treatments with antidepressant medications to be an effective first-line option for adolescent populations, particularly when combined with psychotherapy treatments (Cohen, Gerardin, Mazet, Purper-Ouakil, & Flament, 2004; Koplewicz, 2004; Thase et al., 1997). In their review of literature, Cohen and his colleagues (2004) found that a consensus in the field has been a need for medical intervention to remain in use for at

least three to six months after initial response to treatment. Treatments using antidepressant medications have also been found to reduce the risk of suicide in adolescents (Olfson, Shaffer, Marcus, & Greenberg, 2003).

Though effective in a number of research studies, inconsistent results and significant issues remain regarding the use and development of medications to treat depression in children and adolescents (Antonuccio et al., 1999; Garland, 2004; Virani, 2004; Vitiello & Jensen, 1997). More recent reports of an increased risk in suicidal ideation from adolescents using certain SSRI medications have been made (Cheung et al., 2006; Garland, 2004; Virani, 2004).

Many in the field of psychiatry profess to the safety of SSRI medications for use in adolescent populations and promote their use as effective options, particularly when other treatments (i.e., psychotherapy) have been unavailable to a majority of the depressed population (Gibbons et al., 2006; Koplewicz, 2004; Simon, Savarino, Operskalski, & Wang, 2006). Other professionals report that the safety and efficacy of a number of medications, including antidepressant medications, has not been adequately proven to a substantial degree in child and adolescent populations (Antonuccio et al., 1999; Garland, 2004; Vitiello & Jensen, 1997). Data from adult studies can only rarely be extended to children and adolescents; some medications that are safe for adults are actually toxic in a younger population. The ethical responsibility and the ability to use children in research, as well as the ethical considerations of using placebos in research, has further frustrated the development of appropriate medical treatments for MDD (Antonuccio et al., 1999; Vitiello & Jensen, 1997).

In Bridge and colleagues' (2005) work, researchers found that emergent suicidal ideations were also observed in a population of adolescents who received only psychotherapy as treatment. Thoughts of suicide prior to treatment were highly predictive of later suicidal ideation, but medication was not a factor in the development of harmful thoughts,

While much controversy remains regarding the role of antidepressant medication and adolescent suicide, the Food and Drug Administration has since required "black box" warnings be added to all antidepressant medications to note the increased risk of suicidality in children and adolescents given the medications (United States Food and Drug Administration, 2004). Due at least in part to these concerns, there appears to be a growing need for alternative treatments for depression. Identification and use of evidence-based treatments for adolescent disorders have been growing in popularity (Kazdin, 2003; Weisz et al., 2000).

Psychotherapy and Treatment of Depression

In addition to medication, there are numerous counseling therapies developed from a variety of theoretical models addressing the treatment of depression in adolescent populations. There are many differences in counseling approaches, but each seeks to alleviate the depressive symptoms experienced by the patient. Psychoanalytic, existential, behavioral, cognitive behavioral, and reality therapy are among those that have been used for years to treat depressed individuals.

Freud's psychoanalytic therapy has been modified over the last century by theorists such as Fromm and Erikson, but it remains tied to the belief that patterns of behavior are determined at early stages of development; the individual's behavior is

determined by unconscious motivations and instinctual drives, as well as psychosexual events occurring over the first six years of life (Corey, 1991). Fromm (1992) noted that among other neuroses, depression develops when intense conflicts arise between a person's conscious view of the world and himself and his unconscious motivating forces. Other psychoanalytically oriented theorists identify object relations as paramount in the development of behavior. In this view, depression might occur when the loss of an object in reality (e.g., love) is related to a perceived ego loss (e.g., self-esteem). The object-loss is transformed into an ego loss, having a negative impact on the psychic structure (Greenberg & Mitchell, 1983).

In therapy the psychoanalytic practitioner focuses upon two primary goals: making the unconscious conscious, and strengthening the ego (Corey, 1991). Strategies such as free association, interpretation, dream analysis, and the interpretation of resistance from the patient are used. Methods primarily attempt to produce unconscious material from the childhood of the patient so that coping with the content can be accomplished at the conscious level. Therapy tends to be long-term and intensive, and may take years to complete (Corey, 1991). There have not been controlled clinical trials of psychoanalytic approaches with depressed adolescents to date (Mufson, Dorta, Moreau, et al., 2004).

Behavior therapy developed as a reaction to psychoanalytic thought. Classical conditioning (i.e., a stimulus-response approach) evolved into operant conditioning, in which the environment's role in behavior became more important (Corey, 1991). This could be due to a lack of skills to access positive reinforcement or a lack of sufficient reinforcement in the individual's environment (Mufson, Dorta, Wickramaratne, et al.,

2004). Depression in this model may be due to a loss of positive reinforcement from the environment for the patient.

Cognitive therapies developed from behavioral theories to allow clinicians to acknowledge the thinking, rational component of human behavior.. In contrast to psychoanalytic therapies, behavioral and cognitive treatments focus on “here and now” issues of the person. A. Beck and colleagues noted that while techniques were similar between behavioral and cognitive therapists in the treatment of depression, for the behavioral therapist the “modification of behavior is an end in itself; for the cognitive therapist it is a means to an end – namely, cognitive change” (A. Beck, Rush, Shaw, & Emory, 1979, pp. 118-119). The goal in this therapy is to create a more cognizant change in behavior and thought process.

Cognitive-behavioral therapy (CBT) has become a generic term describing a large number of different cognitive and behavioral interventions and approaches (Brewin, 1996). Various forms of CBT have been developed since the early 1960s, including Beck’s cognitive therapy, Ellis’ rational-emotive therapy, Meichenbaum’s cognitive behavioral modification, and Lazarus’ multimodal therapy (J. Beck, 1995). Guiding theories behind cognitive-behavioral strategies use procedures based on the client’s performance and cognitive interventions to produce change in thinking, feeling, and behaviors (Kendall, 1991). Key concepts and issues in the use of CBT include cognitive deficiency and cognitive distortion. As the terms imply, cognitive deficiencies indicate a lack of information processing or an absence of the appropriate knowledge, while cognitive distortions are dysfunctional thoughts (Kendall, 1991).

One of the most tested models of CBT, Beck's cognitive therapy, was developed at the University of Pennsylvania in the early 1960s. In his model, cognitive changes in thinking and belief systems of the client leads to changes in the client's emotions and behaviors (J. Beck, 1995). Beck's theory has been used primarily to address depression and anxiety, though the use of his techniques has been expanded into other areas of disability.

The central concept behind Beck's theory of depression is that the depressed individual thinks more negatively about themselves, the world, and the future (J. Beck, 1995). Schemata are another central construct: Schemas are stored information that impacts the initial encoding, subsequent understanding, and retrieval of information. Stress and negative schemas combine to produce depression (Abela & D'Allessandro, 2002). Without negative, stressful situations, those predisposed to depression would not experience a depressive episode.

According to J. Beck (1995), ten core principles are behind cognitive therapy in the treatment of clients, adolescent or adult: (a) the therapy is based on evolving formulations of the client and the client's problems in cognitive terms (how are problems interpreted by the client, what is the cognitive reason for the problem?); (b) a strong therapeutic alliance is required for appropriate treatment; (c) collaboration and active participation are required; (d) cognitive therapy is goal oriented and focused on developing solutions for the problems of the client; (e) initially, therapy is focused in the present and how to address presenting problems; (f) therapy is designed to educate the client, teaching how to make changes in the client's life; (g) therapy is time-limited; (h) therapy is structured; (i) cognitive therapy educates the client to identify and respond

appropriately to dysfunctional thoughts and beliefs; and (j) a variety of techniques are used to change thoughts, moods, and behaviors in the client.

As mentioned earlier, cognitive therapy and Beck's theory of depression have been empirically tested over many years. His theory of depression was supported in a study of 179 adolescents when Moilanen (1995) observed various negative and distorted cognitions in adolescents with subclinical levels of depression. Though her findings were supportive of Beck, Moilanen (1995) noted a lack of research was completed on adolescent, school-age populations. Marcotte's (1996) study of depressed adolescents indicated a more consistent presence of cognitive distortions that involved poor frustration tolerance and unrealistic performance demands. A cognitive model appeared to address the problems of this population appropriately.

Other research of CBT in combination or in comparison with medical treatments has yielded positive results (Apter, Kronenberg, & Brent, 2005; Casacalenda, Perry, & Looper, 2002; DeRubeis, Gelfand, Tang, & Simons, 1999; Fava, Rafanelli, Grandi, Canestrari, & Morhpy, 1998; Rossello & Bernal, 1999). CBT in combination with medical treatment (i.e., fluoxetine) was the most successful treatment of the substantial Treatment of Adolescent Depression Study (TADS). While CBT treatment alone was not as effective in reducing depressive symptoms from this study, possible explanations included the highly-structured format of CBT used in this study (Apter et al., 2005).

Not founded by a particular person or group, existential therapies developed as a reaction to both psychoanalytic and behavioral theories (Corey, 1991). Frankl (1997), a European existential theorist, wrote of an *existential vacuum*: a need to find meaningfulness in contemporary life. In this perspective, depression is observed as the

client's existential frustration with feelings of futility, meaninglessness, isolation, and/or alienation. Therapy focuses on showing the client a better way to choose to live in their world. The client is active in this approach, deciding what to explore and how to change his or her life (Blair, 2004; Frankl, 1997). Reducing depressive symptoms is not be the goal of treatment of the adolescent. Instead, the search for meaning leads to a reduction of symptoms resulting from the shrinking of the existential vacuum (Blair, 2004).

Existential therapies do not have set rules or strategies for therapy; strategies are borrowed from other approaches ranging from psychoanalysis to cognitive-behavioral therapies (Corey, 1991).

Reality therapy was developed by Glasser (1965) as an alternative to the medical model of emotional problems.. An emphasis is placed on the responsibility of the individual. Depression is viewed as an active choice that the individual makes. Glasser does not speak of the individual being depressed, because this implies passivity and a lack of control. Instead, Glasser describes the individual as “depressing” himself, making the choice. The therapist's role is to teach the client how to discuss and change behavior in a caring manner while discouraging excuses for the behavior.

IPT

History of IPT

IPT was initially developed in 1968 as a part of a clinical trial in the treatment of depression (Mufson, Dorta, Moreau, et al., 2004). A manual was originally developed in 1984 and revised in 2000 (Weissman et al., 2000). The authors noted that the theoretical basis behind IPT was the work of Meyers and Sullivan, founders of the interpersonal school of psychotherapy. Essentially, this approach addresses the patient's current

interpersonal experiences and psychosocial relationships. The IPT approach was based upon what were later described as theories of attachment that recognized the importance of the development of intimate emotional bonds in the individual (Scaturro, 2002).

The focus of IPT emphasizes interpersonal and social factors in the understanding and treatment of depression (Weissman et al., 2000). Other clinicians, such as Becker and Chodoff, look to the social roots of depression and the need for the patient to master the social aspect of their depression to adequately treat the condition (Weissman et al., 2000). In this model, psychiatric illness occurs in a social context with antecedents and consequences caused by interpersonal factors. Goals are to be developed to break the cycle of interpersonal behaviors so that the patient can improve relationships and a sense of purpose in their social environment (Ravitz, 2003).

Framework of IPT

Within an IPT framework, clinical depression has three component pathways: symptom formation, social functioning, and personality (Mufson, Dorta, Moreau, et al., 2004). Symptom formation involves the development of symptoms and depressive affect that might derive from psychodynamic or biological factors. Social functioning involves the development of behaviors from learned social interactions. These might be based on childhood experiences, current social experience, and/or current response to the social results of depression. Personality involves traits of the patient, methods of handling guilt, anger, or depressive thoughts that are unique to the individual.

IPT was developed to address the first two issues, symptom formation and social functioning. While personality might be addressed through therapy, changing traits of the individual is not a goal of IPT (Mufson, Dorta, Moreau, et al., 2004). In contrast, other

therapies, such as psychoanalytic therapies, seek to address long-term personality change (Corey, 1991). While one can view the directive nature of therapy and the lack of investigation of transference as dilemmas in treatment, IPT has been found to be an effective psychotherapy to treat depression (Scaturro, 2002).

Weissman and colleagues (2000) list a number of characteristics of IPT in their 2000 revision. IPT is time-limited; unlike psychoanalytic therapies, it is not a long-term approach to the treatment of depression. IPT addresses one or two problem areas for the patient over this brief period of time, providing a focus on specific problems (and solutions) that is common to cognitive-behavioral psychotherapies. However, unlike cognitive-behavioral therapies, current relationships are the focus; the present circumstance of the patient and how he deals with the challenges of these circumstances are addressed in therapy. Intrapsychic defense mechanisms such as denial may be recognized, but are addressed only through an interpersonal context (i.e., How does the behavior impair the functioning of the patient?). While personality is recognized as important, changing personality is not a focus of this therapy.

The role of the IPT therapist is clearly defined through the *Comprehensive Guide*. The therapist in IPT is a patient advocate, working gently and cooperatively with the patient to develop a supportive relationship. The therapist offers an alliance for treatment; the relationship is realistic, and transference should not be an issue. When it occurs, transference in the therapeutic relationship is not analyzed as in psychoanalytic therapies; it is explored directly to aid in progress for the patient. While an advocate for the patient, the therapist is not the patient's friend. The relationship is short-term, and termination of the relationship is addressed as the sessions progress (Weissman et al., 2000).

The goal of treatment is to allow for the patient to function independently. The therapist is active in the relationship with the patient, helping the patient to develop treatment goals and guiding them through the goals through stages of the treatment to termination (Weissman et al., 2000). In IPT, the end of treatment is viewed as an interpersonal transition and a generally positive event. The treatment might end, but the patient is left with the understanding that symptoms might recur and that treatment might again prove necessary in the future. The patient is given skills to identify when symptoms recur (Cutler, Goldyne, Markowitz, Devlin, & Glick, 2004).

Research of IPT

IPT has been a relatively well-studied treatment for depression in adult populations that has consistently been found to be effective (Weissman, 2007; Weissman et al., 2000). In one of the most recent studies, the treatment is being used for the Christchurch Psychotherapy for Depression Study in New Zealand. This clinical trial is comparing IPT to CBT in a population of 154 depressed patients. Early case study of the effectiveness of IPT has yielded very positive results (Crowe & Luty, 2005). The efficacy of the treatment manual itself was investigated through a study of rater agreement completed by Markowitz and colleagues (2000). This research indicated that IPT therapists displayed substantial levels of agreement on treatment focus. While more research is needed to explore how IPT works, this study was useful in its validation of the treatment manual (Markowitz et al., 2000).

IPT-A

History and framework of IPT-A

Mufson, Moreau, Weissman, and Klerman developed IPT-A in 1993. A revised second edition was published in 2004 (Mufson, Dorta, Moreau, et al., 2004). Unlike the previously mentioned treatments, IPT-A was developed specifically to treat depression in adolescent populations. IPT-A is similar in some regards to CBT, but places emphasis on interpersonal relations within a specified framework to target the affect of the client to change mood and behavior rather than the thoughts of the client to change mood and behavior (Mufson, Dorta, Moreau, et al., 2004). Similar to IPT, IPT-A has three components of treatment: the Initial Phase, Middle Phase, and Termination Phase. Each has a specific area of focus, with the number of sessions for each segment varying according to patient need. Treatment is typically completed in 12 to 16 sessions (Ravitz, 2003). It has been suggested by some, however, that maintenance sessions be included on a monthly basis to taper the treatment for patients, especially those with more chronic conditions (Weissman et al., 2000).

In the treatment manual, Mufson, Dorta, Moreau, et al. (2004) noted that IPT-A would be a good treatment choice in particular circumstances. The adolescent must be willing to work one-on-one with a therapist in a time-limited therapy and be able to establish a therapeutic relationship. The adolescent should be able to agree that there are difficulties of an interpersonal nature occurring at the time of treatment. Finally, family members should be supportive, or at least willing to let the adolescent participate in treatment. The adolescent should not fall within the mentally retarded range of intelligence and the individual should not be actively suicidal.

The path that brings the adolescent (i.e., pathogenic process) to depression can differ significantly between individuals and should influence the selection of treatment (Shirk & Russell, 1996). Because depression is caused by a variety of symptoms, understanding the pathogenic process is important. If the adolescent is suffering from depression due to internal conflict, maladaptive assumptions, or beliefs in interpersonal relations, these adolescents would likely benefit from treatment with IPT-A (Mufson, Dorta, Moreau, et al., 2004). Adolescents with affect regulation disturbances such as psychotic symptoms, substance abuse problems, and conduct disorders have not been treated, or have not been treated successfully, with IPT-A (Mufson, Dorta, Wickramaratne, et al., 2004).

Research of IPT-A

Initial research into the efficacy of IPT-A was conducted in 1993 and 1994 (Mufson et al., 1994). Phase 1 of this research led to the development of the original IPT-A manual with the successful treatment of five depressed adolescents referred for treatment through a clinic. Phase 2 of the research applied the modifications made in Phase 1 with a larger clinical sample of 14 depressed adolescents. Each trial did not compare IPT-A treatment with a wait-list control group or with a comparison treatment, but in these early phases of development IPT-A proved successful. None of the individuals treated through this research met criteria for any of the depressive disorders at the conclusion of the study.

Mufson and Fairbanks (1996) evaluated the effectiveness of IPT-A treatment over time and relapse rates. At one year, a follow-up of the subjects found maintained treatment gains, including better relationships with family members. However, this study

had a number of limitations. The sample was entirely comprised of females of either Hispanic or African-American heritage. There was no control group for the study, and one third of the participants received additional treatments over the course of the year following the initial IPT-A treatment. This made it difficult to determine if the gains made and maintained by the participants were caused by the initial IPT-A treatment alone or by the subsequent additional treatments. With no males in the sample, the ability to generalize findings was also limited.

Mufson and colleagues (1999) conducted a study that again found a clinically significant improvement in a population treated with IPT-A. This study included 48 participants, 24 who received IPT-A and a control group of 24 who received clinical monitoring. By Week 12, the members of the IPT-A group reported significantly fewer depressive symptoms as compared to the members of the wait-list control group. The adolescents who received IPT-A improved in their social functioning and interpersonal problem-solving skills. The authors found that the adolescents displayed better skills on positive problem-solving orientation and rational problem solving. The IPT-A adolescents were better able to generate alternative solutions, and they showed better ability to implement the solutions.

Rossello and Bernal (1999) compared IPT with CBT for use with depressed adolescents. However, the authors did not use IPT-A according to the original manual. Specifically, issues concerning single-parent families were not addressed as outlined as a fifth area in the original manual. The sample of this study consisted of 71 Puerto Rican adolescents diagnosed with MDD, Dysthymia, or both. The gender of the population was relatively balanced (54% female, 46% male), and a wait-list control group was used in

addition to the IPT and CBT treatments that were administered (Rossello & Bernal, 1999).

Results from Rossello and Bernal's (1999) work indicated that IPT and CBT treatments were superior to the wait-list control. The adolescents who received IPT also showed significantly improved self-concept and ability to adapt socially than the wait-list control subjects. The authors suggested that the interpersonal nature of the IPT-A treatment provided additional gains for these adolescents. Cultural limitations were noted for the study that limits the ability to generalize results. The authors also noted a potential concern in the study design. More individuals of the CBT group were diagnosed with MDD than were those of the sample in the IPT group. Therefore, the CBT group might have experienced more severe depression than the IPT group, possibly impacting the results.

A recently completed trial of IPT-A in the New York City public school system resulted in positive outcomes for adolescents who received IPT-A as compared to a treatment as usual (TAU) control group of adolescents. The treatment took place in a school-based mental health clinic staffed by psychologists and social workers. For the study, 63 participants were randomly assigned to IPT-A or TAU. The TAU treatment in this research was considered to be whatever treatment the students would have received in the school-based clinic if the IPT-A treatment did not occur (Mufson, Dorta, Wickramaratne, et al., 2004).

The adolescents who received IPT-A displayed significantly less impairment as determined by both clinician report and by self-report when compared to the TAU group of adolescents. Significant improvement in social functioning was also recorded for the

students who received IPT-A. The authors found that adolescents with more severe depression responded better to IPT-A, a more structured treatment (Mufson, Dorta, Wickramaratne, et al., 2004).

IPT-A has been found to be an effective treatment for adolescent depression (Mufson, Dorta, Wickramaratne, et al., 2004; Mufson & Fairbanks, 1996; Mufson et al., 1994; Mufson et al., 1999; Rossello & Bernal, 1999; Santor & Kusumaker, 2001). Though research has supported the use of IPT-A with adolescent populations, limitations in the research and a lack of use in school settings without mental health clinics are of note. The potential to use this treatment in the school setting warrants further investigation.

Conclusion

Olfson, Gameroff, and colleagues (2003) analyzed service-use data obtained from the Medical Expenditure Panel survey from 1996-1999. Their analysis indicated that only about 1% of children and adolescents in the United States received outpatient treatment of any form for depression. This number falls well below even the most conservative estimates for prevalence of major depression. While fewer services were given to children, African-American adolescents, and individuals without health insurance, all populations did not receive adequate services according to this study. More recent research indicated that even when adolescents have received medical treatment for depression, less than one third with Medicaid and less than one half with private insurance received any form of psychotherapy (Mark, 2008).

Research has indicated that treatments for adolescent depression have been particularly lacking (Martin & Cohen, 2000; Olfson, Gameroff, et al., 2003). Though

there appears to be an opportunity to treat depression in adolescence before the adolescent develops another disorder (e.g., a substance abuse problem), for a majority of these individuals, treatments have not been forthcoming (Crisp, Gudmundsen, & Shirk, 2006; Martin & Cohen, 2000). Meanwhile, depression is a factor in why so many of our students with emotional disturbances do not graduate from high school (Cullinan & Sabornie, 2004; Vander Stoep et al., 2003).

There is an increasing requirement that interventions provided in settings such as clinics, schools, and hospitals provide evidence-based treatment (Kazdin, 2003; Weisz et al., 2000). Unfortunately, there are not many of these treatments available to address adolescent depression (Kazdin, 2003). Further complicating the issue is the debate on how to determine if a treatment is evidence-based (Stoiber & Kratochwill, 2000). All agree, however, that the selection of treatments should have some informed basis that is guided by science. Kazdin (2003) lists cognitive-behavioral and interpersonal, relationships-based humanistic therapy as the only known evidence-based psychotherapeutic practices for the treatment of adolescent depression.

Marcotte (1997) noted that treatments for adolescents are usually designed for adults and weakly modified for adolescents; these treatments are often not developmentally appropriate. Implementation of research-based programs in the school setting has been described as a need, and recent studies have attempted, with success, to incorporate cognitive-behavioral and interpersonal approaches in the school setting (Crisp et al., 2006; Evans, Van Velsor, & Schumacher, 2002; Mufson, Dorta, Wickramaratne, et al., 2004). Developmentally appropriate mental health services can be provided as a natural entry point of service delivery in the school setting (Christner et al.,

2007; Masia-Warner, Nangle, & Hansen, 2006). Supports for adolescents have been observably necessary: the stigma attached to mental illness leads to a lack of social acceptance for these individuals that can impact progress and development (Martin et al., 2007).

Unlike a majority of other therapies, IPT-A was designed specifically for an adolescent population. Research has found this treatment to be an effective one to aid in the recovery of adolescents from MDD (Mufson, Dorta, Wickramaratne, et al., 2004; Mufson & Fairbanks, 1996; Mufson et al., 1994; Mufson et al., 1999; Rossello & Bernal, 1999; Santor & Kusumaker, 2001). IPT-A has initial support, but requires further measurement.

IPT-A has recently been found to be a beneficial treatment for use in a school setting (Mufson, Dorta, Wickramaratne, et al., 2004). This is the first reported research of IPT-A conducted in a school setting with trained school personnel. IPT-A is a potentially useful treatment to address depression in adolescent populations that initially arise through interpersonal difficulties. Measurement of the impact of IPT-A in depressed youth may clarify how IPT-A is useful as a tool for school psychologists. A study of this treatment that incorporates the detailed measurement of functioning in depressed youth is needed.

CHAPTER III

METHODOLOGY

The effectiveness of the IPT-A treatment was evaluated employing a single subject design across four subjects. The researcher chose to use a multiple baseline design to allow for greater control and detailed measurement of the IPT-A treatment for adolescents in the school setting. The multiple baseline design allowed participants to receive treatment to alter behavior without the need to withdraw the treatment. The participants completed at least three baseline points and then began and completed treatment without interruption. Ethical and practical concerns associated with ABAB designs were not factors in this study. With the use of a different baseline for each participant, the effects of the intervention was more accurately measured and less likely to be correlated with common events (Kazdin, 1982).

Participants

The participants were 4 adolescent students (3 female, 1 male), ages 14, 15, and 16. Participants were all Caucasian, and selected on the basis of a primary diagnosis of depression as determined by the school psychologist employed by the public school district. The public school system, the Carlynton School District, is located southwest of Pittsburgh, PA. Approximately 800 students attend Carlynton Junior/Senior High School, which services students from grades 7 through 12.

Measures

Behavior Assessment System for Children – Second Edition (BASC-2)

The Behavior Assessment System for Children – Second Edition (BASC-2; Reynolds & Kamphaus, 2004) scales are designed to measure numerous aspects of

behavior, and include scales that measure clinical syndromes, such as depression, and adaptive functioning, such as social skills. Three raters completed the following BASC-2 measures: Self-Report – Adolescent (SRP-A), Parent Rating Scales – Adolescent (PRS-A), and Teacher Rating Scales – Adolescent (TRS-A). These scales are identified for use for adolescents ages 12 to 21 in a general population of individuals (Reynolds & Kamphaus, 2004).

Scores from the BASC-2 are reported as T scores. On the Clinical scales of the BASC-2, the higher the T score, the more significant the problem; the opposite is true for the Adaptive scales. T scores from 41 to 59 are considered average for each scale. T scores from 60 to 69 are “at-risk” for the Clinical scales, and scores at or above 70 are “clinically significant” for the Clinical scales. T scores from 31-40 are considered “Low”, and scores of 30 or less are considered “very low” on the Clinical scales. On the Adaptive scales, scores from 31-40 are considered at-risk and scores of 30 or less are considered clinically significant. Scores from 60 to 69 are considered “high” and scores of 70 or above are considered “very high” on the Adaptive Scales.

Self-Report of Personality – Adolescent (SRP-A). The SRP-A is a 176-item self-report that was completed by the participants pre-treatment, post treatment, and at follow-up. The first 69 items of this form are comprised of True/False questions. Items 70 to 176 required the participant to respond on a four-item Likert scale to a question regarding their behavior (“Never” to “Almost Always”). Sixteen scales are derived from the responses given. The scales are: Anxiety, Attention Problems, Attitude to School, Attitude to Teachers, Atypicality, Depression, Hyperactivity, Interpersonal Relations, Locus of Control, Relations with Parents, Self-Esteem, Self-Reliance, Sensation Seeking,

Sense of Inadequacy, Social Stress, and Somatization. This scale contains five indexes to assess the validity of the responses: an F (fake bad) index, L (fake good) index, a V (invalid response) index, a Response Pattern index, and a Consistency index.

The reliability of a test refers to the degree to which a test consistently measures what it is designed to measure; it refers to the dependability or trustworthiness of the instrument (Gay & Airasian, 2000). The closer a reliability coefficient is to 1.0, the more reliable the test. On the Self-Report of Personality from the BASC-2, two reliabilities were reported. Internal consistency measured the degree to which all items of a scale measured the same behaviors. From the combined male/female general norm sample, reliability coefficients ranged from .67 to .88 on the individual scales of the test. Test-retest reliability measured the consistency of ratings from the adolescent over a brief period of time. Test-retest reliability coefficients ranged from .61 to .84 (Reynolds & Kamphaus, 2004).

The validity of a test refers to the test's ability to accurately measure what it purports to measure; are interpretations made from the obtained test results appropriate (Gay & Airasian, 2000)? The closer the validity coefficient is to 1.0, the stronger the validity of the test. From the *BASC-2 Manual* (Reynolds & Kamphaus, 2004), the SRP-Ahas concurrent validity coefficients ranging from .65 to .84 when compared to the Achenbach System of Empirically Based Assessment Youth Self-Report. A .60 correlation was found between the Depression scale of the BASC-2 Adolescent Self-Report and the Beck Depression Inventory, Second Edition, and a correlation of .69 was found between the Depression scale of the BASC-2 and the CDI.

Parent Rating Scale – Adolescent (PRS-A). The PRS-A is a 150-item Likert scale that was administered to the participant's parents/guardian requiring responses to questions describing the behaviors of the adolescent participant (four choices, from "Never" to "Almost Always"). Fourteen scales are derived from the responses: Adaptability, Activities of Daily Living, Aggression, Anxiety, Attention Problems, Atypicality, Conduct Problems, Depression, Functional Communication, Hyperactivity, Leadership, Social Skills, Somatization, and Withdrawal. Three validity scales are included in the scale: a F Index, a Response Pattern Index, and a Consistency Index.

On the Parent Rating Scales, three different types of reliability are reported. Internal consistency coefficients ranged from .72 to .88 on the scales of the BASC-2. Test-retest reliability ranged from .75 to .88. The third type of reliability, interrater reliability, measured the level of agreement between parents. The interrater reliability of the PRS-A ranged from .55 to .84 (Reynolds & Kamphaus, 2004).

From the PRS-A, concurrent validity coefficients ranged from .30 to .77 when compared to the Achenbach System of Empirically Based Assessment Child Behavior Checklist for Ages 6 to 18. Correlations ranging from .76 to .94 were found between the original BASC Parent Rating Scale to the BASC-2 Parent Rating Scale.

Teacher Rating Scale – Adolescent (TRS-A). The TRS-A is a 139-item Likert scale that was to be administered to one of the participant's teachers to describe the participant's behaviors in school (four choices, from "Never" to "Almost Always"). Fifteen scales were derived from responses to this rating: Adaptability, Aggression, Anxiety, Attention Problems, Atypicality, Conduct Problems, Depression, Functional Communication, Hyperactivity, Leadership, Learning Problems, Social Skills,

Somatization, Study Skills, and Withdrawal. The same three validity indexes are included in this scale as the PRS-A: an F Index, a Response Pattern Index, and a Consistency Index.

On the Teacher Rating Scale, internal consistency reliability coefficients ranged from .85 to .89. Test-retest reliability coefficients ranged from .64 to .90. Interrater reliability on the Teacher Rating Scale measured the level of agreement between teachers on the same child. Interrater reliability on the TRS-A ranged from .19 to .82 on the individual scales (Reynolds & Kamphaus, 2004).

The authors reported concurrent validity coefficients ranging from .36 to .89 when compared to the Achenbach System of Empirically Based Assessment Teacher's Report Form for Ages 6 to 18. Correlations ranging from .82 to .97 were found between the original BASC Teacher Rating Scale to the BASC-2 Teacher Rating Scale.

CDI

The CDI was used as a self-report of behavior to measure severity of depressive symptoms for the participants, administered on a weekly basis. The CDI is a 27-item instrument that requires the respondent to choose one of three statements that describe their feelings over the past two weeks. Raw scores range from 0 to 54; scores are also reported as T-scores, with T-scores between 45 and 55 considered average for an adolescent in the population. Kovacs (1992) suggests a cut-off raw score of 20 for the Total CDI Score (T-scores between 60 and 66 depending on the child's age and gender) as most appropriate for general screening purposes. Scores above 20 would be more indicative of depression in the adolescent.

On the CDI, the internal consistency reliability coefficient has been found between .71 and .89 across various studies (Kovacs, 1992). Kovacs (1992) noted that test-retest reliability for a self-report that measures symptoms that typically do not remain stable is difficult, and appears to be done most appropriately at two-week intervals. Test-retest reliability of .82 was found for the measure at a two-week interval.

Kovacs (1992) reported hundreds of clinical experimental research studies have investigated the CDI and validity of the instrument is well established. Concurrent validity between the SRP-A and the CDI was .69 (Reynolds & Kamphaus, 2004). High correlations were found between self-reports and clinician reports between the Hamilton Depression Scale, the Children's Depression Rating Scale – Revised, the Reynolds Scale, and the CDI (Shain, Naylor, & Alessi, 1990). Factor analysis of the CDI have found anywhere from three to eight factors. The measure has five scales, Negative Mood, Interpersonal Problems, Ineffectiveness, Anhedonia, and Negative Self-Esteem. The CDI has been used to measure intervention change in research, including research of IPT-A completed by Santor and Kusumaker (2001).

Rating of Mood and Social Interaction

The subjective Rating of Mood and Social Interaction contained three 1 to 9 Likert scales (Appendix A). The three scales addressed general mood, self-report of social interaction and quality of relationships with others, and feelings of hopefulness. Scores of 1 indicated "Poor", scores of 5 indicated "No Change" and scores of 9 indicated "Excellent." Items from this rating were derived from targeted goals listed in the IPT-A manual (Mufson, Dorta, Moreau, et al., 2004). The rationale behind the development of this scale was to provide a subjective and detailed rating of mood for the

subject to complete on a routine basis. Administered weekly, it was used as a tool to enhance and drive treatment according to suggestions from the manual; there were no psychometric properties established for this mood thermometer.

Experimental Design and Procedure

Design

A multiple baseline design was used to test the effectiveness of IPT-A treatment. Each of the four participants received the same intervention; the dependent variable of this study was the diagnostic and symptom measures of depression of the participants as measured by self-report rating and ratings from a parent and teacher. The independent variable was the IPT-A treatment.

Major threats to internal validity include history, maturation, testing, instrumentation, statistical regression, selection biases, attrition, and diffusion of treatment (Kazdin, 1982). The use of a multiple baseline design directly addressed issues of history: the possible impact of common events was controlled by different baseline and starting points for intervention. There was no change in instrumentation over the course of intervention and there was no attrition of participants. Selection biases and diffusion of treatment were not factors; all participants received the same intervention. Maturation, testing, and statistical regression remained potential threats to internal validity. While the intervention occurred over a relatively brief period of time, maturation could have impacted results at follow-up. The impact of repeated assessment with the CDI and Rating of Mood and Social Interaction was controlled by the use of the BASC-2 as a pre- and post-testing measure. Internal validity was also addressed by the use of the Taped Session Checklist (Appendix B). Six sessions were recorded for each participant,

and sessions were reviewed by the district's school psychologist to insure intervention fidelity.

Major threats to external validity include generality across subjects, generality across settings, generality across response measures, generality across times, generality across behavior change agents, reactive experimental arrangements, reactive assessment, pretest sensitization, and multiple treatment interference (Kazdin, 1982). Threats regarding generality were addressed by use of the multiple baseline design with more than one participant. The intervention was manualized and therefore easily replicated. The nature of the intervention made participants directly aware of the behavior to be addressed, limiting the threats of reaction to the experimental arrangements, reactions to assessment, and pretest sensitization.

Procedure

Following Institutional Review Board approval from the University and School Board approval from the district, participants were referred by school staff through the district's Student Assistance Team process. Five students were initially identified through teacher referral. Initial parent contact was made by the district's School Psychologist and Assistant Principal. All five students were then screened by the district School Psychologist, and all five met criteria for a depressive disorder (two met criteria for MDD, Single Episode; one met criteria for DD, and two met criteria for depressive disorder, NOS). The researcher was unable to contact one of the five participants (female, age 16); before a meeting to review the study and sign assent and consent forms, the student moved with her family out of the district.

Meetings with the four participants and their parent/guardian were held with the researcher. A description of the study and treatment was given. The parent/guardian and the participants were educated about depression, IPT-A, and the goals of treatment in a manner understandable to each group. Informed consent was reviewed with both parent/guardian and the participants, and consent and assent forms were signed. The parent/guardian and participants were guaranteed anonymity and they were assured that the participant may withdraw at any time from the study. Background information was provided and diagnoses were confirmed: two of the participants met criteria for MDD, Single Episode, one met criteria for DD, and one met criteria for depressive disorder, NOS. The same structured interview form was used between district school psychologist and researcher (McConaughy, 2005). Three of the four participants had been experiencing significant interpersonal conflicts with parents/guardian and one participant had been struggling with the traumatic death of a loved one for an extended period of time. None of the four had received prior treatment for depression, and none of the four had been prescribed medications to address any emotional concerns. Exclusionary criteria were applied consistent with the treatment manual (Mufson, Dorta, Moreau, et al., 2004): all four participants were within at least average ranges of cognitive functioning and none of the four were actively suicidal.

After consent and assent forms were signed by parents/guardian and the participant, one teacher for each of the participants was selected by the district School Psychologist and Assistant Principal. Per district request, teachers were approached by the district School Psychologist and materials were reviewed. Consent forms were obtained from only three teachers; one teacher did not return the form.

Baseline. At the initial meeting with the researcher, all four participants completed the SRP-A, the CDI, and the Rating of Mood and Social Interaction scale. All four parents/guardian (three mothers, one grandmother) completed the PRS-A. Each of the three teachers who signed consent forms responded to the TRS-A.

Baseline began on January 25th for three of the four participants. Each of the three met with the district school psychologist and completed the CDI and Rating of Mood and Social Interaction on February 4th (baseline data point 2 for the three participants). Each of the three also completed the CDI and Rating of Mood and Social Interaction on February 15th. The fourth participant started baseline on February 15th.

The following week (February 25th), Participant 1 started IPT-A treatment with three baseline data points. Participants 2, 3, and 4 continued baseline, meeting with the researcher to monitor behavior and complete the CDI and Rating of Mood and Social Interaction. Participant 2 began treatment on February 28th after four baseline data points. Participant 3 started treatment on March 6th following five baseline data points, and Participant 4 began treatment on March 12th following four baseline data points.

Intervention. All four participants received 12 sessions of IPT-A. Each session was 40 to 45 minutes in length, and each session was conducted at the Carlynton Junior/Senior High School. The sessions occurred weekly for each participant with only one exception: Participant 1 was absent from school on May 7. The session was made up the following week.

Initial Phase of Treatment. The first four sessions were conducted consistent with the manual as the Initial Phase of treatment. The Initial Phase addresses diagnosis and assessment of the adolescent's depression. A detailed review of the patient's

relationships, current and past, was obtained to detail the patient's social functioning. This review is called the "interpersonal inventory" (Mufson, Dorta, Moreau, et al., 2004, p. 55). In IPT-A, information from this inventory was obtained from the participant, but information was also obtained from parents/guardians of the participants.

During the Initial Phase one of four problem areas (grief, interpersonal disputes, role transitions, and interpersonal deficits) was identified. Three of the four participants demonstrated significant interpersonal disputes, and one of the four suffered from concerns regarding grief. The problem areas were addressed specifically in the Middle Phase of treatment (Mufson, Dorta, Moreau, et al., 2004).

Prior to the start of the Middle Phase, a treatment contract was developed with the participant to set goals that were attainable over the course of the brief treatment. The participant was given a limited "sick role" (Mufson, Dorta, Moreau, et al., 2004, p. 48) at this time. IPT and IPT-A approaches depression as a clinical disorder, an illness that requires treatment. As such, the participant and his or her parents/guardian were given this information as a method to allow for some relief from their current social roles. The adolescent was allowed to think of him or herself as in recovery, working to alleviate symptoms of an illness that can be cured (Mufson, Dorta, Moreau, et al., 2004).

The parents/guardian of each participant were contacted by phone following the fourth session to review progress, educate the parents/guardian on the problem area addressed, and discuss the goals of the treatment as described with the participant.

Middle Phase of Treatment. From sessions five through eight, the Middle Phase of treatment addressed the identified problem and treatment contract completed from the Initial Phase. During this phase, depressive symptoms were monitored and the adolescent

was enabled to discuss relevant topics in regards to their problem area. The adolescent's feelings about the topics discussed were monitored and encouragement was given to discuss affective responses.

Termination Phase of Treatment. Sessions 9 through 12 comprised the Termination Phase of IPT-A. Depressive symptoms were monitored, and treatment goals and gains were reinforced. The participants were reminded of the pending termination at week 9 and again at week 11 of their treatment. Parents/guardians were contacted by phone at least one time over the course of the Middle and Termination Phases to briefly discuss progress and goals as agreed upon in session with the participants.

Following the final session for each participant, the parents/guardians were brought in with the participant to complete the PRS-A. The participants again completed the CDI and Rating of Mood and Social Interaction. They also completed a SRP-A. All were reminded of the three-month follow-up appointments. Of the three teachers to complete TRS-A, two completed forms at the end of the participants' treatment. Despite multiple reminders, one teacher did not complete the TRS-A.

Three-Month Follow-Up. The participants were contacted approximately 3 months after the last session of the treatment (August 2008). Meetings were scheduled and conducted at the Carlynton Junior/Senior High School. At this time, progress was reviewed and the participants were asked to complete the TRS-A, CDI, and the Rating of Mood and Social Interaction. The parents/guardian was also asked to complete the PRS-A. None of the teachers were asked to complete a TRS-A. Follow-up meetings were conducted after summer vacation; the teachers did not have interaction with the

participants over this time frame. None of the four participants had received any further treatment, therapy or medication, prior to follow-up.

Procedural Integrity

Procedural integrity was assessed by independent review of random taped sessions. The district school psychologist reviewed six recorded sessions of each participant using a checklist (see Appendix B). The checklist insured that assessment tools were administered, progress was reviewed, goals were discussed, and techniques were used during the session appropriately. Procedural integrity was 100% for each of the 24 taped sessions.

Data Analysis

Each participant completed the CDI and the Rating of Mood and Social Interaction weekly from baseline through termination. The participant also completed the CDI and the Rating of Mood and Social Interaction at three month follow-up. The collected data was analyzed by use of visual analysis (Kazdin, 1982), percentage of nonoverlapping data points (Scruggs, Mastropieri, & Castro, 1987), and effect size using Cohen's *d* (Allison & Gorman, 1993).

Visual Analysis of the Graphed Data

Five criteria were employed in the visual analysis of graphed data (Kazdin, 1982): (a) changes in mean level of performance across phases, (b) changes in level of performance from the end of one phase to the beginning of the next phase, (c) changes in trend or slope from one phase to the next, (d) stability of behavior changes within phases, and (e) the latency of behavior change across phases.

Percentage of Nonoverlapping Data

To insure careful visual analysis, a metric involving the percentage of nonoverlapping data points was employed. The proportion of overlapping data between baseline and intervention will be reported. The less overlap found between data points, the more effective and reliable the intervention (Scruggs, Mastropieri, & Castro, 1987).

Effect Size Calculation

Effect size was calculated using Cohen's d (Allison & Gorman, 1993). The use of effect size in single-subject research designs has been debated: applied clinical importance has in many circles been viewed as more important than statistical relevance in this research (Kazdin, 1982). Others have contended that participants in single-subject research often do not represent the normal population and do not meet the assumption for homogeneity of variance (Olive & Smith, 2005). Effect size has, however, been calculated to provide a statistical measure of the magnitude of treatment impact (Allison & Gorman, 1993). Statistical results have been particularly useful when baseline has not been stable or when results have not been clearly interpretable through visual analysis (Kazdin, 1982). Use of an effect size calculation has been recommended in the most recent *Publication Manual of the American Psychological Association* (APA; American Psychological Association, 2001).

BASC-2 Results

The results of the BASC-2 rating scales completed prior to baseline and at termination by the participant, parent/guardian, and teacher, as well as BASC-2 results completed at three-month follow-up by the participant and parent/guardian, were analyzed descriptively to examine changes over time.

Research Questions and Hypotheses

Research Question 1

Does IPT-A effectively reduce depressive symptoms of adolescents when implemented in a public school setting?

Hypothesis 1

Depressive symptoms decrease significantly following treatment as described by the treatment manual and as reported individually by the participant, parent/guardian, and teacher.

Research Question 2

Does the implementation of IPT-A treatment increase the social functioning of the students receiving the treatment in the school setting?

Hypothesis 2

Social functioning of the adolescent will increase significantly following treatment in the school setting as described by the treatment manual as reported individually by the participant, parent/guardian, and teacher.

Research Question 3

Are treatment gains maintained over time with the use of IPT-A in the school setting?

Hypothesis 3

Treatment gains are maintained over time as reported individually by the participant and parent/guardian.

CHAPTER IV

RESULTS

Single Subject Analysis of the Research Questions

CDI and Rating of Mood and Social Interaction scale results were completed and collected weekly from each participant during baseline and treatment. Participant 1 was absent from school for what would have been session 12, but the session was conducted on the following week. At follow-up, each participant completed CDI and Rating of Mood and Social Interaction scales in late August, approximately three to three and one half months after the last session. Each of the participants and their parent or guardian completed BASC-2 forms pre and post treatment. As described in the Methods section, three teachers completed pre treatment forms, and only two completed post treatment forms. Participants and their parent or guardian completed BASC-2 forms at follow-up; follow up occurred after summer vacation, and teachers were not asked to respond to BASC-2 forms due to this circumstance. None of the four participants were prescribed medications or began another therapy over the follow-up period. Data were analyzed using visual analysis (Kazdin, 1982), percentage of nonoverlapping data points (Scruggs, Mastropieri, & Casto, 1987), and effect size (Allison & Gorman, 1993).

Research Question 1

Does IPT-A effectively reduce depressive symptoms of adolescents when implemented in a public school setting?

Hypothesis 1: Depressive symptoms decrease significantly following treatment as described by the treatment manual as reported individually by the participant, parent, and teacher.

Visual Analysis of the Graphed Data

Four criteria were employed by the experimenter to analyze the collected data (Kazdin, 1982): (a) changes in the mean level of performance across phases, (b) changes in the level of performance from the end of one phase to the beginning of the next phase, (c) changes in trend or slope from one phase to the next, and (d) the latency of behavior change across phases. To address this research question, results from the CDI from baseline through the end of the treatment (Session 12) were analyzed (see Figure 1), as were questions 1 and 3 from the Rating of Mood and Social Interaction for each participant.

Changes in means. Changes in mean scores of the CDI were present for each participant over the course of treatment. The mean Baseline CDI score for Participant 1 was 13. For the Initial Phase of treatment, her mean score dropped to 6.75, then 2.25 for the Middle Phase and 2 for the Termination Phase, with an overall mean score of 3.67 during IPT-A treatment phases. Participant 2's Baseline CDI mean score of 16 decreased to 11.5 over the course of the Initial Phase. The mean score decreased to 10 for the Middle Phase and 7.5 for the Termination Phase of treatment, with an overall mean score of 9.67. Participant 3's Baseline score of 19.2 was the highest of the four participants. During the Initial Phase, mean scoring was 15.25, decreased to 11.5 for the Middle Phase, and 7.5 for the Termination Phase with an overall mean of 11.42. Participant 4 scored a Baseline mean of 17.75. Initial Phase (8.25), Middle Phase (8.75), and Termination Phase (8.25) mean scores were relatively similar. Participant 4's overall mean score of 8.42 was noticeably lower than his Baseline mean score on the CDI (refer to Figure 1).

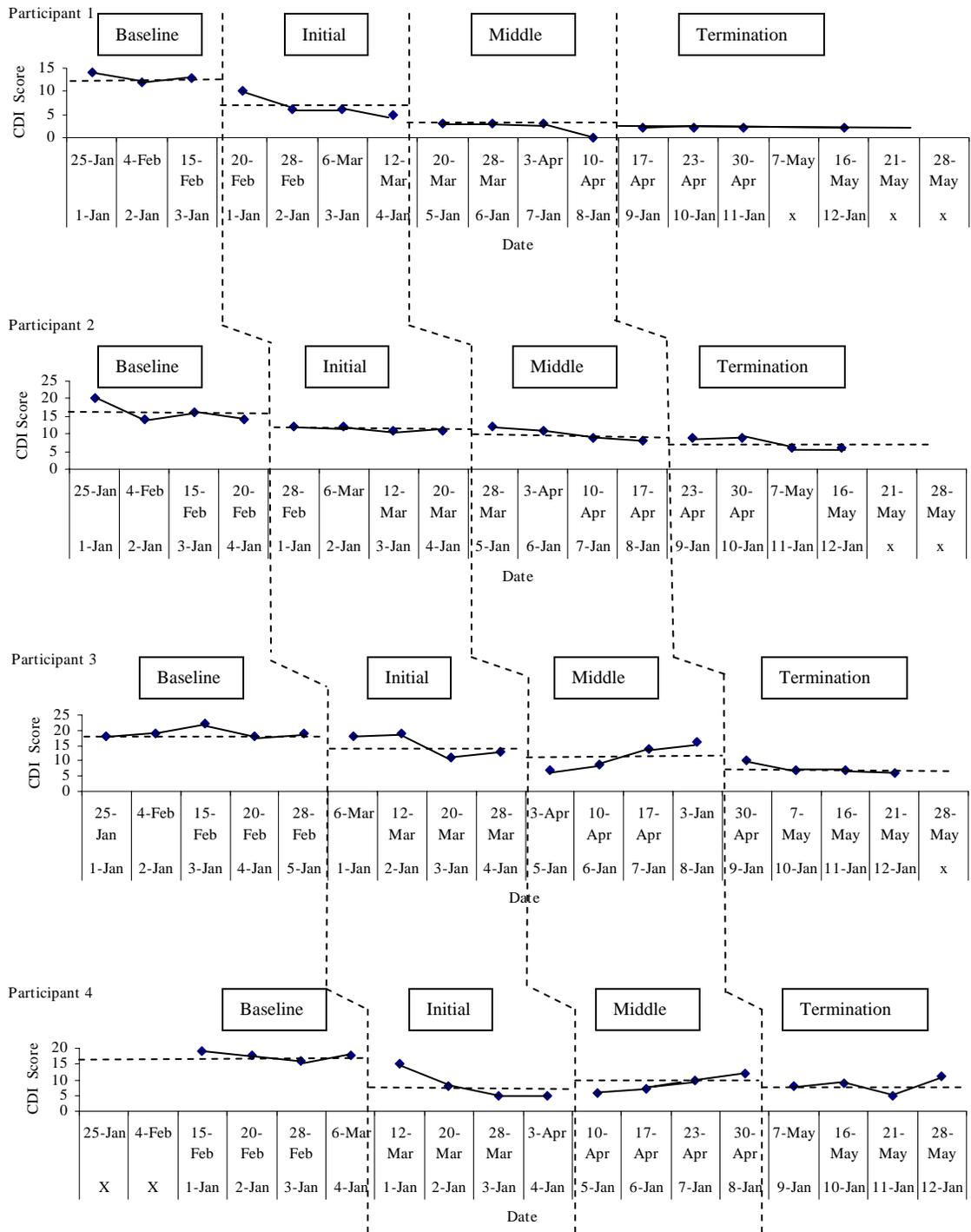


Figure 1. CDI results over the course of intervention by date and baseline/session number (broken horizontal line indicates mean CDI score for each individual phase).

Question 1 from the Rating of Mood and Social Interaction addressed the Participant’s mood over the course of the previous week on a scale from 1 to 9: “Over the past week, my mood has been...” (see Table 1). Participant 1’s Baseline mean score of 6.33 on this question remained similar following the Initial Phase (6.25), then increased to 7.75 for the Middle Phase and 8.5 for the Termination Phase of treatment. Participant 2’s Baseline mean score of 5.75 increased to 7.5 during the Initial Phase, decreased to 6.25 for the Middle Phase, then returned to 7.5 during the Termination Phase. Participant 3’s mean scoring for this question remained relatively stable: Baseline mean of 5.6, Initial Phase mean of 4.75, Middle Phase mean of 4.75, and Termination Phase mean of 5.75. Participant 4’s Baseline mean of 5.75 increased to 6.75 for the Initial Phase, 7.5 for the Middle Phase, and 6.25 for the Termination Phase of treatment.

Table 1

Mean Scores by Phase for Question 1 of the Rating of Mood and Social Interaction

Participant	Mean Score			
	<u>Baseline</u>	<u>Initial</u>	<u>Middle</u>	<u>Termination</u>
1	6.33	6.25	7.75	8.50
2	5.75	7.50	6.25	7.50
3	5.60	4.75	4.75	5.75
4	5.75	6.75	7.50	6.25

Question 3 of the Rating of Mood and Social Interaction addressed feelings of hopefulness using the same 1 to 9 scale: “Over the past week, my feelings of hope are...” (see Table 2). Two of the four participants (Participants 1 and 3) demonstrated observable changes in mean for this question. Baseline mean for Participant 1 was 6.67, increased to 7 for the Initial Phase, 8 for the Middle Phase, and 8.75 for the Termination Phase. Participant 3 demonstrated a Baseline mean score of 3.2. This mean score increased to 4.25 for the Initial Phase, 4.5 for the Middle Phase, and 7.5 for the Termination Phase. Mean score at Baseline for Participant 2 was 6.75 and showed some increase for the Initial Phase, mean of 7, Middle Phase mean of 7, and Termination Phase mean of 7.5. Scoring for Participant 4 actually decreased during the Termination Phase: Baseline mean 6.5, Initial Phase mean 7.5, Middle Phase mean 7.5, Termination Phase mean 6.25.

Table 2

Mean Scores by Phase for Question 3 of the Rating of Mood and Social Interaction

Participant	Mean Score			
	<u>Baseline</u>	<u>Initial</u>	<u>Middle</u>	<u>Termination</u>
1	6.67	7.00	8.00	8.75
2	6.75	7.00	7.00	7.50
3	3.20	4.25	4.50	7.50
4	6.50	7.50	7.50	6.25

Changes in level. Immediate, dramatic changes from Baseline to the start of the Initial Phase of treatment were not observed, though each Participant did demonstrate some reduction in CDI scoring between Baseline and the start of treatment. Participant 1 rated a score of 13 for final Baseline, then 10 before Session 1 began. Participant 2 rated a score of 14 for final Baseline, then 12 before Session 1 began. Participant 3 demonstrated scores of 19 and then 18 before Session 1, and Participant 4 rated scores of 18 and then 15 before Session 1 (see Figures 2 and 3).

For Questions 1 of the Rating of Mood and Social Interaction scale, Participant 1 demonstrated an increase from 6 to 7 on the self-report, and reported scores of 7 on Question 3 from the end of Baseline to the beginning of Session 1 of treatment. Participant 2's scores for Question 1 increased from 7 to 8, and scores for question three were 8 from the end of Baseline to the beginning of Session 1 of treatment. Participant 4 demonstrated similar results: a score of 7 at the end of Baseline for Question 1 and a score of 8 prior to the start of the first session, and a score of 8 for the end of Baseline and 7 before the start of the first session for Question 3. Participant 3's results were much more inconsistent and did indicate a change in level: she reported scores of 4 at the end of Baseline for Question 1, and then increased to a score of 8 at the start of Session 1. For Question 3, scoring increased from 5 to 8.

Changes in trend. Examination of regression linear trend line for each of the four participants indicated a steady decline of CDI scores over the course of treatment. Examination of the linear regression trend lines for Questions 1 and 3 of the Rating of Mood and Social Interaction scale were less dramatic but indicated an increasing trend and an improvement in ratings over the course of treatment, with one exception: The

trend line for Participant 3 remained stable on Question 1 and did not show improvement from Baseline.

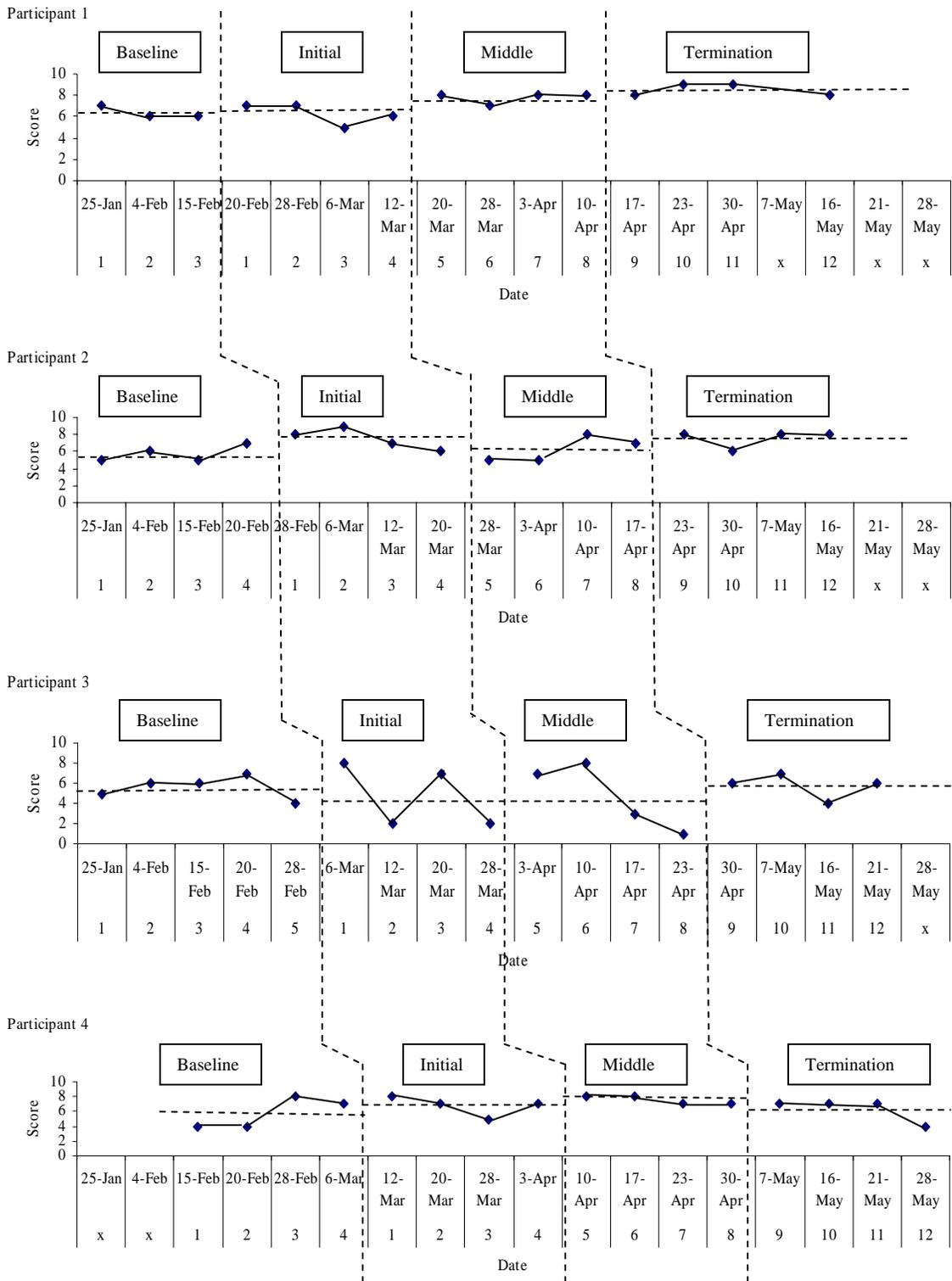


Figure 2. Question 1 of the Rating of Mood and Social Interaction scores over the course of intervention by date and baseline/session number.

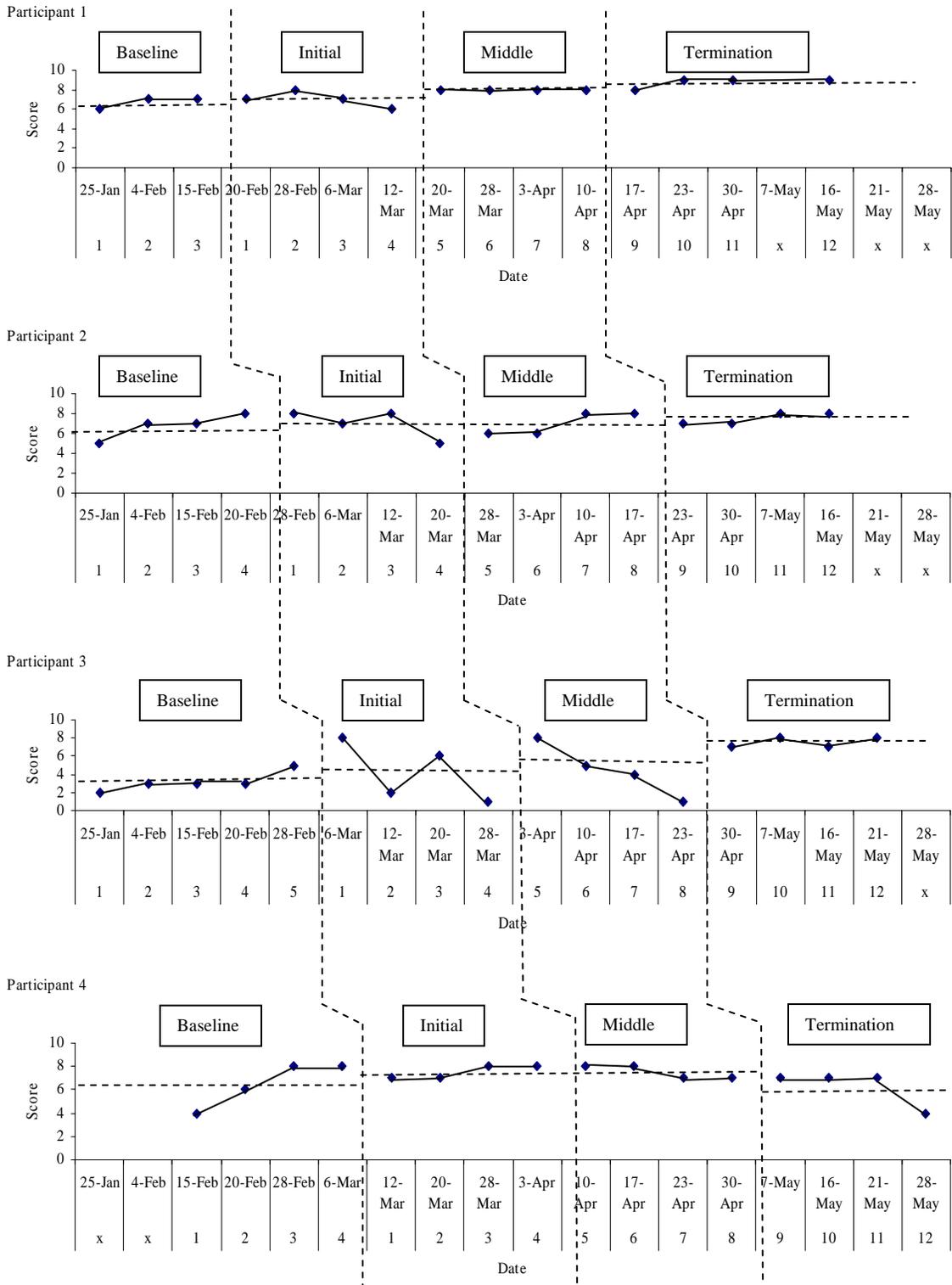


Figure 3. Question 3 of the Rating of Mood and Social Interaction scores over the course of intervention by date and baseline/session number.

Latency of change. Visual inspection of data indicated that change in results occurred shortly after the beginning of treatment for each of the participants from CDI results. While progress was generally consistent, noticeable declines in CDI scores were observed over the course of the Initial Phase for all four participants, particularly Participants 1 and 4. While trends were increasing, visual inspection of the results from Questions 1 and 3 of the Rating of Mood and Social Interaction did not show an evident moment of change.

Percentage of Nonoverlapping Data

Percentage of nonoverlapping data points was employed to further insure careful visual analysis. The less overlap found between data points, the more effective and reliable the intervention (Scruggs, Mastropieri, & Casto, 1987). From the results of the CDI, visual inspection of the data indicated that 100% of points were nonoverlapping between Baseline and all Intervention phases for Participants 1, 2, and 4. For Participant 3, 83% of the data points were nonoverlapping (two data points overlapped). The overall total for this study indicated that 95.83% of the CDI data was nonoverlapping between Baseline and Intervention phases.

Greater overlap was observed for Questions 1 and 3 of the Rating of Mood and Social Interaction. The percentage of nonoverlapping data for Question 1, Participant 1 was 58%, Participant 2 was 50%, Participant 3 was 17% and Participant 4 was 0%. The percentage of nonoverlapping data for Question 3, Participant 1 was 75%, Participant 2 was 0%, Participant 3 was 58%, and Participant 4 was 0%.

Effect Size

Along with visual analysis, effect size was calculated to provide a measure of the magnitude of treatment impact, and compared Baseline to overall Intervention. Effect size was calculated using Cohen's *d* (Allison & Gorman, 1993). The effect size of CDI results for each of the four participants was large, particularly for Participants 1 (.93) and 4 (.90). The effect sizes of CDI results for Participant 2 of .81 and for Participant 4 of .78 were also large.

BASC-2 Results

Twenty-nine BASC-2 scales were completed over the course of this research (three each from the participants and their parent/guardian, and five Teacher Rating Scales). Eight of the twenty-nine protocols indicated elevated F Index scores (see Table 3); all other validity index scales were considered acceptable. Of the BASC-2 validity scales, the F Index measures tendencies to over-report behaviors in a negative manner. On the Depression scale of the BASC-2 results generally indicated changes in reported or observed behaviors for the participants (see Table 4).

From the Self-Report of Participant 1, her initial BASC-2 T score of 64 on the Depression scale was elevated. At the end of intervention, her Depression scale T score of 40 was within an average range. Results from her guardian were within a highly elevated range pre-intervention, Depression scale T score of 120, and a reduction was observed at the end of intervention, T score of 63. Her guardian's results were, however, impacted by a very elevated 'F' Index score. One teacher form was completed for Participant 1 pre intervention; an elevated Depression scale T score of 77 was obtained.

Participant 2 demonstrated a slight decline in Depression scale T scores from Self-Report, T score of 68 pre intervention and T score of 61 at the end of intervention.

Parent results were more significant: a Depression scale T score of 76 pre-intervention and a T score of 46 at the end of intervention were obtained.

Table 3

F Index Results from the BASC-2

	'F' Index Description		
	<u>Pre-intervention</u>	<u>Post-intervention</u>	<u>Follow-up</u>
Participant 1	Acceptable	Acceptable	Acceptable
Parent	Extreme Caution	Acceptable	Acceptable
Teacher	Acceptable	---	---
Participant 2	Acceptable	Acceptable	Acceptable
Parent	Acceptable	Acceptable	Acceptable
Teacher	---	---	---
Participant 3	Caution	Acceptable	Acceptable
Parent	Extreme Caution	Extreme Caution	Caution
Teacher	Acceptable	Acceptable	---
Participant 4	Caution	Acceptable	Acceptable
Parent	Acceptable	Acceptable	Acceptable
Teacher	Extreme Caution	Extreme Caution	---

Note. Dashed lines indicated that the scale was not completed.

Table 4

BASC-2 Results from the Depression Scale

	T-scores		
	<u>Pre-intervention</u>	<u>Post-intervention</u>	<u>Follow-up</u>
Participant 1	64	40	40
Parent	120	63	63
Teacher	77	---	---
Participant 2	68	61	43
Parent	76	47	41
Teacher	---	---	---
Participant 3	76	46	41
Parent	86	99	82
Teacher	73	62	---
Participant 4	70	53	49
Parent	65	54	
Teacher	115	100	---

Note: Dashed lines indicated that the scale was not completed. Pre-intervention scores from the Parent of Participants 1 and 3 and from the Teacher of Participant 4 should be interpreted with extreme caution according to the F Index validity scale. Pre-intervention scores for Participants 3 and 4 should be interpreted with caution according to F Index validity scale. Post-intervention scores from the Parent of Participant 3 and the Teacher of Participant 4 should be interpreted with extreme caution from the F Index validity scale. Follow-up scores from the Parent of Participant 3 should be interpreted with caution from the F Index validity scale.

Results from Participant 3 were more variable. On the Self-Report form, a Depression scale T score of 76 was observed pre-intervention, and a score of 46 was observed at the end of intervention. Participant 3's F Index score was within a caution

range for the pre-intervention form. The Parent Rating Scale results were worse after treatment: Depression scale T score of 86 pre-intervention and a T- core of 99 at the end of intervention. The PRS-A results were within extreme caution ranges both pre- and post-intervention. Teacher results on the Depression scale were T score of 73 pre-intervention and T score of 62 at the end of intervention.

Results from Participant 4 were generally consistent between raters. A Depression scale T score of 70 was obtained on the pre-intervention Self-Report form and a T score of 53 was obtained at the end of intervention. Participant 4's F Index score was within a caution range pre-intervention. On the Parent Rating Scale, a Depression scale T score of 65 was observed pre-intervention and a score of 54 was observed at the end of intervention. Teacher results on the Depression scale were T-score of 115 pre-intervention and T-score of 100 post-intervention; extreme caution F Index scores were observed both pre- and post-intervention on this scale.

Research Question 2

Does the implementation of IPT-A treatment increase the social functioning of the students receiving the treatment in the school setting?

Hypothesis: Social functioning of the adolescent will increase significantly following treatment in the school setting as described by the treatment manual as reported individually by the participant, parent, and teacher.

Visual Analysis of the Graphed Data

Visual analysis (Kazdin, 1982) was used to analyze data collected from Question 2 from the Rating of Mood and Social Interaction (“My social interactions and relationships with others have been...”).

Changes in means. Question 2 from the Rating of Mood and Social Interaction addressed the Participant's social interactions and feelings regarding the quality of their interactions with others over the course of the previous week on a scale from 1 to 9 (see Table 5). Participant 1's Baseline mean score of 7 on this question remained similar following the Initial Phase (6.75), then increased to 8.25 for the Middle Phase and 8.75 for the Termination Phase of intervention. Participant 2's Baseline mean score of 7.5 decreased to 7 during the Initial Phase, again decreased to 6.5 for the Middle Phase, then increased to 8 during the Termination Phase. Participant 3's mean scoring for this question increased: Baseline mean of 1.4, Initial Phase mean of 3.25, Middle Phase mean of 3.75, and Termination Phase mean of 5.75. Participant 4's Baseline mean of 5.75 increased to 6.75 for the Initial Phase, 7.5 for the Middle Phase, and 6.25 for the Termination Phase of intervention.

Changes in level. Participant 1 demonstrated a decrease from 9 to 8 from the end of Baseline to the beginning of Session 1 of treatment. Participant 2's scores for Question 2 decreased from 8 to 7 from the end of Baseline to the beginning of Session 1 of treatment. Participant 3's results were the most inconsistent: a score of 2 at the end of Baseline and an increase to 6 before the start of Session 1. Participant 4's scores were identical, 7 from the end of Baseline and before the start of Session 1.

Changes in trend. Examination of the linear regression trend lines for Questions 2 of the Rating of Mood and Social Interaction scale indicated an increasing trend and a general improvement in ratings over the course of treatment (see Figure 4).

Latency of change. While trends appeared to be increasing, visual inspection of the results from Question 2 of the Rating of Mood and Social Interaction did not show an evident moment of change.

Table 5

Mean Scores by Phase for Question 2 of the Rating of Mood and Social Interaction

Participant	Mean Score			
	<u>Baseline</u>	<u>Initial</u>	<u>Middle</u>	<u>Termination</u>
1	7.00	6.75	8.25	8.75
2	7.50	7.00	6.50	8.00
3	1.40	3.25	3.75	5.75
4	5.75	6.75	7.50	6.25

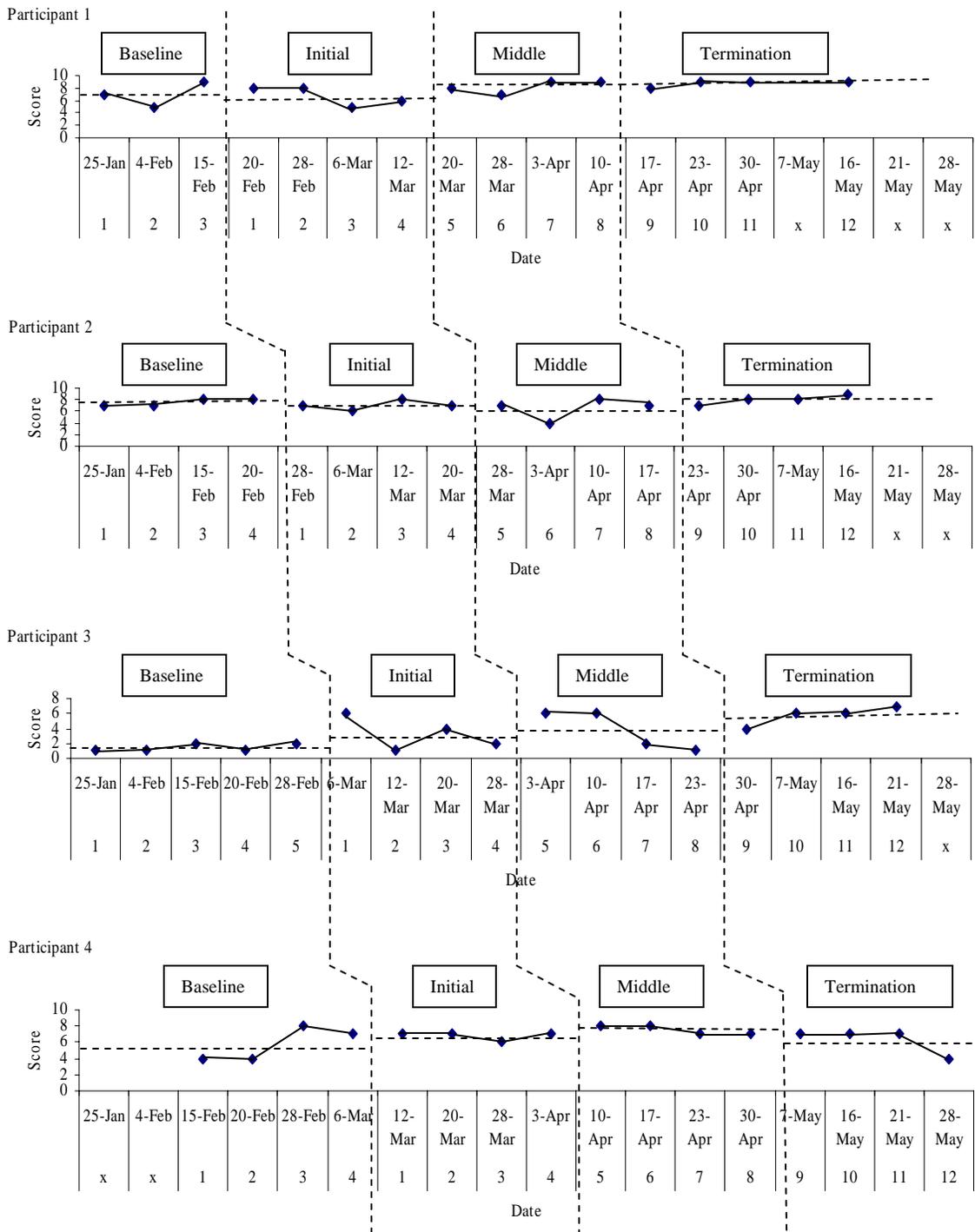


Figure 4. Question 2 of the Rating of Mood and Social Interaction scores over the course of intervention by date and baseline/session number.

Percentage of Nonoverlapping Data

Percentage of nonoverlapping data points was employed for Question 2 to further insure careful visual analysis. Significant overlap was observed. The percentage of nonoverlapping data for Participant 1 was 0%, Participant 2 was 8%, Participant 3 was 67% and Participant 4 was 0%.

BASC-2 Results

BASC-2 results from scales that described social skills and relationships generally indicated changes in reported or observed behaviors for the participants. Three scales were of note from the SRP-A (see Table 6): Interpersonal Relations, Social Stress, and Relations with Parents. From the PRS-A and TRS-A, the Withdrawal and Social Skills scales were of note (see Tables 7 and 8). The Social Stress scale of the SRP-A and the Withdrawal scale of the PRS-A and TRS-A were considered Clinical scales. The Interpersonal Relations and Relations with Parents scales of the SRP-A and the Social Skills scale of the PRS-A and TRS-A were considered Adaptive scales. As noted previously, on the Clinical scales higher T scores were more indicative of a significant problem and the opposite was true for the Adaptive scale T score results.

From the SRP-A of Participant 1, the following T scores were reported: 49 on Social Stress pre-intervention, 36 on Social Stress post-intervention (Clinical scale); 49 on Interpersonal Relations pre-intervention, 59 on Interpersonal Relations post-intervention (Adaptive scale); 33 on Relations with Parents pre-intervention, 40 on Relations with Parents post-intervention (Adaptive scale). From the PRS-A, T-scores of 61 on the Withdrawal scale pre-intervention reduced to a T score of 47 post intervention, and a score of 41 on the Social Skills scale pre-intervention increased to a T score of 54

post-intervention. Again, F Index scores were within extreme caution ranges pre-intervention from this scale. The TRS-A, only completed pre-intervention, obtained significant T scores of 69 on the Withdrawal scale and 29 on the Social Skills scale.

Table 6

BASC-2 T-Score Results on the Interpersonal Relations, Relations with Parents, and Social Stress scales of the SRP-A

Participant	T-scores		
	<u>Pre-intervention</u>	<u>Post-intervention</u>	<u>Follow-up</u>
1. Interpersonal Relations	49	59	62
Relations with Parents	33	40	51
Social Stress	49	36	34
2. Interpersonal Relations	42	55	55
Relations with Parents	63	67	63
Social Stress	49	49	45
3. Interpersonal Relations	34	45	48
Relations with Parents	38	34	38
Social Stress	76	55	47
4. Interpersonal Relations	19	29	26
Relations with Parents	36	38	41
Social Stress	60	58	53

Note: Pre-intervention scores for Participants 3 and 4 should be interpreted with caution according to F Index validity scale.

Table 7

BASC-2 T Score Results, Withdrawal and Social Skills scales, PRS-A

Participant		T scores		
		<u>Pre-intervention</u>	<u>Post-intervention</u>	<u>Follow-up</u>
1	Withdrawal	61	47	44
	Social Skills	41	54	52
2	Withdrawal	58	49	42
	Social Skills	67	69	69
3	Withdrawal	84	86	89
	Social Skills	27	31	33
4	Withdrawal	77	63	55
	Social Skills	29	39	39

Note. Pre-intervention scores from the Parent of Participants 1 and 3 should be interpreted with extreme caution according to the F Index validity scale. Post-intervention scores from the Parent of Participant 3 should be interpreted with extreme caution from the F Index validity scale, and Follow-up scores from the Parent of Participant 3 should be interpreted with caution from the F Index validity scale.

The following T scores were reported from Participant 2's SRP-A: 49 on Social Stress pre-intervention and T-score of 49 post-intervention; 42 on Interpersonal Relations pre-intervention, 55 on Interpersonal Relations post-intervention; 63 on Relations with Parents pre-intervention and 67 on Relations with Parents post-intervention. From the PRS-A, a T score of 58 on the Withdrawal scale pre-intervention was obtained and a T score of 49 was obtained post intervention. A T score of 67 on the Social Skills scale pre-intervention and a T score of 69 were noted post-intervention.

From Participant 3, the following T scores were recorded on the SRP-A: 76 on Social Stress pre-intervention, 55 on Social Stress post-intervention; 34 on Interpersonal Relations pre-intervention, 45 on Interpersonal Relations post-intervention; 38 on Relations with Parents pre-intervention, 34 on Relations with Parents post-intervention. As indicated previously, F Index scores were within caution ranges pre-intervention. From the Parent Rating Scale, T scores of 84 on the Withdrawal scale pre-intervention remained stable at post-intervention, T score of 86. On the Social Skills scale, a pre-intervention T score of 27 increased slightly at post-intervention to a T score of 31. F Index scores were within extreme caution ranges both pre- and post-intervention. Results from the TRS-A completed pre-intervention indicated T scores of 83 on the Withdrawal scale and 28 on the Social Skills scale. These scores improved to T-scores of 66 on the Withdrawal scale and 36 on the Social Skills scale at post-intervention.

Participant 4's SRP-A results were as follows: 60 on Social Stress pre-intervention, 58 on Social Stress post-intervention; 19 on Interpersonal Relations pre-intervention, 29 on Interpersonal Relations post-intervention; 36 on Relations with Parents pre-intervention, 38 on Relations with Parents post-intervention. Pre-intervention results were within a caution range on the F Index validity scale. From the Parent Rating Scale, T scores of 77 on the Withdrawal scale pre-intervention reduced to a T score of 63 post intervention, and a score of 29 on the Social Skills scale pre-intervention increased to a T score of 39 post-intervention. Results from the TRS-A completed pre-intervention indicated T scores of 95 on the Withdrawal scale and 27 on the Social Skills scale; T scores of 104 on the Withdrawal scale and 27 on the Social Skills scale were recorded at

post-intervention. Results were within extreme caution ranges both pre- and post-intervention.

Table 8

BASC-2 T-Score Results, Withdrawal and Social Skills scales, TRS-A

Participant		T-scores	
		<u>Pre-intervention</u>	<u>Post-intervention</u>
1	Withdrawal	69	---
	Social Skills	29	---
2	Withdrawal	---	---
	Social Skills	---	---
3	Withdrawal	83	66
	Social Skills	28	36
4	Withdrawal	95	104
	Social Skills	27	27

Note. Dashed lines indicated that the scale was not completed. Pre-intervention and Post-intervention results from the Teacher of Participant 4 should be interpreted with extreme caution according to the F Index validity scale.

Research Question 3

Are treatment gains maintained over time with the use of IPT-A in the school setting?

Hypothesis: Treatment gains are maintained over time as reported individually by the participant, parent, and teacher.

Approximately three months after intervention, participants and parent or guardian responded to the BASC-2 rating scales. The participants completed a CDI rating

scale and the Rating of Mood and Social Interaction. This data was collected after summer vacation; therefore, no TRS-A scales were obtained (refer to Tables 4, 6, and 7).

Participant 1 recorded a CDI score of 0. Scores of 9 on Question 1, 8 on Question 2, and 8 on Question 3 of the Rating of Mood and Social Interaction were given. At follow-up, SRP-A T scores of 40 on Depression (see Table 4), 34 on Social Stress, 62 on Interpersonal Relations, and 51 on Relations with Parents were noted (see Table 6). From the PRS-A, T scores of 44 on the Withdrawal scale and 52 on the Social Skills scale were recorded (see Table 7).

Participant 2 recorded a CDI score of 3, and scores of 8 were given for all three questions of the Rating of Mood and Social Interaction. At follow-up, SRP-A T scores of 43 on Depression (see Table 4), 45 on Social Stress, 55 on Interpersonal Relations, and 63 on Relations with Parents (see Table 6) were noted. From the PRS-A, T scores of 52 on the Withdrawal scale and 69 on the Social Skills scale were obtained (see Table 7).

Participant 3's CDI score was a 3. Scores of 8 on Question 1, 9 on Question 2, and 8 on Question 3 of the Rating of Mood and Social Interaction were given. At follow-up, SRP-A T scores of 41 on Depression (see Table 4), 47 on Social Stress, 48 on Interpersonal Relations, and 38 on Relations with Parents (see Table 6) were noted. From the PRS-A, T V scores of 89 on the Withdrawal scale and 33 on the Social Skills scale were recorded (see Table 7). PRS-A results were within a caution range on the BASC-2 at follow-up.

Participant 4 recorded a CDI score of 15, with scores of 7 given for each of the three Rating of Mood and Social Interaction questions. At follow-up, SPR-A T scores of 49 on Depression (see Table 4), 53 on Social Stress, 26 on Interpersonal Relations, and

41 on Relations with Parents were noted (see Table 6). From the PRS-A of the BASC-2, T scores of 55 on the Withdrawal scale and 39 on the Social Skills scale were recorded (see Table 7).

CHAPTER V

DISCUSSION

Summary of Research Questions

The first research question examined the impact of IPT-A treatment on the reduction of depressive symptoms when implemented in the public school setting. The question hypothesized that depressive symptoms would decrease based on participant, parent, and teacher report following intervention.

Analysis of this research question indicated that all four participants reported significant decreases in depressive symptoms post-intervention through both visual analysis and effect size calculations from the CDI. Visual analysis of CDI scores from each of the participants indicated a consistent downward trend over the course of treatment, and large effect sizes were obtained. Effect sizes ranged from .78 to .93. Results from Questions 1 (“Over the past week, my mood has been...”) and 3 (Over the past week, my feelings of hope have been...”) from the Rating of Mood and Social Interaction scale indicated some improvement in performance observed through visual analysis, but very weak effect sizes. Effect size, recommended in the most recent *Publication Manual of the APA* (American Psychological Association, 2001), was calculated to provide further evidence of the treatment’s success beyond the use of visual analysis and nonoverlapping data points. Effect sizes from the CDI results of this study provided strong evidence of IPT-A as a valid treatment.

T scores from the SRP-A Depression scale demonstrated significant decreases for three of the four participants pre-intervention to post-intervention; results from the other participant demonstrated a slight decrease. Parent ratings on the BASC-2 Depression

scale demonstrated significant reduction for three of the four participants. Participant 3's PRS-A results were actually higher at post-intervention. During the progression of treatment, conflict between the participant and the parent was addressed specifically and the needs of the parent became observable, likely a factor in the elevated concern recorded in rating scale results. Pre- and post-intervention results were obtained for two of the four participants; there was a reduction in T score observed from each TRS-A, though clinically significant results were still recorded from one of the teachers in their descriptions of the participant.

Of interest to the study were results from the F Index of the BASC-2. Twenty-nine BASC-2 scales were completed over the course of this research (three each from the participants and their parent/guardian, and five Teacher Rating Scales). Eight of the 29 protocols indicated elevated F Index scores; all other validity index scales were considered acceptable. On the pre-intervention BASC-2 protocols, the guardian of Participant 1, the mother of Participant 3, and the teacher of Participant 4 rated an extreme caution score on the F Index. Participants 3 and 4 indicated caution scores on the F Index. The teacher of Participant 4 also rated an extreme caution score on the post-intervention form. Participant 3's mother rated an extreme caution score on the post-intervention form and a caution score on the follow-up rating.

These results were of interest as a method to further identify concerns from the perspective of the individual completing the rating. While elevated F Index scores can be considered a fake bad index, it can also provide indication that the individuals can be experiencing significant distress, considered a cry for help (Reynolds & Kamphaus, 2004). Of the four participants, Participants 3 and 4 presented with the most consistently

significant CDI results and symptoms despite caution scores on the BASC-2 F Index. The parent of Participant 3 had expressed persistent, continuing concerns regarding her daughter; these issues were relevant in the subsequent treatment, which focused on their relationship. Participant 4's general lack of affect but occasionally moody, irritable behavior with his teacher explained the negative responses of this individual. The guardian of Participant 1 indicated very significant, routine conflict at home during the initial meeting. Through IPT-A, significant improvements were observed in the relationship between Participant 1 and her other guardian; the resulting alleviation of her depressive symptoms and subsequent reduction of stress in the home were reflected in interpretable F Index scores at post-intervention and follow-up.

Analysis of the data indicated that IPT-A effectively reduced depressive symptoms over the course of treatment. During post-intervention interview, all four participants indicated an improvement in affect as compared to baseline. Only the parent of Participant 3 indicated continuing significant concerns regarding the presentation of her daughter.

The second research question examined the impact of IPT-A on the social functioning of the participant. The question hypothesized that social functioning would increase based on participant, parent, and teacher report following intervention. To investigate this question, visual analysis and effect size were determined from Question 2 ("My social interactions and relationships with others have been...") of the Rating of Mood and Social Interaction, and information from the BASC-2 was described.

Analysis of this research question indicated a general improvement in social functioning from all four participants, though results from Question 2 of the Rating of

Mood and Social Interaction did not provide significant support for this finding. Effect sizes for Question 2 were generally weak with one exception: Participant 3 demonstrated a much stronger effect size (.68) over the course of treatment as compared to the other participants. Visual analysis indicated generally stable results.

Descriptive results from the BASC-2 were of more significant note. Participant 1 demonstrated very significant improvements in her demonstration of interpersonal skills and relations with parents. Noticeably improved scores were recorded on the Interpersonal Relationships, Relations with Parents, and Social Stress scales, and her guardian noted significant improvements on the Withdrawal and Social Skills scales. During interview at post-intervention, both the Participant and guardian noted significant improvement in the quality of the Participant's relationships at home. Participant 1 also noted a greater satisfaction with peer relations at school.

Participant 2's results were relatively consistent in regards to social interactions and relations with her mother: Scores were consistently within average ranges between pre- and post-intervention. During post-intervention interview, both the participant and her mother indicated improvements in the quantity of social interactions. Though each felt that the participant was able to interact well with others, she often withdrew from social contact.

Participant 3's results indicated very significant reductions on the Social Stress scale, and improvements in Interpersonal Relations. Participant 3's teacher noted significantly improved (though still elevated) scores on the Withdrawal and Social Skills scales: Participant 3 was interacting more often with peers and adults in the school setting. Participant 3's score on the Relations with Parents scale remained within poor

ranges, and her mother's results from the BASC-2 indicated stable scoring on the Withdrawal and Social Skills scales. During post-intervention interview, conflict between Participant 3's interests and her mother's perception of Participant 3's activities remained.

Results from Participant 4 remained relatively stable between pre- and post-intervention, with a slight improvement noted on the Interpersonal Relations scale of the BASC-2. His mother's results indicated a significant reduction on the Withdrawal scale and a significant improvement on the Social Skills scale, while his teacher's results increased on the Withdrawal scale and remained the same on the Social Skills scale. Participant 4's girlfriend had moved out of the district the day before the BASC-2 scale was completed at post-intervention; this factor clearly impacted results on the CDI, Rating of Mood and Social Interaction, and BASC-2. Results from the CDI and Rating of Mood and Social Interaction were visibly worse than indicated from the previous week. During interview at post-intervention, Participant 4 noted some improvements in his interactions with others. His mother felt that he had made good progress and behavior was much improved at home. Completed towards the end of the school year, the TRS-A was completed by a teacher in whose class Participant 4 had performed poorly academically over the course of the year. By the last weeks of the year, no effort was being demonstrated in the classroom; this lack of effort likely influenced the teacher's responses to the form.

Analysis of the data indicated that IPT-A treatment generally improved social interactions over the course of intervention for the participants. During post-intervention interview, all four indicated an improvement in social interactions as compared to

baseline. As observed in the discussion of Research Question 1, only the parent of Participant 3 indicated continuing significant concerns regarding the presentation of her daughter.

The third research question examined the maintenance of treatment gains over time, and hypothesized that gains would be maintained based on participant, parent, and teacher report following intervention. Teacher report was unavailable due to the timing of the intervention: Teachers had not seen the participants over summer break, and were therefore unable to effectively complete a BASC-2 rating scale. To investigate this question, data obtained from the CDI, Rating of Mood and Social Interaction, and BASC-2 SRP-A and PRS-A were reviewed descriptively. None of the participants received further treatment, either therapy or medication, from post-intervention to follow-up.

Participant 1 recorded a CDI score of 0 at follow-up. High scores were also noted on the Rating of Mood and Social Interaction. Results from the BASC-2 confirmed consistent presentation on the Depression scale as well as scales that addressed social interactions on the BASC-2. Scoring on the Relations with Parents scale appeared to give indication of further improvement. Results from Participant 1's guardian were also very similar to those observed at post-intervention. During follow-up interview, both participant and guardian indicated continued positive affect and interactions with others at home.

At follow-up, Participant 2 recorded a CDI score of 3 and scores of 8 on the questions of the Rating of Mood and Social Interaction. These scores were very similar to those observed at post-intervention; her CDI score was lower than observed at post-intervention. BASC-2 ratings remained very consistent between both participant and

parent with one exception: Participant 2's T-score on the Depression scale was 61 at post-intervention, and was only a 43 at follow-up. During follow-up interview, both expressed satisfaction with the IPT-A intervention and continued experiences or observations of positive behavior.

Results from Participant 3 were very similar between post-intervention and follow-up. Participant 3 demonstrated a lower CDI score at follow-up (3) than observed at post-intervention (6). Higher scores were noted on the Rating of Mood and Social Interaction as well. BASC-2 results between the participant and her mother remained consistent. While there was no indication of significant depression or interpersonal issues from the Self-Report, Relations with Parents remained a source of concern and the PRS-A remained elevated in regards to observations of Depression, Withdrawal, and poor Social Skills. While Participant 3 appeared to be experiencing far fewer depressive symptoms and better feelings regarding social interactions, conflicts had not been resolved at home. Family counseling was strongly recommended.

Results from Participant 4 were also relatively consistent from post-intervention to follow-up. An increase in CDI score was observed, 11 at post-intervention, 15 at follow-up. Despite this report, Participant 4's BASC-2 Depression scale T score was a 53 at post-intervention and a 49 at follow-up. Continued weaknesses in Interpersonal Relations were noted, with average range scores on Social Stress and a slightly higher score on Relations with Parents also of note. Results from Participant 4's mother demonstrated a reduction in observed depressive symptoms, T score of 54 at post-intervention, and 41 at follow-up on the Depression scale of the BASC-2. Scoring on the Withdrawal scale also fell within average ranges: T score of 55 down from 63 at post-

intervention and 77 at baseline. During follow-up interview, Participant 4 indicated continued concern regarding social interactions: He reportedly does not live near many friends, and did not have many opportunities to see peers over the summer months. He was maintaining a relationship with his girlfriend largely over the phone. His mother did, however, report continued improvements in his interactions with others at home. Both reported satisfaction with the provided intervention, particularly his mother.

Conclusions

Relevant Literature

Findings from this study found that IPT-A was indeed an efficacious treatment for adolescents who were experiencing a depressive disorder: All four participants from this study experienced relief from depressive symptoms over the course of treatment, and all four maintained gains over time. Results were convergent with findings from previous research (Mufson et al., 1994; Mufson et al., 1999; Mufson, Dorta, Wickramaratne, et al., 2004; Mufson & Fairbanks, 1996; Rossello & Bernal, 1999; Santor & Kusumaker, 2001). This includes research that was completed in school-based mental health clinics in the New York City public school system (Mufson, Dorta, Wickramaratne, et al., 2004), where IPT-A was found to be effective in reducing depressive symptoms and increasing social functioning as compared to a treatment as usual control group.

Results of this study provide further validation of the importance of family relationships and peer relationships on the affect of adolescents (Bearman & Moody, 2004; Haavet, et al., 2005; Joyner & Udry, 2000; Margolese, et al., 2005; Paunesku et al., 2008; Seals & Young, 2003; Simons-Morton, et al., 1999). The quality of the participants' relationships over the course of this study significantly impacted their affect.

Specifically, results from the SRP-A and PRS-A of the BASC-2 and interview with the participants and parents indicated improved relationships with parents or family members for Participants 1, 2, and 4 and improved social interactions for Participants 1, 2, and 3.

Relevant Theory

Weissman and colleagues (2000) noted that the theoretical basis behind IPT was the work of Meyers and Sullivan, founders of the interpersonal school of psychotherapy. This approach focused upon the individual's current interpersonal experiences and psychosocial relationships to improve functioning. IPT-A was originally developed in 1993 (Mufson, et al., 1993). The theoretical approach behind IPT-A was the same as developed for IPT: The quality and quantity of interpersonal relationships were addressed to alleviate depressive symptoms in adolescent populations.

Mufson, Dorta, Moreau, and colleagues (2004) indicated in their treatment manual that IPT-A "focuses largely on current interpersonal issues that are likely to be areas of greatest concern and importance to adolescents (p. 25). While depression might go into remission, the skills learned through treatment will potentially impact the adolescent's quality of life. Strategies obtained through this treatment are beneficial as protective factors against future depressive issues within the adolescent.

Results of this study provided confirmation that IPT-A effectively reduced depressive symptoms by addressing problematic interpersonal relationships of the participants. The participants in this study were not severely depressed, as indicated through the completed CDI ratings over baseline. However, these participants would likely prove to be the typical student in need of support in the public school setting. That is, they experience significant symptoms and require support, but do not yet rise to the

level of in-patient treatment. Results indicated that this manualized psychotherapy can, therefore, be highly advantageous for practitioners in a public school setting who are attempting to find research-based alternatives to treat adolescents with significant emotional issues.

Limitations

While this study was implemented according to the methodological design with an exception related to teacher participation, some limitations did exist. Integrity checks were used, the manual was followed for treatment, and the researcher participated in an introductory training in IPT, but direct supervision from a professional trained in IPT-A was not provided. Input from another professional with experience in IPT-A could have potentially guided treatment more effectively. As noted in Chapter 3, maturation, testing, and statistical regression remained potential threats to internal validity. Maturation factors could have impacted results, though none of the participants received further treatment between post-intervention and follow-up. The impact of repeated assessment with the CDI and Rating of Mood and Social Interaction was controlled by the use of the BASC-2 as a pre- and post-testing measure, but remained a potential limitation.

Baseline mean CDI results from all four of the participants were at subclinical levels according to Kovacs (1992). Though all four met criteria for one of the depressive disorders, and all four indicated concern on the BASC-2, none of the four consistently demonstrated scores above 20 on the CDI during baseline. While improvement in scoring was observed and affect demonstrably improved, results were not as visibly dramatic as could have been reported. There were also slight changes in scoring between the end of baseline and the beginning of treatment, though all rating scales were completed prior to

the start of the initial session. Changes observed could have been related to feelings of hope or the change in attention given to the participant: Treatment was about to begin, therefore ratings of symptoms were influenced by the pending treatment.

The Rating of Mood and Social Interaction was developed to provide a weekly subjective rating of mood as suggested from the treatment manual (Mufson, Dorta, Moreau, et al., 2004). The design of this scale, however, could have been improved: Ratings of 5 on the scale indicated no change in mood or interactions over the previous week. Depending upon the progress of the participant, this would not necessarily prove a negative score; while useful to drive therapy sessions, effect sizes from the data were generally poor and were likely impacted by this design. While the design of this scale lacked psychometric qualities, the scale was clinically useful as per the treatment manual to help drive sessions.

Finally, the lack of consistent teacher participation was a significant limitation in the study. Due to the time frame involved in the implementation of the study, follow-up information was not available from teachers. Due to administrative request from the school, the researcher did not contact the teachers directly. Of the four participants, only two had teachers who completed pre- and post-intervention BASC-2 TRS-A scales. One teacher only completed a pre-intervention TRS-A, and the other teacher did not complete any form.

Recommendations for Future Research

While findings from this study were conclusive and provided further empirical support for IPT-A as an efficacious treatment option, further research of this treatment remains a need. Future research studies should more fully incorporate teacher input.

Teacher interview could provide a different perspective and insight into the progress of the adolescent through treatment. Multiple classroom observations at different phases of intervention could also provide a different perspective on progress.

Future research could include students with comorbid conditions and/or those receiving special education services. The impact of IPT-A on the social functioning of adolescents with a comorbid diagnosis of attention deficit hyperactivity disorder or anxiety disorder could be of interest in the school setting. Incorporating an Individualized Educational Plan (IEP) team into the IPT-A process as a segment of a Behavior Support Plan could be of use. Variations in therapist training could also be explored (e.g., Would differences in findings occur with greater supervision?).

Results of this study provided evidence of IPT-A as an efficacious treatment for adolescent depression in the public school setting. The participants improved significant relationships to help alleviate depressive symptoms, and they maintained treatment gains over time. The intervention was provided effectively with minimal supervision in the participant's regular school environment. These results should influence the choice of options available to school psychologists. Based on the legal implications of the Individuals with Disabilities Education Improvement Act (IDEIA; 2004) IPT-A successfully meets Response to Intervention (RTI) criteria as an effective, manualized, time-limited, and research-based option to treat adolescents with depression

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Appendix A

Rating of Mood and Social Interaction

Over the past week...

1. My mood has been:

1	2	3	4	5	6	7	8	9
Poor	Not good		No Change			Better		Excellent

2. My social interactions and relationships with others have been:

1	2	3	4	5	6	7	8	9
Poor	Not good		No Change			Better		Excellent

3. My feelings of hope are:

1	2	3	4	5	6	7	8	9
Poor	Not good		No Change			Better		Excellent

Appendix B

Taped Session Checklist

**Recorded Session Checklist
Initial Phase**

Subject (1, 2, 3, or 4): _____

Date: _____

Session number: _____

During the session, the therapist (check if completed):

- _____ 1. Asked the subject to complete ratings.
- _____ 2. Checked the subject's current emotional status.
- _____ 3. Discussed the "Interpersonal Inventory"; reviewed history of interpersonal relationships.

Recorded Session Checklist Middle and Termination Phases

Subject (1, 2, 3, or 4): _____

Date: _____

Session number: _____

During the session, the therapist (check if completed):

- _____ 1. Asked the subject to complete ratings.

- _____ 2. Checked the subject's current emotional status.

- _____ 3. Reviewed the subject's "Problem Area".

- _____ 4. Reviewed goals for the subject.

- _____ 5. Provided strategies to implement for the subject.