RELATIONSHIP BETWEEN CHILD CENTERED PLAY THERAPY AND
DEVELOPMENTAL LEVELS OF YOUNG CHILDREN:
A SINGLE CASE ANALYSIS

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This study used a single case design to explore the relationship between individual child-centered play therapy on children with developmental delays by examining its effectiveness in: 1) increasing measured developmental age; 2) reducing problematic behaviors related to developmental delays; and 3) increasing developmentally appropriate behaviors. Three participants were assessed weekly with both developmental and behavioral measures during the three phases of the study: baseline, intervention, and follow up. Additionally, parents of the participants completed behavioral measures at pretest, midpoint, and posttest administrations. The participant’s weekly standard scores were graphed and results were examined separately using visual analyses. Changes between phases: non-intervention baseline, intervention, and non-intervention follow-up were examined; specifically, the level, trend, and variability of the data across the phases were examined. Each of the three participants served as their own control group in this single case analysis and their results, and all three of the participants demonstrated improvement on the developmental measures after receiving the play therapy intervention. Results from this single case analysis suggest the need for further replication, use and reporting of single case interventions and designs, to promote the efficacy of counseling interventions and to potentially enhance the literature and research base for evidence based interventions.
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CHAPTER 1
INTRODUCTION

Young children are experiencing more stressful and often challenging environments that hinder the development of necessary competencies for early academic and social success (Coolahan, Iantuzzo, Mendez, & McDermott, 2000). Children with developmental delays, specifically intellectual disabilities, appear to be at an increased risk for developing emotional and behavioral problems. Emotional and behavioral difficulties may be related to a child’s personality, or characteristics of their age (Ilg, Ames, & Baker, 1981). A child’s temperament also plays a role in their behavior and emotional expression (Spinrad, Eisenberg, Harris, Fabes, Kysanoff, Ringwals, & Holmes, 2004). Children with developmental delays experience difficulties across many areas including academic progress, social interactions, problem solving abilities, and sustaining play both individually and in groups (Spinrad et al., 2004).

Children develop through common stages of development, although each child goes through the developmental stages and expresses behavior according to their individuality (Ilg et al., 1981). Developmental theorists Arnold Gesell, Jean Piaget, and Erik Erikson described developmental stages occurring across distinct and predictable stages. Arnold Gesell focused on norms of development and changes related to age (Thelen, 1992). Children’s behavior is described according to stages of disequilibrium and equilibrium for the first sixteen years of life (Ilg et al., 1981). Jean Piaget described children’s development as occurring in four major stages including Sensori-motor period, preoperational period, concrete operational period, and formal operations (Santrock, 1999). Erik Erikson’s theory of development across the lifespan also
described growth patterns predicted by age with further growth and development being conditional on the successful movement through and mastery of the previous developmental stage (Elkind, 1981). Vygotsky’s sociocultural theory assumes all learning takes place in the context of social situations and everyone is capable of leaning and developing despite any handicapping or disabling factors (Berger, 2002).

Children who do not move successfully through the stages or who exhibit delays as young as three years exhibit significantly more behavior problems than their same age peers (Baker, Blacher, & Olsson, 2005). Schools often struggle with placement decisions for children who are not functioning on level when compared to their typically developing peers. Counselors are not exempt from this struggle and often find it difficult to provide developmentally appropriate recommendations for parents in terms of school placement, and emotional and behavioral concerns. Many times, parents look to counselors to tell them if their child’s behavior is “normal” (Baker et al., 2005). It seems as if some counselors have been trained to judge atypical behavior by the diagnostic criteria in the Diagnostic and Statistic Manual-4th edition, (DSM-IV) text revision, rather than to explore developmental phases and characteristics of children. Play therapy is an intervention based on the developmental understanding of children and often used to assist children and their families with developmental and emotional difficulties (Axline, 1947). An increase in awareness and training in the area of child development is needed for counselors to best serve and provide recommendations for children and their parents.

Increasing awareness in these areas often involves the assessment and observation of children. There are many concerns related to the appropriate methods
for assessing children’s development. Many instruments purported to be effective in
assessing young children lack sufficient reliability and validity (Voress & Maddox, 1998).
Other concerns related to the valid assessment of children’s development are technical
issues, cost, and difficulties in administration. Due to the challenges of assessing young
children, alternative methods have been sought by counselors and other researchers.
Lundervold & Belwood (2000) describe single case analysis as the “best kept secret” in
counseling assessment and research because many experimental designs in
counseling research do not meet the needs of researchers seeking methods of
incorporating results into counseling practice. This method allows for a more in depth
and qualitative experience of assessing and gathering relevant data to make better
treatment decisions for children.

Statement of the Problem

Children demonstrate a particular set of behavioral patterns at each
chronological age. Studies found empirical support for the effectiveness of the Gesell
School Readiness Test (revised as Gesell Developmental Observation) as a predictor of
school achievement based on the observed developmental patterns and developmental
age (Kaufman, 1972). Young children with mild developmental delays experience more
academic, social, and peer relationship problems than their normal developing peers. Of
particular concern is their ability to sustain play with peers, failure to resolve conflicts
appropriately, and overall problems in social competence and academic progress.
Researchers highly suggest that supportive interventions during preschool and
kindergarten may benefit children with mild developmental delays in achieving more
competent forms of social interaction and play as well as accelerating development (Guralnick, Hammond, Connor & Nelville, 2006). Child centered play therapy (CCPT) is used as a developmentally appropriate intervention to treat children’s emotional, developmental, and behavioral difficulties (Landreth, 2002). There is a need for research designs that encompass both quantitative and qualitative data to use in practical counseling settings.

Review of Related Literature

Characteristics of Normal/Typical Development

Four major theories have emerged to describe early child development and will be briefly explored. Because development is a complex process, no single theorist has been able to explain all of the aspects of development for children and adults. Each theorist contributed valuable information and explores different concept across the lifespan in terms of their relation to development. There may be points that are contradictory to each of the other theorist, while some ideas complement points or concepts from another developmental theorist. The developmental theorists that will be covered are Arnold Gesell, Jean Piaget, Erik Erikson, and Lev Vygotsky.

Arnold Gesell focused his research efforts and career on norms of development and age-related changes (Thelen, 1992). For each stage of development, Gesell described a holistic behavioral pattern. He was motivated by his concern for providing appropriate education for the capabilities of children and for identifying delays in development for the purposes of intervention (Thelen, 1992).
The Gesell School Readiness Screening (currently Gesell Developmental Observation) (Ilg, 1965) is widely used as a measure of school readiness. The concept of developmental readiness for school success examines cognitive functioning and potential as well as the child’s physical, social, emotional, and general language development. It is deemed more important to assess the child’s overall ability to cope within a school environment (Wood, Powell, & Knight, 1984).

Ilg, Ames, & Baker (1981) discovered through years of observing children at the Gesell Institute of Human Development, children’s behavior tends to develop in an upwardly spiraling fashion with alternating stages of disequilibrium and equilibrium through the first sixteen years of life. This discovery led to the awareness that stages of “good” behavior will break up before they can move to a more advanced stage of equilibrium. This process must occur throughout life for developmental maturity to be attained (Ilg et al., 1981).

Wood (1997) and Ilg, Ames, & Baker (1981) described children’s unique behavior and developmental patterns and categorized them into age groups. The following includes a partial glance at some of the varied and unique behaviors associated with children aged three through six.

Three-Year-Olds

Three-year-olds enjoy making friends and share toys in order to avoid conflict. Three-year-olds are in good equilibrium with themselves and others. They feel more secure with themselves and their relationships. They no longer have to have everything their way as when they were two and a half years old. They typically are more
conforming and you will often hear them uttering the word “yes” easily. Vocabulary and ability to use language begins to increase during the early part of three, and they love learning and using new words. When three-year-olds begin to move into three and a half years, their equilibrium begins to break up during a period of significant change. This break up lends itself to developmental patterns that are marked with insecurity, poor coordination, and disequilibrium. The introduction to imaginary friends also begins during this stage (Ilg, Ames, & Baker, 1981).

Four-Year-Olds

Four-year-olds are typically full of energy and always ready to try something new. They tend to thrive in environments that support their creativity and flexibility. They are especially interested in playing outdoors, dancing, and exaggerating stories. Four-year-olds have short attention spans and learn best thorough their own play, fantasy play, and manipulating objects and materials. Typically social beings, four-year-olds quickly move from one thing to the next, and tend to be more independent instead of being overly dependent on adults. As they move into being an “older four” they may sometimes appear worried or fearful. Physical activity is enjoyable as their gross motor skills are more developed, but fine motor skills are not yet fully developed. They may sometimes appear clumsy and have frequent accidents (Ilg et al., 1981).

Five-Year-Olds

Five-year-olds experience two developmental phases during their kindergarten year. During the first phase the five-year-old is cautious, compliant, and very literal. The
second phase is remarkably different and involves oppositional behavior, uncertainty, and seeking approval. Taking perspectives of others is difficult for five-year-olds. They respond well to encouragement when moving to new tasks. Dramatic play helps children develop language and think out loud. Important developmental changes occur as children move toward six. Socially, they become more oppositional, often testing limits with authority, show feelings of insecurity, and are full of complaints. Often to the dismay of their caretakers, these children behave at school but not at home, or vice versa. Consistent rules and redirection are valuable and effective tools with this developmental age group (Ilg et al., 1981).

**Six-Year-Olds**

The move from age five to six can be dramatic. This developmental shift lends itself to an extremely open child, who is eager and enthusiastic, and is now able to empathize with others and understand the rules of cause and effect. Socially, the six-year-old thrives on encouragement and school becomes a more significant influence than their home. The six-year-old tends to boss and criticize others and is extremely competitive. Coloring, dramatic play, and learning through discovery are typical of growth patterns in the six-year-old (Ilg et al., 1981).

**Erik Erikson’s Theory**

Erikson’s theory of development encompasses eight stages that unfold through the life cycle. During each stage, individuals are faced with a developmental crisis that must be confronted. Erikson believed the continual and successful resolution of these
crises lead to healthier development overall (Santrock, 1999). For the purpose of this child-based study, only those stages related to early childhood will be covered.

**Trust vs. Mistrust**

The first psychosocial stage Erikson described is trust vs. mistrust. This stage occurs during infancy through their first year of life. To have a sense of trust, a child must experience a feeling of physical comfort without high amounts of fear and anxiety about their future (Santrock, 1999). This sense of trust enables a child to expect that the world is a safe and pleasant place to live (Elkind, 1981).

**Autonomy vs. Shame**

The second stage of development occurs in late infancy and toddlerhood (1-3 yrs). During this stage, infants begin to acknowledge that their behavior is their own and assert their independence. When they are punished or hindered excessively in their explorations, they begin to develop a sense of shame or doubt. During this period children’s sense of autonomy may be enhanced by allowing them to make decisions that are developmentally appropriate (Elkind, 1981). From this, children begin to develop an ability to take responsibility and make decisions. On the other hand, this is also a stage in which doubt and feelings of shame become evident, if inappropriate demands or expectations are placed on the child (Santrock, 1999).

**Initiative vs. Guilt**
Erikson’s third stage of development occurs during a child’s preschool years. Children in this stage begin to take more responsibility for themselves and their belongings. Children at age four or five become inquisitive about their world, and have an increase in motor control, language, and intellectual competence (Santrock, 1999). They frequently ask “why” questions, and when parents take time to answer their children’s questions their sense of initiative is encouraged. If parents are too busy to answer or become angry about their frequent deconstructing of toys and objects out of curiosity, the child may internalize feelings of guilt about their curiosity and desire to explore. Also, if the child is not ready to assume these tasks and is irresponsible, he may become too anxious (Elkind, 1981). Erikson believed that a child’s sense of accomplishment typically alleviates feelings of guilt for their irresponsibility (Santrock, 1999).

*Industry vs. Inferiority*

This stage occurs during the child’s elementary school years. Children in this stage are enthusiastic about learning and mastering knowledge and skills. Conversely, they begin to feel incompetent and inferior if unsuccessful in their endeavors. Children establish either a firm sense that they can do a job and do it well referred to as industry, or a sense that no matter what they try, they will not be successful and will be a failure, or inferior (Elkind, 1981). Overall, Erikson believed the successful confrontation of these developmental crises leads to healthy resolution and movement through the developmental stages (Elkind, 1981). When developmental crises are not resolved in stages it is difficult to move
through the next stage successfully. Often issues from the previous stages will be present until resolved (Santrock, 1999).

Jean Piaget’s Theory

Jean Piaget described children’s development in four major stages. He described stages where children actively contribute to their reality out of their experiences rather than copying what they encounter. He believed children move through four stages in understanding and constructing their worlds (Santrock, 1999). Each of the four stages described below are qualitatively different, age related, and consists of distinct ways of thinking (Santrock, 1999).

Sensori-Motor Period

This stage occurs from birth to two years. During this stage, infants construct an understanding of their world by combining their sensory experiences with more physical actions. Toward the end of this stage, they begin to operate with symbols (Santrock, 1999). Infants are concerned with permanent objects, attachment to their significant others and establishing trust. Permanency of objects relates to infants’ inability to recognize the existence of objects when removed from their presence. Piaget believed infants do not perceive objects as distinct entities; rather objects must be constructed by them. Infants’ active exploration of objects allows children to construct concepts about the objects. Infants also share this perception regarding people. Young infants do not believe people or objects exist once they are not in their presence (Elkind, 1981).
**Preoperational Period**

This stage occurs between the ages of two and six years. Children in this stage acquire symbolic or representational function and can now begin to represent the objects and relations they constructed during the sensori-motor period (Santrock, 1999). This period is marked by the acquisition of language and the child’s ability to express their feelings directly. Children also begin to express their fears and anxieties in their dreams and in symbolic play during this period. Young children in this period become attached to symbols much like their previous attachment to objects and people. Their attachment and investment in symbols is evident when young children have to separate from people and things they consider their own. This symbolic function also gives rise to magical thinking where children often believe that events that happen together cause one another. They begin to move toward representing the world with words, drawings, and images (Elkind, 1981).

**Concrete Operational Period**

This stage occurs during the ages of six and eleven. Children become able to operate upon symbols much like they learned to manipulate objects during infancy. They now are able to classify in a hierarchical manner (Elkind, 1981). Children in this period are able to mentally manipulate symbols, which greatly extends the range and variety of their explorations. Children begin to learn and operate according to rules (Santrock, 1999).

**Formal Operations**
This stage occurs from eleven years to adolescence. During this stage, children move beyond the above mentioned concrete reasoning toward thinking in abstract and more logical terms (Santrock, 1999). Dramatic changes in physical appearance as well as in thinking and reasoning occur during this stage. Emotional and social changes also are evident. Attachments become more complex and movement toward independence occurs. During formal operations, adolescents are able to think about their thinking as well as think about others’ thinking. They begin to talk about their values and beliefs and about faith and motives. They become more abstract in their thinking (Elkind, 1981).

Lev Vygotsky’s Sociocultural Theory

Vygotsky’s theory stresses the importance of the structure, guidance, and support provided by the society in terms of contributing to the growth and development of individuals (Berger, 2002). Vygotsky asserted that human development is the result of a dynamic interaction between developing individuals and their surrounding culture. This theory’s definition of culture is viewed as a unique “plan for living” that children learn not only from parents, but teachers, and peers, in their homes, schools, and neighborhoods (Berger, 2002).

Vygotsky’s theory differs from other theories in that he asserted that development occurs through social situations, and he believed that everyone was capable of leaning and developing despite any handicapping or disabling factors (Berger, 2002. Teachers and students learn from each other as neither takes on a passive role in their activities (Karpov & Haywood, 1998). Guided participation was considered the best way for “teachers” to assist novices in learning and achieving. This process involves the
“teacher” and the novice or learner engaging in joint activities, offering instruction as well as involvement in the learning process (Berger, 2002). For learning to occur the “teacher” must engage the learner into their zone of proximal development, which was described as the range of skills the learner can practice and master with assistance, but cannot perform these skills independently (Berger, 2002). Through this process the teacher assesses the learner’s skills and assists the learner in moving toward independent achievement and mastery of skills (Berger, 2002). Vygotsky and other sociocultural theorists have been criticized for overlooking genetic contributions to guiding development, especially in regard to mental processes (Wertsch & Tulviste, 1992).

**Characteristics of Children with Mild Developmental Delay**

Children with developmental delays achieve major milestones in a similar order and organization as children with normal development. Differences occur in the rate of development in that children with delays develop slower and the appearance of achievement occurs later. These results apply to development across the following areas: socioaffective, selective attention, sensorimotor development, language and symbol formation, pretend play, and attachment behaviors. Attention was a central process implicated in differences between normal and delayed children (Krakow & Kopp, 1983).

Temperament may directly or indirectly affect children’s social behavior and emotionality (Spinrad et al., 2004). Children with even mild developmental delays experience considerable difficulty in peer interactions when compared to their non-
delayed peers. Specific areas of difficulty are social competence, sustaining play with peers both individually and in group play interactions, and the ability to problem solve when social conflicts arise. Guralnick, Hammond, Conner, & Neville, (2006) found children with peer interaction problems tend to experience these difficulties over time, suggesting that the issue is chronic and stable in nature despite intervention. Parker, Boak, Griffin, Ripple, & Peay (1999) found greater school readiness among preschoolers was correlated with home learning environments where parents assisted with homework, and not only had an array of play materials available, but also understood the role of play in children’s lives. Consistent parental involvement has been correlated with more positive school experiences, including academic readiness and achievement (Parker et al., 1999).

Taylor, Clayton, & Rowley (2004) describe a process whereby parents’ school related beliefs influence children’s school-related development termed academic socialization. Parents influence child development based on “what they do” and “who they are”. Parents’ actions affect children’s development of both pro-social and antisocial behaviors and these behaviors impact children’s academic success or failure (Kellaghan, Sloane, Alvarez & Bloom, 1993). Parents with authoritarian behaviors toward their children coupled with high levels of demandingness and low levels of warmth are correlated with maladaptive outcomes for children. The home environment parents provide for their children can significantly affect the quality of language development (Baumrind, 1991).

Age and cognitive growth are not always in alignment (Ilg & Ames, 1971). This is evident when examining children’s readiness for reading instruction. Some children
begin much earlier than expected, just as other children reach this level past the expected age. The best criterion for school readiness is developmental age instead of the popular chronological age and intelligence test scores criteria (Ilg & Ames, 1971).

Similarly, Wood et al. (1984) examined the predictive validity of the Gesell Developmental Observation. Eighty-four kindergarten age children were assessed with the Gesell Developmental Observation by certified examiners and their results were compared with their subsequent school success and any special class or school program placements related to special needs. The researchers found that children who are successful in school are both chronologically and developmentally older than children with school failure. Interestingly, the differences in their developmental ages were statistically significant while the difference in chronological age was not. The researchers suggested assignment of developmental age based on results from the Gesell Developmental Observation, was effective in predicting success or failure in kindergarten. Results from this study suggest the Gesell Developmental Observation is effective in predicting kindergarten failure or success (Wood et al., 1984).

There is much debate as to what extent children are identified with learning disabilities rather than assessing their developmental readiness as an indicator of perceived failure. Determining school readiness often includes the use of both informal and normative instruments (Wood, Powell, & Knight, 1984).

Changes over the last decade have influenced expectations for five-year-olds entering kindergarten. What once was considered part of the kindergarten curriculum now appears to be a prerequisite prior to entering kindergarten (Litty & Hatch, 2006). Children who are not developmentally ready to meet the demands in kindergarten often
become further behind and experience difficulties keeping up with their classmates. Kindergarten teachers often worry about these children’s abilities to transition to first grade, despite their interventions and home practice of skills (Litty & Hatch, 2006). Kindergarten teachers also experience struggles distinguishing between typical delays in development and long-term disabilities (Saluja et al., 2000). As of 2003, 13% of children ages 3-21 qualify for special education services for disabilities (US Dept of Education, 2003).

There is much controversy regarding whether young children (5 years old) entering first grade are more likely to experience poorer performance compared with their older classmates. Also, of concern are the resulting feelings of anxiety, lowered self-esteem, and emotional and motivational difficulties that may lead to academic and social failure through early schooling (Litty & Hatch, 2006).

Difficulties Assessing Young Children’s Development

Despite society’s emphasis on the importance of early childhood intervention for children with disabilities and developmental delays, difficulties persist in assessing for and identifying these difficulties. These difficulties are in part due to a lack of psychometric sound assessment instruments for assessing young children (Voress & Maddox, 1998). Designing valid and reliable instruments for assessing young children’s development is difficult due to many factors. These factors include: 1) many tests only assess cognitive development; 2) most tests require only a single administration, thus limiting an accurate picture of children’s rapid development; 3) individual administration is time consuming, yet group administration affects reliability; 4) many instruments are
not standardized with cultural norms; and 5) most instruments are not developmentally appropriate for young children and do not account for their unique developmental needs (Wortham, 1997).

Similarly, Voress & Maddox (1998) examined many instruments that are used with young children and infants and found that the majority of the instruments had poor reliability and validity, and technical problems. Other problems found with many of these instruments were that they were overly simplistic and lacked sufficient numbers of test items for each age level, and they did not evaluate children across all developmental domains. Unfortunately, Voress and Maddox (1998) found through their examination of child assessment instruments, that many appeared biased against children from low socioeconomic families and took too long to administer. Many of the instruments were also too expensive for frequent utilization.

Child assessment can be improved by encouraging parents to participate in their child’s assessment. Advantages of including parents in the assessment process are cost effectiveness (Bricker & Squires, 1989) and an increase in data collection. Parents will have more information about their child than the examiner could possibly collect in isolation (Bagnato, Neisworth, & Munson, 1997). Bricker and Squires (1989) found parents’ and professional’s ratings during child assessment were consistent with each other over time.

Casby (2003) studied the developmental status of children through their play. Many times play behaviors and interactions are the only observable actions available for assessing young children suspected of having developmental delays. Rossetti (2001) described the assessment of infants’, toddlers’, and young children’s play as a valuable
means of gaining insight into children’s overall development and may lead to appropriate intervention efforts,

Casby (2003) developed a criterion-referenced, developmentally based protocol for the assessment of the play behavior of infants, toddlers, and young children. The recommended assessment procedures include the assessment of play behavior with the child interacting with the examiner or parent, and materials that can be used in play, (e.g., balls, paper, blocks). Initially, selected toys are presented in front of the child. The examiner or parent models or encourages the child to use the toys in a specified manner. The use of modeling play action was found to be an effective way of eliciting valid and reliable play behavior from typically developing children as well as those with developmental delays (Casby, 2003).

In addition, Casby (2003) recommended observation of children, as they played independent of examiner or parent to consider their level and quality of solitary play as well as play with others. Because there is variance in play behavior in children with developmental delays compared to typically developing children, Casby recommended repeated observation may be considered as an important component for the assessment of play-based early intervention (Casby, 2003).

Single-Case Experimental Design

Difficulties in assessing the quality and effectiveness of an intervention for practical use, such as the previously mentioned developmental assessment is often difficult with group experimental designs. Group experimental design does not meet the needs of counselors who need scientifically acceptable and clinically feasible methods
of demonstrating the effectiveness and validity of counseling and the ability to incorporate the scientific method into daily counseling practice (Lunderwold & Belwood, 2000).

Equating research methods with group experimental design and statistical analysis tends to be an overly narrow approach and does not provide much relevance to practical settings, and little impact on practitioner behavior who primarily work with individual clients (Lundervold & Belwood, 2000). Researchers are urged to pursue more practice relevant research methods. Lundervold & Belwood (2000) term single case design the “best kept secret” in counseling research, for its relevance to practice settings and its capability of evaluating counseling processes, interventions outcomes, and demonstrating experimental control.

Single case designs demonstrate causal relations between different conditions and their effects on performance over time. Essentially an $n=1$ design uses data from a single participant as the research design (Sharpley, 2007). The components of the single case design are as described as follows: 1) Phase- a period of time during which a specific counselor action is taking place; 2) Baseline-phase (labeled “A”) established before implementing a systematic counseling intervention is conducted; (3) Treatment-Intervention or treatment phase (labeled “B”) is initiated. The researcher identifies the “target” of change for determining the effects of counselor actions (Lundervold et al., 2000). The baseline phase occurs prior to an intervention taking place, and provides information about the participant’s performance before the intervention is introduced (Kazdin, 2003).
Participants in single case designs serve as their own control group, and data is analyzed by visual methods to compare data from the participant’s baseline and intervention phases (Sharpley, 2007). Graphs provide visual representations of change over time and are perceived as the most effective method for initial examinations of data (Sharpley, 1981). Visual inspection is used when there is continuous data for one or more participants available for observation (Kazdin, 2003). Time series statistical analyses helps counselors employ a relatively easy and reliable method of measuring change in typical counseling situations. It specifically allows counselors to explore the questions of why utilize certain methods and how to determine their effectiveness, with a greater level of confidence (Sharpley, 1981). The tendency for performance to increase or decrease systematically or consistently over time is referred to as slope and is evaluated statistically to determine which line best illustrates the data (Kazdin, 2003).

**Rationale for Child Centered Play Therapy as Mental Health Intervention**

Children have unique and varied developmental needs. Play therapy is used as a developmentally appropriate form of therapy to treat children’s emotional and developmental difficulties (Landreth, 2002). Play allows children to develop understanding and awareness of their experiences and enables the process of gaining insight, learning, problems solving, coping, and mastery (Ray, Bratton, Rhine, & Jones, 2001).

Play therapy is effective and utilized in a variety of child settings because play is the child’s symbolic language of self-expression, and it allows children to heal themselves by playing out their experiences in a safe, accepting, and caring
relationship. Children are able to direct themselves through play and because their language development lags behind their cognitive development, children are able to communicate their experiences through their play (Landreth, 2002). The use of carefully selected toys is essential in enabling children to transfer their feelings onto objects rather than people. This is less threatening for children and allows them to feel safe and not become too overwhelmed by their actions, because their actions take pace in fantasy. Through this symbolic “acting out” process, children move toward an inner resolution and are better able to cope or adjust to problems (Landreth, 2002).

The play process also expands the child’s expression of self. Children are able to explore the unfamiliar while in the safety of the play therapy (PT) relationship. Landreth describes one of the major functions of PT as a process where children are able to change what may be unmanageable in reality to more manageable situations through symbolic play. This process allows children to learn to cope through self-directed exploration (Landreth, 2002). The objectives of CCPT include: developing more positive self-concept, assuming greater responsibility, becoming more self-directing and self reliant, engaging in self-determined decision making, feeling a sense of control, coping, developing an internal source of evaluation, and trusting themselves (Landreth, 2002).

Play therapy is used based on the developmental understanding of children. Axline (1947) identified eight basic principles that guide the play therapist in serving children:

1) The play therapist is genuinely interested in the child and develops a warm and caring relationship.
2) The play therapist experiences unconditional acceptance of the child and does not wish the child were different in some way.
3) The play therapist creates a feeling of safety and permissiveness in the relationship so the child feels free to explore and express themselves completely.

4) The play therapist is always sensitive to the child’s feelings and gently reflects those feelings in such a manner that the child develops understanding of self.

5) The play therapist believes deeply in the child’s capacity to act responsibly, and respects the child’s ability to solve personal problems.

6) The play therapist trusts the child’s ability to lead in all areas of their lives, trust their inner direction, and resists any urge to direct the child.

7) The play therapist appreciates the gradual nature of the therapeutic process and does not attempt to hurry the process.

8) The play therapist establishes only those therapeutic limits that help the child accept personal and appropriate responsibility.

Several research studies have demonstrated the effectiveness of PT with children experiencing various emotional, academic, and behavioral issues. Packman & Bratton (2003) investigated the efficacy of a school based group PT intervention with preadolescents identified with learning disabilities and behavior problems. They were particularly interested in determining the effects of a group PT model on both internalizing and externalizing behavior problems. Participants for the study were thirty students from a private school in a large urban city. The school specialized in serving students with unique learning differences. The students were between the ages of 10-12 and in the 4th-5th grades, and were referred by their parents and teachers for exhibiting behavior problems. Twelve participants were randomly assigned to the treatment group and twelve were assigned to the control group. The experimental group participants were divided into groups of three and participated in the group play/activity intervention one hour per week over the course of twelve weeks. Data was collected from administration of the Child Behavior Checklist-Parent Report Form. This data was collected prior to treatment (pre-test) and after treatment (posttest). Analysis of
covariance was performed on all data. An overall effect size in the large category was found. In this unique, first of its kind study, the results support group play/activity therapy as an effective intervention for preadolescents with internalizing and externalizing behavior difficulties (Packman & Bratton, 2003).

Post (1999) examined the impact of child centered play therapy (CCPT) on the self-esteem, locus of control, and anxiety level among at-risk children in grades 4th-6th. The at-risk designation of the participants was due to poverty, performing below age-grade level, special education referrals, and many of the children lived in homes with family situations with neglect, violence, and frequent changes in who lived in the home. Participants included one hundred sixty eight children who were referred by teachers or administrators in the school, and who were not already receiving counseling from other mental health providers at the school. Participants participated in CCPT and sessions ranged from one to twenty-five with four being the mean of CCPT sessions received. CCPT sessions were weekly. Seventy-seven students formed the experimental group and received weekly CCPT. The control group included ninety-one students and they received no treatment. Data was collected with the Coopersmith Self-Esteem Inventory, Intellectual Achievement Responsibility Scale-Revised and the State-Trait Anxiety Inventory two times during the school year. The students’ pretest and posttest scores on these measures were analyzed using ANOVA and results indicated that although CCPT did not enhance participants’ overall self-esteem, the control group demonstrated a decrease in self-esteem over the course of the school year. Those students who did not receive the CCPT intervention appeared to have ended the school year at greater risk than when they began the school year. The researcher suggested these results indicate
that CCPT may have prevented at-risk students from a decline in their self-esteem and assumption of responsibility for their academic work (Post, 1999).

Crow (1994) examined PT in a school setting to determine its effectiveness on students’ reading achievement, self-concept, and locus of control. Results demonstrated significantly higher self-concept scores on the Piers-Harris Children’s Self Concept Scale. Although significant results were not found between the two groups in reading achievement. Researchers suggested increases in self-concept could be related to improved reading scores (Crow, 1994).

Fall, Balvanz, Johnson, & Nelson (1999) examined the effects of CCPT in a school setting with children whose coping skills affected their academic progress. They studied 62 children in grades K-3, who were referred by teachers for exhibiting coping skills that were not conducive to learning. Thirty-one children received CCPT and 31 children served as controls. School counselors utilized CCPT in a six-session model. All 62 students were measured pre and post treatment with classroom observations, the self-efficacy scale for children, and the Connors Teacher Rating Scale. Results from these measurements were analyzed using a mixed ANOVA. Results indicated an increase in self-efficacy for the experimental group. Results demonstrated CCPT was effective in improving behavior associated with hindering learning. The authors suggested results provide evidence for a relationship between increased self-efficacy, and a successful PT intervention. The researchers concluded that children from this study whose coping skills hindered learning could be assisted with 6 sessions of CCPT (Fall et. al, 1999).
Shen (2002) recruited sixty-five children from a rural elementary school in Midwestern Taiwan that had experienced an earthquake and its devastating effects. Of those 65 children, 30 were identified as being at-risk for maladjustment. These children were ages 8-12 and were randomly assigned to either an experimental group or control group. The 15 children assigned to the experimental group were assigned to 5 play groups with 3 children in each play group. A school counselor provided PT, and each group received 10, 40-minute group PT sessions during 2-3 times per week during a 4-week span. Parents and children complete Children’s Mental Health Checklist, Filial Problem Checklist, Revised Children’s Manifest Anxiety Scale, and the Multiscore Depression Inventory for Children. Data was analyzed using ANCOVA and an independent t-test. Results indicated a decrease in the overall anxiety level as well as the suicide risk level in the experimental group (Shen, 2002).

The efficacy of intensive individual child centered play therapy (CCPT) with chronically ill children was investigated with children with insulin-dependent diabetes mellitus (IDDM) (Jones & Landreth, 2002). Researchers specifically were interested in the effects of CCPT on the emotional and behavioral symptoms of children diagnosed with IDDM. Thirty children with IDDM were selected from a summer camp for children diagnosed with diabetes, to participate in the study. Nine children in the experimental group participated in 12 CCPT sessions during the 3-week summer camp sessions. The 15 children in the control group did not receive CCPT. Parents of all children who participated in the study completed pretest and posttest data including demographic information forms, Filial Problem Checklist, and the Diabetes Adaptation Scale-Parent Form. Three month follow-up data was also collected. Analysis of data and qualitative
observations indicated CCPT may be an effective intervention for decreasing emotional and behavioral symptoms in children with IDDM (Jones & Landreth, 2002).

Garza & Bratton (2005) examined the impact and cultural considerations of CCPT with Hispanic children. Thirty Hispanic, Spanish speaking children in kindergarten through 5th grade who were referred to school counseling services for internalizing or externalizing behavioral concerns were selected to participate in the study. Children were divided into 2 groups of 15. The experimental group received 15 30-minute, weekly CCPT sessions. The CCPT treatment protocol was followed in the experimental group. The comparison group received 15 30-minute weekly curriculum based small group counseling. The curriculum was a substance abuse prevention program defined as culturally competent with English and Spanish versions, developmentally appropriate for various grade levels, and appropriate for school based use targeting at-risk behaviors, and demonstrated effectiveness in decreasing behavior problems and improving social skills. Data was collected from Behavior Assessment Scale for Children, completed by parents and teachers for all participants both pre and post treatment. The effects of CCPT compared to curriculum based small group counseling with Hispanic children were analyzed with a 2 factor repeated measured ANOVA. Moderate to large treatment effects were demonstrated by the CCPT treatment group. This study was a preliminary investigation that advocates for the need of a research based culturally responsible treatment approach for Hispanic children. The authors suggest CCPT is a viable option (Garza & Bratton, 2005).

Hannah (1986) suggested there is a lack of research that adequately addresses the effects of PT using single case design techniques. He examines a PT intervention
independently for 9 children ages 4-6, selected from a participant pool for a PT practicum at a university setting. Data was collected by trained observers 2-3 times per week. The observers were practicing and received feedback on their behavior rating. Baseline measurement began 3 weeks prior to the first PT session. The participants received 8 weekly 50-minute PT sessions. Parents and teachers were interviewed for qualitative data in addition to quantitative data. The author utilized a single-subject interrupted time series design to evaluate the impact of PT on each child’s behavior. Researchers placed one child whose parents withdrew him from the PT treatment prior to its start, as a comparison participant receiving no treatment. Results indicated that of the 9 children participants, 8 showed significant progress in behavior identified as unique to each of their targeted problem areas, which was steadily increasing over time. The child who did not receive treatment demonstrated significant increase in maladaptive behavior. Results indicate PT was an efficacious intervention for reducing inappropriate or maladaptive behavior in young children (Hannah, 1986).

Ray et al. (2001) found through meta-analysis of PT outcome research, that PT was an effective treatment for children’s problems. Large effect sizes (.80) were found in treatment (receiving PT) versus non-treatment groups. The authors conducted a meta-analysis of 93 PT outcome studies. A large treatment effect for PT intervention with children was found. Children receiving PT interventions performed 0.75% of a standard deviation better on outcome measures compared with those children who did not receive PT treatment. These results support the efficacy of PT as an intervention in the treatment of children with emotional and behavioral difficulties. The analysis also indicated that PT is effective across age, gender, clinical, and nonclinical populations.
(Ray et al., 2001). The researchers also found that humanistic-nondirective PT approaches yielded significantly larger treatment effects that other approaches (Bratton, Ray, Rhine, & Jones, 2005).

Summary of Literature

Research has shown that children with mild developmental delays are at risk for developing emotional and behavioral problems. School placements for these children are stressful for parents and teachers due to the unique needs of the child (Ilg et al., 1981). Counselors also struggle with serving these children and providing parents with developmentally appropriate interventions. The study of child developmental level or age is not easily assessed or understood by many helping professionals. To complicate matters, there appears to be a scarcity in research regarding the nature of assessing child development levels in order to provide developmentally appropriate recommendations and child based interventions. The research on child assessment suggests challenges due to cost of materials, poor reliability and validity, technical issues, and practicality in counseling practice (Voress & Maddox, 1998). Alternative methods of assessing children to gain insight into providing appropriate counseling interventions have been reviewed in the literature. Because children have unique and varied developmental needs, CCPT is used as a developmentally appropriate form of therapy to treat children’s emotional and developmental difficulties (Landreth, 2002). Group experimental designs often lack generalizability to practical counseling settings whereas single case designs provide an alternative method of analyzing causal relations between different conditions and their effects on performance over time which
seems to be a more natural fit with counseling intervention studies (Lundervold & Belwood, 2000).
CHAPTER 2
METHODS AND PROCEDURES

This study used a single case design to explore the impact of individual child
centered play therapy (CCPT) on children with developmental delays by examining its
effectiveness in: 1) increasing measured developmental age; 2) reducing problematic
behaviors related to developmental delays; and 3) increasing developmentally
appropriate behaviors. This chapter outlines the methods and procedures that were
utilized in this study. Included are the research questions, definition of terms,
instrumentation, and selection of participants, data collection, treatment, and data
analysis.

Research Questions

1. What impact does CCPT demonstrate on a young child’s developmental age?

2. What impact does CCPT combined with parent consultation demonstrate on a
young child’s developmental age?

3. What impact does CCPT demonstrate on a young child’s behavior and
parental relationship?

4. What impact does CCPT combined with parent consultation demonstrate on a
young child’s behavior and parental relationship?

Definition of Terms

Child centered play therapy (CCPT) – For purposes of this study, Landreth’s
(2002) definition was used:

Play therapy is defined as a dynamic interpersonal relationship between a child
and a therapist trained in play therapy procedures who provides selected play
materials and facilitates the development of a safe relationship for the child. To
fully express and explore self (feelings, thoughts, experiences, and behaviors)
through play, the child’s natural medium of communication, for optimal growth and development. (p.16)

Parent-child relationship stress – This is defined by high scores on the Child and Parent Domains of the Parenting Stress Index. Abidin (1995) defines High scores on the PSI as scores at or above the 85th percentile.

Child’s developmental age – Gesell, Ilg, Ames, and Baker’s (1981) developmental ages will be used in this study. Based on the works of Frances Ilg, the developmental age refers to the age at which the child is functioning as a whole, total organism. Within the total organism, the components of social, emotional, intellectual, and physical are interdependent. The developmental age may or may not correspond with the child’s chronological age. The developmental age is based on a cluster of scores derived from the child’s performance on the Gesell Developmental Observation’s sections and tasks. The developmental age is scored according to six month increments.

Child and Adolescent Background Information Form – This is a demographic information form completed by the child’s parents used by the clinic.

Externalizing behavior problems – These are defined as behaviors that are outward manifestations of inner conflict. These behaviors can include: aggression, hyperactivity, and conduct problems. For the purposes of this study, externalizing behavior problems will be operationally defined as the score on the Externalizing Behavior scale on the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2000).

Internalizing behavior problems – These are defined as behavioral characteristics that are symptomatic of an attempt to cope with internal difficulties. Most often, emotions are prevented from being expressed and are directed internally. For the
purpose of this study, internalizing behavior problems will be operationally defined as the score on the Internalizing behavior scale on the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2000).

Chronological age – This is defined as the actual age calculated from date of birth in months and years.

Instrumentation

*Gesell Developmental Observation*

Dr. Gesell studied more than 10,000 children in his career and theorized that behavior is a function of structure, and that people develop in a patterned and predictable manner. Dr. Gesell described developmental age as having characteristic patterns of mental and physical organization, social and emotional behavior, and play interests and activities. He further described the concept of developmental age as the age at which the child functions as a total organism. The various components of social, emotional, intellectual, and physical are all interdependent. The Gesell Developmental Observation (1981) tool allows examiners to observe, record, and match a child’s behaviors with normative patterns to identify their developmental age. Although children may exhibit a variety and range of behaviors in assessment, the developmental age cluster provides an overall developmental age (Ilg, 1965). Children's chronological age and developmental age may or may not correspond with each other. Because the concept of developmental age is qualitative rather than quantitative or numerically derived, the tool differs dramatically from other assessment instruments and allows evaluators to develop a complete picture of the observed child (Ilg, 1965).
Administrators must complete in an intensive three-day training institute to receive certification for administering this instrument.

The instrument’s tasks emphasize the child’s response in terms of developmental status, so there is no right or wrong response. All of the child’s behaviors, verbalizations, method, and organizational processes are considered in determining the developmental age. The benefits to children in determining their developmental age lies in recognizing the age in which they are functioning so their needs are accommodated appropriately to allow for further growth and opportunity (Ilg, 1965).

The Gesell Developmental Observation consists of tests that are predominantly perceptual-motor. The individual administration of this test takes approximately 20 minutes. The included subtests are:

1. Initial Interview – Child is asked their age and birthday, names of any siblings, and the nature of parent’s occupations
2. Writing – Child is asked to write first and last names, and numbers 1-20
3. Copy Forms – Child is asked to copy a circle, cross, square, equilateral triangle, diamond, and divided rectangle
4. Incomplete Man – Child is asked to complete the facial and body parts of a partially drawn man
5. Animals – Child is asked to name as many animals as he in one minute.

Based on the child’s responses to test items or specific tasks, the child is assigned to a predetermined developmental age category for each section of the test. Once the child completes all sections of the tests and the developmental ages are recorded on the scoring sheet, an overall developmental age is derived from an average of the child’s performance on each individual section of the test.
**Child Behavior Checklist (Achenbach and Rescorla, 2000)**

The Child Behavior Checklist for Children Ages 1.5 to 5 Years (CBCL; Achenbach and Rescorla, 2000) is designed for the parent of a child ranging in age from 1 1/2 to 5 years old, to identify problematic behavior problems. The CBCL was used for the purposes of this study due to the ages of the participants. The CBCL has 99 specific problem items that parent’s rate on a scale of 0-2 indicating; not true (0), sometimes true (1), or very true (2). An open-ended item is also included to list other problems observed by caregivers. The entire assessment takes approximately 20 minutes to complete. There are seven syndrome scales, five *Diagnostic and Statistical Manual of Mental Disorders (DSM)* oriented scales. Composite scales on the CBCL include the Internalizing Problems Scale, and the Externalizing Problems Scales as well as the Total Problems Scale. Composite scores of the Interpersonal and Externalizing Scales and Total Problems Scales were utilized in this study. A reduction in scores indicates improvement in the targeted behavior (Achenbach & Rescorla, 2000).

The CBCL was normed on a sample of children living in the northeast section of the United States and some children from the Netherlands. Researchers utilized children referred for clinical services and well adjusted children attending preschool who were participating in a long-term national study. The mean score of the test-retest reliability for the CBCL is strong ($r = .90$). The test-retest reliability for each scale of the CBCL are as follows: Emotionally Reactive ($r = .72$), Anxious/Depressed ($r = .68$), Somatic Complaints ($r = .91$), Withdrawn ($r = .77$), Attention Problems ($r = .84$), Aggressive Behavior ($r = .89$), Internalizing Problems, ($r = .77$), Externalizing Problems ($r = .89$), and Total Problems ($r = .88$). The test-retest of the DSM-oriented scales is as
follows: Affective Problems (r = .76), Anxiety Problems (r = .57), Pervasive Developmental Problems (r = .83), Attention Deficit/Hyperactivity Problems (r = .79), and Oppositional Defiant Problems (r = .87). The content validity of the problem scales was strong, as was supported by the research which determined that almost all items discriminated between referred and nonreferred children (Achenbach & Rescorla, 2000). For purposes of this study, this instrument will be used as a supporting measure to provide additional data along with the other assessments.

*Developmental Assessment of Young Children (Voress & Maddox, 1998)*

The Developmental Assessment of Young Children (DAYC; Voress & Maddox, 1998) is used to identify developmental delays or deficits in children from birth through 5 years, 11 months who may benefit from early intervention. The DAYC is composed of five subtests that measure assessment areas of cognition, communication, social-emotional development, adaptive behavior, and physical development. The Cognitive subtest consists of 78 items that measure skills and abilities including attention, memory, planning, decision-making, and discrimination. The Communication subtest consists of 78 items and measures both receptive and expressive language skills involving verbal or nonverbal expression. The Social-Emotional subtest consists of 58 items and measures social awareness, social relationships, and social competence. The Physical Development subtest consists of 87 items and measures motor development involving the use of small and large muscles to perform basic movements. Gross and fine motor skills were also assessed. The Adaptive behavior subtest consists of 62 items and measures independent functioning including self-help skills, such as toileting, feeding, dressing, and hygiene. The test can be tailored to the child’s needs by
assessing any combination of the five domains. Administration can be individual, separate, or as a comprehensive battery. Evaluator can collect information about a child’s abilities through observation, caregiver interview, and direct assessment. The instrument was normed on a national sample of 1,269 children, and yields percentile ranks and age equivalents. The DAYC was shown to exhibit both high test-retest reliability (.99) and high criterion-predictive (.61) and construct-identification validity (.93) (Voress & Maddox, 1998). For the purposes of this study, the Cognitive, Communication, and Social-Emotional subtests were used due to the perceived relationship between these areas and the intervention of PT

**Parenting Stress Index**

The Parenting Stress Index (PSI) is a 120-item instrument to “identify parent-child systems that were under stress and at risk for the development of dysfunctional parenting behaviors or behavior problems in the child involved” (Abidin, 1995, p. 6). The PSI was standardized for use with parents of children between the ages of 1 month to 12 years. The instrument consists of Child Domain, Parent Domain, Life Stress, and Total Stress Score. Scores at or above the 85th percentile are interpreted as falling in the high range on this assessment. High scores on Child Domain indicate the need for further intervention to focus on the behaviors of the child rather than parent concerns that affect parent-child relationship. This domain consists of 47 items. Internal consistency for the overall Child Domain is .90 and ranges from .70-.83 for the subscales.

High scores on Parent Domain indicate that the sources of stress in the parent-child relationship are related issues in the parent’s function (Abidin, 1995). This domain
consists of 54 items. The internal consistency is .93 for the overall Parent Domain and ranges from .70-.84 for Parent Domain subscales:

The Life Stress scale includes 19 items and provides information on the amount of stress the parent is experiencing outside of the parent-child relationship. High Life Stress scores are indicative of parents who find themselves in stressful circumstances frequently beyond their control. The total stress the parent reported may be intensified by the Life Stress scores (Abidin, 1995).

The Total Stress Score reflects the underlying assumption of this instrument. It is calculated by adding the Parent and Child Domains scores. Parents who demonstrate high scores are recommended to pursue professional intervention.

A Defensive Responding score provides further information regarding interpretation of the results of the PSI. A Defensive Responding score of 24 or less indicates caution should be taken in interpreting the results due to possible defensive responding. For purposes of this study, this instrument will be used to gain additional data to support the developmental assessments.

Participant Selection

Participants included community child clients between the ages of 3 and 6 who are on the waiting list at a community mental health clinic on a university campus. Participants were screened for eligibility criterion to participate in the study. The inclusion criterion was performance of at least six months below chronological age on the Gesell Developmental Observation and no concurrent psychological treatment.

Three children were selected and treated, each by a different therapist at the mental health clinic. As a sliding scale fee clinic, clients were typically in low income
bracket, with an average household income at or near the poverty level. Children were referred by their parents, guardians, or preschool teachers for a variety of developmental and behavioral concerns and/or problems in the parent-child relationship.

I submitted this study to the university’s Internal Review Board and received approval to use human participants. The participants met the following criteria:

1. Children were between the ages of 3 and 5 years of age
2. Children were not receiving any other mental health treatment
3. Children were not currently receiving PT services
4. Children were operating six months below their chronological age as measured by the Gesell Developmental Observation instrument
5. Children were not diagnosed with severe developmental disability or delay including Autism, mental retardation, pervasive developmental disorder, or Asperger’s disorder
6. At least one parent of participating child was able to complete the required assessments and demographic instruments for data collection

Children were brought to the clinic by their parents for their initial intake and pretest of the Gesell Developmental Observation to obtain a baseline measurement. Parents signed a form along with the clinic’s original consent form, explaining the nature of the research study by the examiner. To ensure confidentiality of the information, I assigned codes to each participant and was the only one with the master list with participant’s names. All confidential client files were locked in the clinic during the course of the study.

Because children were studied, special precautions were taken regarding simplistic explanatory language in the informed consent for parents. All identification was coded so that confidentiality was confirmed. Videotapes of PT sessions were
collected during the normal course of therapy. Therefore, the collection of videotapes did not require further time from the participant. Videotapes of sessions with children and professional reviews of those tapes ensured that proper protocol was followed throughout the study.

Upon completion of instruments, I coded each instrument with the participant’s matched code. All videotapes were coded with the matched code. Names were deleted from any instrumentation. Names and codes were kept in one file only accessible by myself and my research team.

Treatment

Participants who met specified criteria: clients between the ages of 3 and 5 years, who were assessed with at least a six month developmental age below their chronological age by the Gesell Developmental Observation and not currently receiving any concurrent psychological treatment, were included in this research. I and all play therapists serving participants completed at least three courses in PT, including an introduction to PT, an advanced PT course, and a clinical practicum. In addition, I hold a master’s degree in school psychology specializing in assessment, and completion of 3 years of doctoral work in counselor education. Each counselor received individual or triadic supervision on a weekly basis from an experienced play therapist and 1.5 hours of group supervision from a counselor education faculty member. All children selected for this study received treatment consisting of individual CCPT sessions following CCPT protocol.
CCPT incorporates play as the child’s natural and developmentally appropriate form of self-expression. CCPT is a dynamic interpersonal relationship between child and therapist. CCPT therapists select specific toys and utilize specific interventions and reflections (Landreth, 2002). CCPT is a developmentally appropriate form of counseling for children due to its utilization of toys and play. Specifically, toys represent children’s words and play is their language (Landreth, 2002). CCPT originally developed based on the person-centered counseling philosophy of Carl Rogers. Virginia Axline (1947) applied this counseling philosophy to children by expressing the core conditions of empathy, unconditional positive regard, and genuineness in a playroom setting.

The CCPT therapists participating in the study incorporated both nonverbal and verbal skills. The verbal responses included: (1) utilizing short, interactive and personalized responses at an appropriate rate of responses matching the energy level of the child; (2) tracking child’s play behavior; (3) reflecting content; (4) reflecting feelings; (5) facilitating decision making and returning responsibility; and (6) using encouragement and self-esteem building responses. The CCPT therapists’ nonverbal responses include: (1) maintaining an open, relaxed, comfortable posture and leaning forward; (2) appearing genuinely interested in the child; and (3) conveying a sense of genuineness by matching words and affect (Ray, 2004). All sessions were conducted in PT rooms at the clinic. The rooms are equipped with the following toys in accordance with Landreth’s (2002) recommendations:

- Sand
- Puppets
- Telephone
- Scoops/shovel/bucket
- Puppet theater
- Plastic domestic animals
<table>
<thead>
<tr>
<th>Dramatic play clothes</th>
<th>Vehicles/planes</th>
<th>Plastic zoo animals</th>
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</thead>
<tbody>
<tr>
<td>Masks and hats</td>
<td>Riding car</td>
<td>Medical kit</td>
</tr>
<tr>
<td>Plastic dinosaurs</td>
<td>Baby dolls/clothes</td>
<td>Adhesive bandages</td>
</tr>
<tr>
<td>Knife/sword</td>
<td>Pacifiers</td>
<td>Cash register</td>
</tr>
<tr>
<td>Dart gun</td>
<td>Nursing bottles</td>
<td>Play kitchen/food</td>
</tr>
<tr>
<td>Handcuffs</td>
<td>Pillow/blanket</td>
<td>Pots/pans/dishes</td>
</tr>
<tr>
<td>Rope</td>
<td>Wood blocks</td>
<td>Dollhouse/bendable family</td>
</tr>
<tr>
<td>Paints and easel</td>
<td>Broom/dust pan/mop</td>
<td>Toy soldiers</td>
</tr>
<tr>
<td>Craft table</td>
<td>Musical instruments</td>
<td>Bop bag</td>
</tr>
<tr>
<td>Crayons and paper</td>
<td>Cameras/binoculars</td>
<td>Egg cartons</td>
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<tr>
<td>Play dough</td>
<td>Chalkboard and chalk</td>
<td>Tape/glue/ blunt scissors</td>
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The occurrence of parent consultations was dependent on the protocol for each participant schedule of services/treatment. The CCPT therapist met with the parent as assigned and adhered to the parent consultation protocol (Appendix B). Parent consultations were provided after the PT session with the child participant was completed. The child/participant was not present during the consultation and remained in the waiting area with staff babysitters. Parent consultations were designed to be provided in a non-directive format, and no recommendations or parent education was provided.

**Data Collection**

This study utilized the single case design format as suggested by Kazdin (2003). Data collection procedures are individual to each case to demonstrate changes.
occurring during CCPT and parent consultation interventions. The following information describes the procedures for the individual participants in the single case analysis:

**Participant 1: Rachel**

During the baseline phase, participant was administered the Gesell Developmental Observation once upon intake while subtests from the DAYC were administered weekly to obtain developmental level data (See Table 1). Parent completed pretest assessments including CBCL and PSI, and relevant background and developmental history were obtained. The CBCL and PSI were used as supporting measures, not as focal dependent measures for the single case design. The treatment phase began after three weeks of Baseline data collection. The first week of treatment (Week 4) included the play therapist meeting with participant for a 30-minute play therapy (PT) session. After the PT session, I met with the child to administer DAYC Cognitive, Social Emotional, and Communication subtests to collect developmental assessment data. This participant did not receive any parent consultations until debriefing once the study had been completed. During Weeks 3-11, participants received a 30-minute PT session, and afterwards, I administered the three DAYC subtests. The final week (11) of the treatment phase included the parent’s completion of posttest measures of the CBCL and PSI, and a 30-minute PT session with the participant followed by the administration of the three DAYC subtests, and posttest administration of the Gesell Developmental Observation. During follow-up phase Weeks 12-14 I met with the participant to administer the DAYC subtests to gain additional data after the removal of treatment and no additional data from parents.
Table 1

Rachel's Protocol across All Three Phases

<table>
<thead>
<tr>
<th>Prior to study</th>
<th>Week 1</th>
<th>Week 2</th>
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<tr>
<td>Gesell</td>
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Participant 2: Brian

During the baseline phase, participant was administered the Gesell Developmental Observation once upon intake while subtests from the DAYC were administered weekly to obtain developmental level data (See Table 2). Parent completed pretest assessments including CBCL, and PSI, and relevant background and developmental history were obtained. The treatment phase began after three weeks of baseline data collection. Week 4 included the therapist meeting with the participant for a 30-minute PT session, followed by meeting with the child’s parent for consultation following established protocol. After the PT session, while the therapist met with the participant’s parent, I met with the child to administer DAYC Cognitive, Social Emotional, and Communication subtests to collect developmental assessment data. Weeks 5-6, participant received a 30-minute PT session, and I again administered the DAYC subtests immediately afterward. During Week 7, the therapist conducted a 30-minute PT session with the participant. The parent met with therapist for parent consultation, following established protocol and completed mid-point assessments of CBCL and PSI. I met with the participant after the PT session to administer the DAYC
subtests. Weeks 8-10 included a 30-minute PT session, followed by my administering the DAYC subtests. The final week of the treatment phase (Week 11) included a 30-minute PT session followed by the administration of the DAYC, and posttest administration of the Gesell Developmental Observation. His parent completed post treatment assessments of CBCL and PSI. During Weeks 12-14 of the follow-up phase, I met with the participant to administer the DAYC subtests to gain additional data without child receiving treatment or parent consultation services.

Table 2

_Brian’s Protocol across All Three Phases_

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_Participant 3: Nate_

During the baseline phase, participant was administered the Gesell Developmental Observation once upon intake while subtests from the DAYC were administered weekly for three weeks to obtain developmental level data (See Table 3). Parent completed pretest assessments including CBCL, and PSI, and relevant background and developmental history was obtained. The treatment phase began after three weeks of baseline data collection. During Week 4, the therapist met with the parent for consultation following established protocol, after meeting with the participant for a 30-minute PT session. After the PT session, I met with the child to administer the
DAYC Cognitive, Social Emotional, and Communication subtests to collect developmental assessment data. During treatment Weeks 5-6, the participant received a 30-minute PT session, and I administered the DAYC subtests. During Week 7, the therapist conducted a parent consultation following the established protocol, as well as a 30-minute PT session with the participant. The parent completed mid-point assessments of CBCL and PSI. I met with the participant after the PT session to administer the DAYC subtests. Weeks 8-10 included 30-minute PT session, followed by my administering the DAYC subtests. The final week of the treatment phase (Week 11) included a parent consultation, 30-minute PT session followed by the administration of the DAYC. Parent completed posttest assessments of CBCL and PSI. During follow-up Weeks 12-14, I met with the participant to administer the DAYC subtests to gain additional data without participant receiving CCPT or parent consultation.

Table 3

_Nate’s Protocol across All Three Phases._

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<tr>
<th>Prior to study</th>
<th>Week 1</th>
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CHAPTER 3
RESULTS AND DISCUSSION

This chapter presents the findings of the developmental observations, parent assessments, and child developmental assessments for each individual participant in the study. The primary source of data for visual analysis of this single case design is the developmental assessment measures from the three Developmental Assessment of Young Children (DAYC) subtests, Cognitive, Communication, and Social Emotional. The Child Behavior Checklist for Children Ages 1.5 to 5 Years (CBCL) and Parenting Stress Index (PSI) multiple repeated measures were reported to explore behavioral and relational changes across time as supporting documents to the weekly DAYC data collection.

Participant’s results were examined separately using visual analyses. The participant’s weekly standard scores from the DAYC were graphed. Changes between non-intervention baseline, intervention, and non-intervention follow-up phases were examined. Specifically, the levels, trends, and variability of the data across the phases were examined (Kennedy, 2005). Levels can be quantified by comparing mean scores across each phase. The level of data within a phase demonstrates an estimation of the central tendency of the data during the specified phase (Kennedy, 2005). The second dimension used to examine data is trend, which was quantitatively estimated by computing the least squares regression. This process fits a straight line to the slope of the participants’ data by “minimizing the sum of squared deviations of the observed data from the line” (Kennedy, 2005 p. 198). Further the trend coefficient was interpreted by
effect size of $R^2$ according to the guidelines established by Cohen (1988) of $R^2 = .01$ (small effect), $R^2 = .09$ (medium effect), and $R^2 = .25$ (large effect).

Variability, the third examination of data refers to the degree to which data points deviate from the overall trend, or the best-fit straight line. The variability of data is referred in terms of being high, medium, or low, and is relatively qualitative in nature (Kennedy, 2005). Kazdin defined visual analysis of data as a process of examining graphed data in order to reach judgments about the reliability and consistency of effects of the intervention (Kazdin, 1982). Researchers look for a series of patterns in the graphed data to draw conclusions about the intervention (Kennedy, 2005). Intervention effects are observed when a large and immediate change and level of target is noted after manipulation of the independent variable (Barlow & Hersen, 1984).

Visual analysis can be considered a subjective method for analyzing results, that may increase type 1 error, and thus researchers utilizing single case design are recommended to receive training in visual analysis (Kennedy, 2005). It is also recommend that multiple analyses of results should be conducted by additional individuals trained in visual analysis to determine if a functional relationship exists. For this study, I received instruction and practice analyzing graphs with an experienced associate professor and another doctoral student conducting single case analyses. Visual analysis is an appropriate and preferred method for analyzing data in single case design studies and all data from this study is described and presented according to the recommendations of Kennedy (2005). Additionally, the parent’s data collected from behavior and parenting checklists was examined, comparing pre, mid, and posttest
score means. This data was graphed and results were examined through visual analysis.

Participant 1: Rachel

Rachel is a four year, three month old Caucasian female preschooler who lives with her biological mother, father, and three half siblings. She qualified for participation in this study due to an assessed Gesell Developmental Observation age of three and a half years, six months below her chronological age. Rachel attends a local Head Start preschool program. Rachel’s mother reported a normal pregnancy without complications. Rachel has not experienced any significant developmental or medical concerns. She has not received any previous type of mental health treatment including counseling services. Her mother reported Rachel’s strengths as loving to play, being very affectionate and loving, and she is eager to learn new things.

Rachel’s mother reported a maternal history of dyslexia and depressive symptoms. She reported a history of domestic violence with her ex-husband prior to Rachel’s birth with her current husband. She reported that Rachel is a very loving child, but she has significant concerns for her child’s response to discipline and correction. Rachel often pouts and has tantrums when she is corrected. Rachel’s mother also reported adjustment concerns related to their blended family and sibling rivalry. Rachel is very close to one sibling, but easily becomes jealous when attention is given to other children in the family. Rachel reports that she hates going to school and believes her peers and teachers “hate” her. Rachel’s Head Start teacher referred her for participation in the study.
Visual analysis should include an examination of the level, trend, and variability across the phases (Kennedy, 2005). This section will include Rachel’s averaged scores from the scores across the three phases of baseline, intervention (PT), and follow-up for DAYC Cognitive, Communication, and Social Emotional subtests.

Rachel participated in three weeks of baseline, eight weeks of once weekly PT, and three weeks of a no-intervention follow-up phase. Figure 1 displays a graphical representation of the standard scores for Rachel’s performance on the Cognitive subtest for the DAYC.

![Graph showing standard scores for Rachel’s DAYC combined phase Cognitive subtest results.](image)

**Figure 1.** Rachel's DAYC combined phase Cognitive subtest results.

The graph clearly demonstrates the level (mean) of the intervention phase increased from the baseline phase. Also, evident is the decrease in level during the follow-up phase. The increase in level during the intervention (PT) phase indicated that Rachel’s performance on the Cognitive subtest improved while receiving PT and her scores decreased when the PT intervention was removed. The analyses of level indicates improvement in Rachel's performance, and upon Kennedy’s (2005)
recommendations additional calculations of trend were conducted. This process fits a straight line to the slope of the participants’ data and the trend is quantitatively estimated by computing the least squares regression. The trend line was calculated and displayed in Figure 1. The least squares regression is interpreted as a small relationship, $R^2 = .02$, between the three phases and time.

The data across the three phases of Rachel’s performance on the Cognitive subtest indicated a small amount of variability, which Kennedy (2005) described as the extent to which the individual data points vary from the trend line.

**DAYC Cognitive Subtest Individual Phase Analysis**

After analyzing the data for the Cognitive subtest of the DAYC for Rachel across all phases together, each separate phase were analyzed for level, trend and variability. The three data points of the baseline phase indicated a level (mean) of 80.67 (range 78-84), a large upward trend with a trend line of $r = .65$, and moderate variability (see Figure 2).

![Figure 2. Rachel’s DAYC Cognitive baseline results.](image-url)
The trend line is interpreted as a large effect with $R^2 = .43$. Because the baseline indicates improvement in Rachel’s performance, and large variability between data points on the cognitive subtests it is difficult to make conclusions regarding the following intervention phase. Although, research recommends establishing a stable baseline in single case design (Kennedy, 2005) before implementing the treatment phase, in the case of counseling research, it was clinically was problematic to withhold treatment in the hopes of establishing a stable baseline.

The data from the second phase, the intervention phase revealed a level (mean) of 91.25 (range 82-95), a large upward trend with a trend line of $r = .57$, and moderate variability (See Figure 3). The trend line ($R^2 = .32$) indicated a large effect size according to Cohen’s (1988) guidelines, indicating a large relationship between PT intervention over time and Rachel’s performance on the Cognitive subtest.

![Figure 3. Rachel’s DAYC Cognitive PT/intervention phase results.](image)

In the final phase, follow-up, Rachel continued to be assessed with the Cognitive subtest, while no longer receiving PT intervention. The data from this phase
demonstrates a level (mean) of 81.33 (range 80-84), with a high downward trend, and low variability (see Figure 4). The trend line indicated a relationship of $r = .87$, with an effect size of $R^2 = .75$, interpreted as a large effect size. Results indicate a high relationship between Rachel’s performance on the Cognitive subtest of DAYC with the removal of the PT intervention.

![Figure 4. Rachel's DAYC Cognitive follow-up phase without intervention.](image)

**Visual Analysis of Rachel's DAYC Communication Subtest Results across All Phases**

This section includes Rachel’s averaged scores from the data across the three phases of baseline, intervention (PT), and follow-up on the DAYC Communication subtest.

Figure 5 displays a graphical representation of the standard scores for Rachel’s performance on the Communication subtest for the DAYC. The graph demonstrates the level (mean) of the intervention phase increased slightly from the baseline phase. Also, evident is the decrease in level during the follow-up phase. In Phase 1, the mean level is 60.33; in the second phase, the mean level is 60.75; the mean level in Phase 3 is
57.67. The increase in level during the intervention (PT) phase indicated that Rachel's performance on the Communication subtest improved slightly while receiving PT and her scores decreased when the PT intervention was removed. The analyses of level indicates improvement in Rachel's performance, and upon Kennedy's (2005) recommendations additional calculations of trend were conducted. The trend line was calculated and displayed in Figure 5. The trend line for Rachel indicated small upward trend through visual analysis. The least squares regression calculation is interpreted as a small relationship between the three phases and time indicated $R^2 = .07 \ (r = .26)$.

![Figure 5](image)

Figure 5. Rachel’s DAYC Communication subtest combined total phase results.

The data across the three phases of Rachel’s performance on the DAYC Communication subtest indicated a moderate amount of variability, which Kennedy (2005) described as the extent to which the individual data points vary from the trend line. Graphical illustration (See Figure 5) indicates that not all of Rachel’s data fit cleanly to the trend line, which may make it more difficult to interpret. To provide a clearer picture of the relationship between intervention and time, the trend and level are useful indicators.
DAYC Communication Subtest Individual Phase Analysis

After analyzing the data for the Communication subtest of the DAYC for Rachel across all phases together, each separate phase was analyzed for level, trend and variability. The three data points of the baseline phase indicated a level (mean) of 60.33 (range 60-61), a flat trend and low variability with a trend line of $r < .01$, with an effect size of $R^2 < .01$ interpreted as a negligible effect. No effect size indicated that there was no relationship between baseline time and results on the Communication subtest.

![Figure 6. Rachel’s DAYC Communication subtest baseline results.](image)

The data from the second phase, PT/intervention phase, revealed a level (mean) of 60.75 (range 55-64), a low upward trend, moderate variability, with a trend line of $r = .15$, with an effect size of $R^2 = .02$, interpreted as a small effect size (see Figure 7). The trend line indicated a small effect size according to Cohen’s (1988) guidelines, indicating a small relationship between PT intervention over time and Rachel’s performance on the Communication subtest.
Figure 7. Rachel’s DAYC Communication PT/intervention phase results.

In the final phase, follow-up, Rachel continued to be assessed with the Communication subtest, while no longer receiving PT intervention. The data from this phase demonstrates a mean level of 57.67 (range 55-60), with a high downward trend, and low variability (see Figure 8). The trend line indicated a relationship of $r = .99$, with an effect size of $R^2 = .99$, interpreted as a large effect size. Results indicate a significant relationship between Rachel’s performance on the Communication subtest of DAYC with the removal of the PT intervention.

Figure 8. Rachel’s DAYC Communication follow-up with no intervention phase.
Visual Analysis of Rachel’s DAYC Social Emotional Subtest
Results across All Phases

This section includes Rachel’s averaged scores from the data across the three phases of baseline, intervention (PT), and follow-up on the DAYC Social Emotional subtest.

Figure 9 displays a graphical representation of the standard scores for Rachel’s performance on the Social Emotional subtest for the DAYC. The graph demonstrates the mean level of the intervention phase increased from the baseline phase. Also, evident is the slight decrease in level during the follow-up phase. In Phase 1, the mean level is 97.33; in Phase 2, the level is 100.37; and the mean level in Phase 3 is 96.67. The increase in level during the intervention (PT) phase indicated that Rachel’s performance on the Social Emotional subtest improved while receiving PT and her scores slightly decreased when the PT intervention was removed. The analyses of level indicates improvement in Rachel’s performance, and upon Kennedy’s (2005) recommendations, additional calculations of trend were conducted.

![Figure 9. Rachel's DAYC Social Emotional subtest combined phase results.](image)

The trend line was calculated and displayed in Figure 9. The trend line for Rachel
indicated small downward trend through visual analysis. The least squares regression calculation of $r = .10$ indicated a small relationship between the three phase and time with an effect size of $R^2 = .01$.

The data across the three phases of Rachel’s performance on the Social Emotional subtest indicated a moderate amount of variability, which Kennedy (2005) described as the extent to which the individual data points vary from the trend line. Graphical illustration indicates that not all of Rachel's data fit cleanly to the trend line, which may make it more difficult to interpret. To provide a clearer picture of the relationship between intervention and time, the trend and level are useful indicators.

**DAYC Social Emotional Subtest Individual Phase Analysis**

After analyzing the data for the Social Emotional subtest of the DAYC for Rachel across all phases together, each separate phase was analyzed for level, trend and variability. The three data points of the baseline phase indicated a level (mean) of 97.33 (range 96-98), a flat trend with a trend line of $r < .01$, with an effect size of $R^2 < .01$ interpreted as a negligible effect and low variability (see Figure 10). No effect size indicated that there was no relationship between baseline time and results on the Social Emotional subtest. Figure 10 graphically illustrates this analysis.

The data from the second phase, the intervention phase, revealed a mean level of 100.37 (range 98-105), a relatively flat trend with a trend line of $r < .01$, with an effect size of $R^2 < .01$ interpreted as a negligible effect size, and moderate variability among data points (See Figure 11). The trend line indicated a negligible effect size according to

![Figure 10](image1.png)

**Figure 10.** Rachel's DAYC Social Emotional subtest baseline phase results.

![Figure 11](image2.png)

**Figure 11.** Rachel's DAYC Social Emotional subtest PT/intervention phase results.

In the final phase, follow-up, Rachel continued to be assessed with the Social Emotional subtest, while no longer receiving PT intervention. The data from this phase demonstrates a mean level of 96.67 (range 94-98), with a high downward trend, and low
variability (see Figure 12). The trend line indicated a relationship with an effect size of 
\[ R^2 = .75, \; (r = .87) \]. Results indicate a significant relationship between Rachel's performance on the Social Emotional subtest of DAYC with the removal of the PT intervention.

![Graph showing trend line with \( R^2 = .75 \) and \( r = .87 \)]

*Figure 12. Rachel's DAYC Social Emotional follow-up phase results.*

**Gesell Developmental Observation Results**

The first administration of the instrument was given prior to the baseline phase and a developmental quotient of three and a half years was measured with her chronological age being four years and three months. The second administration (posttest) was conducted after the 11\(^{th}\) week of the study after the 8 week intervention phase. This posttest administration yielded a developmental quotient of four and a half years, with her chronological age being four years and seven months. Results indicate improvement over time in Rachel's developmental quotient as measured by the Gesell Developmental Observation. Figure 13 graphically illustrates these results.
Parent Data

Child Behavior Checklist

Rachel's mother completed the CBCL assessments at two separate occurrences during the study's phases: pretest and posttest. Pretest data was collected during the first week of the baseline phase and results indicate Rachel's mother rated Rachel's Internalizing ($T$-score = 59), Externalizing ($T$-score = 52), and Total Problems ($T$-score = 56) behavior in the nonclinical range. The posttest results indicate nonclinical results across all three scales of Internalizing ($T$-score = 49) Externalizing ($T$-score = 39), and Total Problems ($T$-score = 42). Although the $T$-scores from both administrations were assessed in the nonclinical range, the $T$-scores decreased on the posttest administration indicating a decrease in measured behavior problems. Data are graphically represented in Figure 14.
**Parenting Stress Index**

Additionally, Rachel’s mother rated her relationship with Rachel using the PSI. Two administrations of the PSI occurred at the same intervals as the CBCL, including: pretest (during first week of baseline phase), and posttest (occurring after the 8 PT session during the intervention phase (see Figure 15). Pretest results indicated Rachel’s mother rated the Child Domain in the nonclinical range (T-score = 98), while rating the Parent Domain (T-score = 168) and Total Stress Domains (T-score = 266) were rated in the clinical range. The posttest administration yielded nonclinical results in the Child Domain (T-score = 114), and clinical results in the Parent Domain (T-score = 180) and Total Stress Domain (T-score = 294).
Participant 2: Brian

Brian is a five-year-old boy who qualified for participation in this study due to an assessed Gesell Developmental Observation age of four years, one year below his chronological age of five years and seven months. Brian lives with his biological mother and two younger siblings. His parents are separated and he visits his biological father every other weekend and two days during the week. Brian’s mother reported a history of domestic violence between herself and Brian’s father, and paternal history of bipolar disorder. Brian witnessed the abuse of his mother by his father throughout his early childhood. His parents have been separated for the past four months with plans to divorce.

Brian’s mother reported normal pregnancy and delivery without complications. Developmental milestones were met within typical guidelines. Brian is under a physician’s care for seizures that began approximately one year ago, and currently takes an oxcarbazepine anti-seizure medication (130 mg) daily to prevent their
occurrence. Brian’s mother reported his strengths are being a loving and caring child who is full of energy. Brian’s mother reported concerns for his difficulty adjusting to changes in his routine, impulsivity, aggressive behavior, and “slow learning.” Brian often hits and kicks his siblings and his peers when frustrated. He experiences difficulty responding to direction and limit setting. He becomes noncompliant and angry when he does not get his way. She reported Brian requires frequent prompting and redirection to stay on task and often will not do his work unless he is “pushed.” Brian received counseling services for two months during the past year, but during this study received no outside mental health intervention or treatment.

Visual Analysis of Brian’s DAYC Cognitive Subtest Results across All Phases

This section includes the averaged scores from the data across the three phases of baseline, intervention (PT), and follow-up on the DAYC Cognitive subtest.

Brian participated in three weeks of baseline, eight weeks of once weekly PT, and three weeks of a no-intervention follow-up phase. Figure 16 displays a graphical representation of the standard scores for Brian’s performance on the Cognitive subtest for the DAYC. The graph demonstrates that the level (mean) of the intervention phase increased from the baseline phase. Also, evident is the decrease in level during the follow-up phase. In Phase 1, the mean level is 72; in Phase 2, the mean level is 80.75; the mean level in Phase 3 is 79.33. The increase in level during the intervention (PT) phase indicated that Brian’s performance on the Cognitive subtest improved while receiving PT and his scores decreased when the PT intervention was removed. The analyses of level indicates improvement in Brian’s performance, and upon Kennedy’s
(2005) recommendations additional calculations of trend were conducted. The trend line was calculated and displayed in Figure 16. The trend line for Brian indicated high upward trend through visual analysis. The least squares regression calculation is interpreted as a large relationship between the three phases and time indicated by $R^2 = .33$ ($r = .58$).

The data across the three phases of Brian’s performance on the DAYC Cognitive subtest indicated a low amount of variability, which Kennedy (2005) described as the extent to which the individual data points vary from the trend line. Graphical illustration indicates that most of Brian's data fit cleanly to the trend line. To provide an even clearer picture of the relationship between intervention and time, the trend and level are useful indicators.

![Figure 16. Brian’s DAYC Cognitive subtest combined phase overall results.](image)

**DAYC Cognitive Subtest Individual Phase Analysis**

After analyzing the data for the Cognitive subtest of the DAYC for Brian across all
phases together, each separate phase was analyzed for level, trend and variability. The three data points of the baseline phase indicated a level (mean) of 72 (range 70-73), a flat trend with a trend line of $r \leq .01$, with an effect size of $R^2 < .01$ interpreted as no effect and moderate variability (see Figure 17). No effect size indicates that there was no relationship between baseline time and results on the Cognitive subtest. Although, research recommends establishing a stable baseline in single case design (Kennedy, 2005) before implementing the treatment phase, in the case of counseling research, clinically it was problematic to withhold treatment in the hopes of establishing a stable baseline.

![Figure 17. Brian’s DAYC Cognitive subtest baseline phase results.](image)

The data from the second phase, PT/intervention, revealed a level (mean) of 80.75 (range 73-87), moderate variability, and high upward trend with a trend line of $r = .57$, with an effect size of $R^2 = .32$ interpreted as a large effect size (see Figure 18). The trend line indicated a large effect size according to Cohen’s (1988) guidelines, indicating a large relationship between PT intervention over time and Brian’s performance on the Cognitive subtest.
In the final phase, follow-up, Brian continued to be assessed with the Cognitive subtest, while no longer receiving PT intervention. The data from this phase demonstrates a level (mean) of 79.33 (range 72-84), with a high downward trend, and low variability (see Figure 19). The trend line indicated a relationship of $r = .93$, with an effect size of $R^2 = .87$, interpreted as a large effect size. Results indicate a significant relationship between Brian’s performance on the Cognitive subtest of DAYC with the removal of the PT intervention.

Figure 19. Brian’s DAYC Cognitive subtest follow-up phase results.
Visual Analysis of Brian’s DAYC Communication Subtest Results across All Phases

This section includes Brian’s averaged scores from the data across the three phases of baseline, intervention (PT), and follow-up on the DAYC Cognitive subtest.

Figure 20 displays a graphical representation of the standard scores for Brian’s performance on the Communication subtest for the DAYC. The graph clearly demonstrates the mean level of the intervention phase increased from the baseline phase. Also, evident is the decrease in level during the follow-up phase. In Phase 1, the mean level is 62; in Phase 2, the mean level is 79.36; the mean level in Phase 3 is 77.67. The increase in level during the intervention (PT) phase indicated that Brian’s performance on the Communication subtest improved while receiving PT and his scores decreased when the PT intervention was removed. The analyses of level indicates improvement in Brian’s performance, and upon Kennedy’s (2005) recommendations additional calculations of trend were conducted. The trend line was calculated and displayed in Figure 20. The trend line for Brian indicated large upward trend through visual analysis. The least squares regression calculation of $r = .61$ indicated a large relationship between the three phases and time, with an effect size of $R^2 = .37$.

The data across the three phases of Brian’s performance on the Communication subtest indicated a moderate amount of variability, which Kennedy (2005) described as the extent to which the individual data points vary from the trend line. Graphical illustration indicates that not all of Brian's data fit cleanly to the trend line, which may make it more difficult to interpret. To provide a clearer picture of the relationship between intervention and time, the trend and level are useful indicators.
DAYC Communication Subtest Individual Phase Analysis

After analyzing the data for the Communication subtest of the DAYC for Brian across all phases together, each separate phase was analyzed for level, trend and variability. The three data points of the baseline phase indicated a level (mean) of 62 (range 61-63), a moderate upward trend with moderate variability, and a trend line of \( r = .5 \), with an effect size of \( R^2 = .25 \) interpreted as a large effect size (see Figure 21).
The data from the second phase, intervention, revealed a level (mean) of 79.36 (range 65-91), a high upward trend, and low variability, with a trend line of $r = .52$, with an effect size of $R^2 = .27$, interpreted as a large effect size (see Figure 22). The trend line indicated a large effect size according to Cohen’s (1988) guidelines, indicating a strong relationship between PT intervention over time and Brian’s performance on the DAYC Communication subtest.

![Figure 22. Brian’s DAYC Communication subtest PT/intervention results.](image)

In the final phase, follow-up, Brian continued to be assessed with the DAYC Communication subtest, while no longer receiving PT intervention. The data from this phase demonstrates a level (mean) of 77.67 (range 72-84), with a high downward trend, and low variability (see Figure 23). The trend line indicated a large relationship of $r = .99$, with an effect size of $R^2 = .99$, interpreted as a large effect size. Results indicate a significant relationship between Brian’s performance on the Communication subtest of DAYC with the removal of the PT intervention.
Figure 23. Brian’s Communication subtest follow-up phase.

Visual Analysis of Brian’s DAYC Social Emotional Subtest Results across All Phases

This section includes Brian’s averaged scores from the data across the three phases of baseline, intervention (PT), and follow-up on the DAYC Social Emotional subtest.

Figure 24 displays a graphical representation of the standard scores for Brian’s performance on the Social Emotional subtest for the DAYC. The graph clearly demonstrates the level (mean) of the intervention phase increased from the baseline phase. Also, evident is the slight decrease in level during the follow-up phase. In Phase 1, the mean level is 60.3; in Phase 2, the mean level is 88.9; the mean level in Phase 3 is 88.7. The increase in level during the intervention (PT) phase indicated that Brian’s performance on the Social Emotional subtest improved while receiving PT and his scores slightly decreased when the PT intervention was removed. The analyses of level indicates improvement in Brian’s performance, and upon Kennedy’s (2005) recommendations, additional calculations of trend were conducted. The trend line was
calculated and displayed in Figure 24. The trend line for Brian indicated high upward trend through visual analysis. The least squares regression calculation of $r = .79$ indicated a large relationship between the three phases and time with an effect size of $R^2 = .62$.

Figure 24. Brian’s DAYC Social Emotional subtest combined phase results.

The data across the three phases of Brian’s performance on the Social Emotional subtest indicated a moderate amount of variability, which Kennedy (2005) described as the extent to which the individual data points vary from the trend line. Graphical illustration indicates that not all of Brian’s data fit cleanly to the trend line, which may make it more difficult to interpret. To provide a clearer picture of the relationship between intervention and time, the trend and level are useful indicators.

**DAYC Social Emotional Subtest Individual Phase Analysis**

After analyzing the data for the Social Emotional subtest of the DAYC for Brian across all phases together, each separate phase was analyzed for level, trend and variability. The three data points of the baseline phase indicated a level (mean) of 60.3
(range 59-62), a high downward trend, and moderate variability, with a trend line of $r = .65$, with an effect size of $R^2 = .43$ interpreted as a large effect size (see Figure 25).

![Figure 25. Brian’s DAYC Social Emotional baseline phase results.](image)

The data from the second phase, the intervention phase, revealed a level (mean) of 88.9 (range 74-105), a high upward trend, low variability, with a high trend line of $r = .84$, with an effect size of $R^2 = .88$ interpreted as a large effect size, and low moderate variability among data points (see Figure 26). The trend line indicated a large effect size according to Cohen’s (1988) guidelines, indicating a strong relationship between PT intervention over time and Brian’s performance on the Social Emotional subtest.

![Figure 26. Brian’s DAYC Social Emotional subtest PT/intervention phase.](image)
In the final phase, follow-up, Brian continued to be assessed with the Social Emotional subtest, while no longer receiving PT intervention. The data from this phase demonstrates a level (mean) of 88.7 (range 80-105), with a high downward trend, and minimal variability. The trend line indicated a large relationship with an effect size of $R^2 = .99$ ($r = .99$) (see Figure 27). Results indicate a significant relationship between Brian’s performance on the Social Emotional subtest of DAYC with the removal of the PT intervention.

![Figure 27. Brian’s DAYC Social Emotional subtest follow-up phase results.](image)

Brian was administered the pretest Gesell Developmental Observation prior to the baseline phase. Results yielded a developmental quotient of four year when his chronological age of five years and seven months. The posttest administration occurred after the eighth PT session of the intervention phase and results yielded a developmental quotient of five years, with his chronological age being five years ten months (see Figure 28).
Figure 28. Brian’s Gesell Developmental Observation pre- and posttest results.

**Parent Data**

*Child Behavior Checklist*

Brian’s mother completed the CBCL assessments at three separate occurrences during the study: pretest, midpoint, and posttest. Pretest data was collected during the first week of the baseline phase and results indicate Brian’s mother rated his Internalizing behavior (T-score = 65), Externalizing behavior (T-score = 73), and Total Problem (T-score = 72) scales in the clinical range. During the mid-point data collection, given during Week 4 of the intervention phase, Brian’s mother rated his Internalizing behavior (T-score = 55) scale in the nonclinical range, his Externalizing behavior (T-score = 70) in the clinical range, and his Total Problem scale (T-score = 72) was rated in the borderline range. Finally, the posttest administration which occurred after the eighth week of the intervention phase yielded results indicating nonclinical results in Internalizing problems (T-score = 43), Externalizing problems (T-score = 57)
and the Total Problem scale ($T$-score = 50), indicating improvement from the previous two administrations. Data are graphically represented in Figure 29.

Figure 29. Brian’s CBCL scores pretest, mid-point, and posttest results.

**Parenting Stress Index**

Additionally, Brian’s mother rated her relationship with Brian using the PSI. Three administrations of the PSI occurred at the same intervals as the CBCL, including: pretest (during first week of baseline phase), mid-point (during the fourth week of the intervention phase), and finally, posttest (occurring after the eight PT session during the intervention phase. Pretest results indicated Brian’s mother rated the Child Domain ($T$-score = 139) in the clinical range, while rating the Parent Domain ($T$-score = 114) and Total Stress ($T$-score = 253) Domain in the nonclinical range. During the mid-point administration Brian’s mother rated the Child Domain ($T$-score = 139) and the Total Stress Domain ($T$-score = 268) in the clinical range, and the Parent Domain ($T$-score = 129) in the nonclinical range. The posttest administration yielded nonclinical results across all domains of Child Domain ($T$-score = 101), Parent Domain ($T$-score = 97), and
Total Stress Domain ($T$-score = 198). Improvement was noted in the posttest administration in the reduction of parenting stress across all domains. Figure 30 graphically illustrates these results.

![Graph illustrating stress scores]

*Figure 30. Brian's PSI pretest, midpoint, and posttest results.*

**Participant 3: Nate**

Nate is a three years, three month old child who qualified for participation in this study due to an assessed Gesell Developmental Observation age of two and a half years, six months below his chronological age. He lives with his adoptive mother and father, his three adoptive siblings, and his biological younger brother. Nate and his younger brother were removed from their biological mother due to physical abuse and neglect and were adopted by their current parents. Early medical and developmental history is limited due to the adoption process. His parents reported strengths in the areas of being affectionate, playful, and a loving child. Nate has a history of physical aggression, disruption in attachment, and excessive impulsivity. Nate often hits and kicks his siblings. There are times when his behavior is erratic and unpredictable. He
has difficulty getting along with his siblings and peers, and often does not follow directions. His parents report a high degree of energy, distractibility, and inattentiveness in Nate’s behavior. He often refuses to comply with directions, and runs away from parents, regardless of the safety of the situation. Developmentally, Nate is reported to have delays in meeting developmental tasks such as toilet training, speech/language development, and self-control. He has not been treated for any medical or behavioral difficulties. Nate’s father reported plans for future testing with the school district’s preschool program for symptoms consistent with attention deficit/hyperactivity disorder (ADHD). His parents’ biggest concerns are in the areas of discipline, and aggression.

Visual Analysis of Nate’s DAYC Cognitive Subtest Results across All Phases

This section includes Nate’s averaged scores from the data across the three phases of baseline, intervention (PT), and follow-up on the DAYC Cognitive subtest.

Figure 31 displays a graphical representation of the standard scores for Nate’s performance on the Cognitive subtest for the DAYC. The graph clearly demonstrates the level (mean) of the intervention phase increased from the baseline phase. Also, evident is the decrease in level during the follow-up phase. In Phase 1, the mean level is 76.66; in Phase 2, the mean level is 82.5; the mean level in Phase 3 is 72.66. The increase in level during the intervention (PT) phase indicated that Nate’s performance on the Cognitive subtest improved while receiving PT and his scores decreased when the PT intervention was removed. The analyses of level indicates improvement in Nate’s performance, and upon Kennedy’s (2005) recommendations, additional calculations of trend were conducted. The trend line was calculated and displayed in
Figure 31. The trend line for Nate was analyzed visually as flat and low variability. The least squares regression calculation is interpreted as a small relationship between the three phases and time indicated by $R^2=.004$ ($r=.06$).

![Figure 31. Nate’s DAYC Cognitive subtest combined phase results.](image)

The data across the three phases of Nate’s performance on the DAYC Cognitive subtest indicated a low amount of variability, which Kennedy (2005) described as the extent to which the individual data points vary from the trend line. Graphical illustration indicates that most of Nate’s data fit cleanly to the trend line. To provide an even clearer picture of the relationship between intervention and time, the trend and level are useful indicators.

**DAYC Cognitive Subtest Individual Phase Analysis**

After analyzing the data for the Cognitive subtest of the DAYC for Nate across all phases together, each separate phase was analyzed for level, trend and variability. The three data points of the baseline phase indicated a level (mean) of 76.66 (range 76-77),
a high upward trend low variability, with a trend line of \( r = .87 \), with an effect size of \( R^2 = .75 \) interpreted as a large effect size (see Figure 32).

![Graph](image)

**Figure 32.** Nate’s DAYC Cognitive subtest baseline phase results.

The data from the second phase, PT/intervention, revealed a level (mean) of 82.5 (range 77-90), moderate variability, and high upward trend with a trend line of \( r = .75 \), with an effect size of \( R^2 = .56 \) interpreted as a large effect size (see Figure 33). The trend line indicated a large effect size according to Cohen’s (1988) guidelines, indicating a large relationship between PT intervention over time and Nate’s performance on the Cognitive subtest.

![Graph](image)

**Figure 33.** Nate’ DAYC Cognitive PT/intervention phase results.
In the Final phase, follow-up, Nate continued to be assessed with the Cognitive subtest, while no longer receiving PT intervention. The data from this phase demonstrates a level (mean) of 72.66 (range 70-77), with a high downward trend, and low variability (see Figure 34). The trend line indicated a large relationship of $r = .92$, with an effect size of $R^2 = .85$, interpreted as a large effect size. Results indicate a high relationship between Nate’s performance on the Cognitive subtest of DAYC with the removal of the PT intervention.

Figure 34. Nate’s DAYC Cognitive subtest follow-up/no intervention phase results.

Visual Analysis of Nate’s DAYC Communication Subtest Results across All Phases

This section includes Nate’s averaged scores from the data across the three phases of baseline, intervention (PT), and follow-up on the DAYC Communication subtest.

Figure 35 displays a graphical representation of the standard scores for Nate’s performance on the Communication subtest for the DAYC. The graph clearly...
demonstrates the level (mean) of the intervention phase increased from the baseline phase. Also, evident is the decrease in level during the follow-up phase. In Phase 1, the mean level is 70; in Phase 2, the mean level is 73.8; the mean level in Phase 3 is 59.33. The increase in level during the intervention (PT) phase indicated that Nate’s performance on the Communication subtest improved while receiving PT and his scores decreased when the PT intervention was removed. The analyses of level indicates improvement in Nate’s performance, and upon Kennedy’s (2005) recommendations, additional calculations of trend were conducted.

The trend line was calculated and displayed in Figure 35. The trend line for Nate indicated small downward trend through visual analysis. The least squares regression calculation of $r = .18$ indicated a small relationship between the three phases and time with an effect size of $R^2 = .03$.

The data across the three phases of Nate’s performance on the Communication subtest indicated a low amount of variability, which Kennedy (2005) described as the extent to which the individual data points vary from the trend line. To provide a clearer...
picture of the relationship between intervention and time, the trend and level are useful indicators.

**DAYC Communication Subtest Individual Phase Analysis**

After analyzing the data for the Communication subtest of the DAYC for Nate across all phases together, each separate phase will be analyzed for level, trend and variability. The three data points of the baseline phase indicated a level (mean) of 70 (range 63-75), a moderate upward trend with moderate variability (See Figure 36). The trend line of \( r = .24 \), indicated a small effect size of \( R^2 = .06 \) interpreted as a small effect size. Figure 36 graphically illustrates this analysis.

![Figure 36. Nate’s DAYC Communication subtest baseline results.](image)

The data from the second phase, intervention, revealed a level (mean) of 73.8 (range 59-85), a high upward trend, and low variability, with a trend line of \( r = .73 \), with an effect size of \( R^2 = .53 \), interpreted as a large effect size (see Figure 37). The trend line indicated a large effect size according to Cohen’s (1988) guidelines, indicating a strong relationship between PT intervention over time and Nate’s performance on the
Communication subtest.

Figure 37. Nate’s DAYC Communication subtest PT/intervention phase.

In the final phase, follow-up, Nate continued to be assessed with the Communication subtest, while no longer receiving PT intervention. The data from this phase demonstrates a level (mean) of 59.33 (range 55-60), with a high downward trend, and low variability (see Figure 38). The trend line indicated a large relationship with an effect size of $R^2 = .98 \ (r = .99)$. Results indicate a significant relationship between Nate’s performance on the Communication subtest of DAYC with the removal of the PT intervention.

Figure 38. Nate’s DAYC Communication follow-up phase results.
Visual Analysis of Nate’s DAYC Social Emotional Subtest
Results across All Phases

This section includes Nate’s averaged scores from the data across the three phases of baseline, intervention (PT), and follow-up on DAYC Social Emotional subtest.

Figure 39 displays a graphical representation of the standard scores for Nate’s performance on the Social Emotional subtest for the DAYC. The graph clearly demonstrates the level (mean) of the intervention phase increased slightly from the baseline phase. Also evident is the decrease in level during the follow-up phase. In Phase 1, the mean level is 74.7; in Phase 2, the mean level is 75.75; the mean level in Phase 3 is 68.67. The increase in level during the intervention (PT) phase indicated that Nate’s performance on the Social Emotional subtest improved while receiving PT and his performance decreased when the PT intervention was removed. The analyses of level indicates improvement in Nate’s performance, and upon Kennedy’s (2005) recommendations, additional calculations of trend were conducted.

Figure 39. Nate DAYC Social Emotional subtest combined phase results.

The trend line was calculated and displayed in Figure 39. The trend line for Nate
indicated moderate downward trend through visual analysis. The least squares regression calculation of $r = .42$ indicated a moderate relationship between the three phases and time with an effect size of $R^2 = .18$.

The data across the three phases of Nate’s performance on the Social Emotional subtest indicated a low amount of variability, which Kennedy (2005) described as the extent to which the individual data points vary from the trend line. Graphical illustration indicates that most of Nate’s data fit cleanly to the trend line, but to provide a clearer picture of the relationship between intervention and time, the trend and level are useful indicators.

**DAYC Social Emotional Subtest Individual Phase Analysis**

After analyzing the data for the Social Emotional subtest of the DAYC for Nate across all phases together, each separate phase will be analyzed for level, trend and variability. The three data points of the baseline phase indicated a level (mean) of 74.7 (range 68-80), a high upward trend, and low variability, with a trend line of $r = .98$, with an effect size of $R^2 = .96$ interpreted as a large effect size (see Figure 40).

![Figure 40. Nate’s DAYC Social Emotional subtest baseline phase.](image-url)
The data from the second phase, intervention, revealed a level (mean) of 75.75 (range 70-78), a moderate downward trend, moderate variability, with a trend line of $r = 0.40$, with an effect size of $R^2 = 0.16$ interpreted as a small effect size. The trend line indicated a small effect size according to Cohen’s (1988) guidelines, indicating a low relationship between PT intervention over time and Nate’s performance on the Social Emotional subtest. Figure 41 illustrates this phase.

![Figure 41](image)

**Figure 41.** Nate’s DAYC Social Emotional subtest PT/intervention phase results.

In the final phase, follow-up, Nate continued to be assessed with the Social Emotional subtest, while no longer receiving PT intervention. The data from this phase demonstrates a level (mean) of 68.67 (range 66-72), with a high downward trend, and moderate variability. The trend line of $r = 0.42$, with an effect size of $R^2 = 0.18$, is interpreted as a medium effect size. Results indicate a significant relationship between Nate’s performance on the Social Emotional subtest of DAYC with the removal of the PT intervention.

Nate was administered the Gesell Developmental Observation once (pretest) prior to the baseline phase, and once (posttest) following the eleventh week of the study. The pretest yielded a developmental quotient of two and a half years, which is
one year below his chronological age of three years and three months. Nate’s posttest results yielded a developmental quotient of three years, with chronological age being three years and six months. Results indicate a six month improvement in Nate’s developmental quotient after receiving eight weeks of the PT intervention phase. Figure 43 graphically illustrates these results.

Figure 42. Nate’s DAYC Social Emotional subtest follow-up phase results.

Figure 43. Nate’s Gesell Developmental Observation results.
Parent Data

Child Behavior Checklist

Nate’s father completed three CBCL assessments at three separate occurrences during the three phases: pretest, midpoint, and posttest. Pretest data was collected during the first week of the baseline phase and results indicate Nate’s father rated Nate’s Internalizing behavior (T-score = 55) in the average range, his Externalizing behavior (T-score = 71) in the clinical range, and the Total problems scale (T-score = 63) was rated in the borderline range. During the mid-point data collection, given during week four of the intervention phase Nate’s father rated his Internalizing behavior (T-score = 56) in the average range, his Externalizing behavior (T-score = 67) in the clinical range, and his Total problem scale (T-score = 61) was rated in the borderline range. Finally, the posttest administration which occurred after the eighth week of the intervention phase yielded results indicating average (T-score = 53) Internalizing behavior, Externalizing problems (T-score = 66) in the clinical range, and the Total problem scale (T-score = 59) was rated in the average range. Improvement was noted in the posttest Total Problem scale from the previous two administrations. Although, the externalizing scale remained in the clinical range, the T-scores of each administration of this scale decreased each time data was collected. Data are graphically represented in Figure 44.
Figure 44. Nate’s CBCL pretest, midpoint, and posttest results.

**Parenting Stress Index**

Additionally, Nate’s father rated his relationship with Nate using the PSI. Three administrations of the PSI occurred at the same intervals as the CBCL, including: pretest (during first week of baseline phase), mid-point (during the fourth week of the intervention phase), and finally, posttest (occurring after the eight PT session during the intervention phase. Pretest results indicated Nate’s father rated the Child Domain (T-score = 137) and Total Stress (T-score = 260) in the Clinical Range, and the Parent Domain (T-score = 123) was rated in the nonclinical range. During the mid-point administration Nate’s father rated the Child Domain (T-score = 145) and the Total Stress Domain (T-score = 261) in the clinical range, and the Parent Domain (T-score = 116) in the nonclinical range. The posttest administration yielded clinical results in the Child Domain (T-score = 130), and Total Stress (T-score = 256), and nonclinical results for the Parent Domain (T-score = 126). The posttest administration demonstrated clinical results in the Child Domain (T-score = 130), and nonclinical results for the Parent Domain (T-score = 126), and Total Stress (T-score = 256). Improvement was
noted in the posttest administration in the Total Stress domain, in which results were rated in the nonclinical range versus the previous two administration’s ratings in the clinical range. Figure 45 graphically illustrates these results.

![Figure 45. Nate’s PSI pretest, midpoint, and posttest results.](image)

**Discussion**

The results from this study, along with both my and the therapist’s clinical observations provide information regarding the impact of CCPT on the development of young children. A single case design was used to demonstrate causal relations between different conditions and their effects on performance over time. A summary of each of the three participants’ results along with relevant clinical observations will be provided in this section. Additionally, limitations to this type of design and study will be provided as well as implications for future research with this population and design.
Participant 1 Rachel

Rachel entered the study with a chronological age of four years and three months, and a pretest developmental quotient from the Gesell Developmental Observation of three and a half years. After participating in eight weeks of PT intervention, she was reassessed and her developmental quotient was measured at four and a half years, which was consistent with her then current chronological age of four years and six months. Rachel was assessed weekly throughout the entire three phases of the study of baseline, intervention, and follow-up, with the Developmental Assessment of Young Children (DAYC) subtests of Cognitive, Communication, and Social Emotional. Rachel’s mean level for the three phases include: Cognitive baseline, 80.67; Cognitive intervention, 91.25; Cognitive follow-up, 81.33; Communication baseline, 60.33, Communication intervention, 60.75; Communication follow-up, 57.67; and Social Emotional baseline, 97.33; Social Emotional intervention, 100.37, and Social Emotional follow-up, 96.67. Results from these assessments demonstrated improvement in her performance on all three subtests in terms of her mean level performance. Across all three subtests, Rachel demonstrated a decrease in performance once the PT intervention was removed. Rachel’s parent data including the Child Behavior Checklist (CBCL) and Parenting Stress Index (PSI) demonstrated nonclinical results across the behavioral scales on the CBCL, and clinical levels of stress measured in the Parent Domain and Total Stress Domain on the PSI at both pretest and posttest.

Rachel initially was quite timid when entering my room for the weekly assessment with the DAYC. She warmed up to me after two weeks and began
asserting herself more by making decisions and challenging my directions. Rachel often used baby talk, but this decreased throughout the intervention phase as she gained trust in her abilities. She did not need extensive limit setting, but when limits were set, she quickly became pouty and sullen, which often led to task refusal, and attempts to leave the room. Toward the end of the intervention phase, Rachel was eager to enter the room and was more easily focused on the presented tasks. During the follow-up phase, Rachel appeared sullen that she was not going to the playroom for her session, and she refused some tasks initially, but with encouragement she completed the tasks.

Rachel’s therapist noted developmental and emotional changes throughout the intervention phase. Rachel initially was quiet and withdrawn, although focused in her play. She gradually warmed to the therapist and engaged her in her play. Rachel sustained focused play, typically involving activities requiring mastery. She was hesitant to go to the examiner’s room after her play sessions toward the latter part of the intervention phase, and at times refused to leave the playroom. Rachel responded to encouragement and facilitative response such as reflection of feelings and over time, task refusal decreased.

Participant 2: Brian

Brian entered the study with a chronological age of five years and seven months, and a pretest developmental quotient from the Gesell Developmental Observation of four years. After completing eight weeks of intervention phase, his posttest developmental quotient was measured as five years, while his chronological age was five years and ten months. He was assessed weekly throughout the entire three phases.
of the study of baseline, intervention, and follow-up, with the DAYC subtests of Cognitive, Communication, and Social Emotional. His mean level scores for all three phases are as follows: Cognitive baseline, 72; Cognitive intervention, 80.75; Cognitive follow-up, 79.33; Communication baseline, 62; Communication intervention, 79.36, and Communication follow-up, 77.67; and Social Emotional baseline, 60.3, Social Emotional intervention, 88.9, and Social Emotional follow-up, 88.7. Results indicate overall improvement in his performance on all three subtests during the PT intervention phase, with decreases in his performance once the PT intervention was removed. Brian’s parent data including the CBCL and PSI demonstrated improvement over time in all three behavioral scales of the CBCL. Brian’s mother rated his behavior as nonclinical across the three scales during posttest administration which demonstrated notable decreases from previous administrations. Brian’s mother also rated improvement in all three domains of the PSI including, Child Domain, Parent Domain, and Total Stress at time of posttest administration. She rated all three domains in the nonclinical range, noting a considerable decrease in scores from the previous two administrations.

Brian initially had limited verbal interactions with examiner. I observed Brian as cautious and withdrawn and often did not want to go with me for the scheduled assessment. He displayed some task refusal when asked to complete presented tasks. During the intervention phase, he became more verbal and appeared more animated and playful during his scheduled assessments. His speech became more coherent and audible. He became increasingly more assertive throughout the intervention. He was eager to go with me and often ran to the room for assessments. Brian often hugged me upon greeting and leaving the building. There were times during the assessments that
he often displayed behavior requiring limit setting such as throwing test items at me, and coloring on the walls. His response to limit setting varied from accepting limits with no incident; to pouting and stating he wanted to leave with his mother. Upon leaving the assessment room, he often ran out of the building despite his mother’s attempts to hold his hand. On one occasion, I observed Brian run out of the building, across the street with no regard for traffic, and climbed from the hood to the top of his mother’s van, all before his mother had a chance to catch up with him. He typically did not respond to her limit setting or redirection. I observed decreases in this behavior along with increases in his self-control, and his mother’s reports supported this as well.

Brian’s play therapist reported similar observations during his play sessions. He was often very eager to go to the playroom, but was hesitant to leave and go to the room for assessment after his session. He frequently tested limits in the form of aggressive play, and responded after several limits had been given. Brian’s therapist also noted improvement in his speech articulation and broader vocabulary.

Brian’s mother received three parent consultations during this study. She reported improvement in Brian’s behavior throughout her consultations. She reported improvement in his ability to follow directions, and his impulsivity. She acknowledged that Brian had become more talkative and active in his play with she and his siblings. Brian’s mother reported Brian was more responsive to limit setting, more affectionate towards her, and she noticed they were closer in their relationship. Brian’s mother reported an increase in her stress due to conflict with spouse regarding separation and divorce issues, but on final consultation she reported decreases in her overall stress.
Participant 3: Nate

Nate entered the study with a chronological age of three years and three months, and a pretest developmental quotient from the Gesell Developmental Observation of two and a half years. After completing eight weeks of intervention phase, his posttest developmental quotient was measured as three years, while his chronological age was three years and six months. He was assessed weekly throughout the entire three phases of the study of baseline, intervention, and follow-up, with the DAYC subtests of Cognitive, Communication, and Social Emotional. Results of his mean level scores on all during all three phases are as follow: Cognitive baseline, 76.66; Cognitive intervention, 82.5; Cognitive follow-up, 72.66; Communication baseline, 70; Communication intervention, 73.8, Communication follow-up, 59.33; Social Emotional baseline, 74.7; Social Emotional intervention, 75.75; and Social Emotional follow-up, 68.67. Results indicate overall improvement in his performance on all three subtests during the PT intervention phase, with decreases in his performance once the PT intervention was removed during the follow-up phase. Nate's parent data including the CBCL and PSI demonstrated high concern in the behavioral scales of Externalizing and Total Problems of the CBCL. Nate’s father rated his Externalizing behavior as clinical across the pretest and midpoint administrations of the CBCL. He rated improvement in the Total Problems scale during the posttest administration as the scores moved from the Borderline range to the nonclinical range. Nate’s father rated improvement in the Total Stress Domain on the PSI during the posttest administration when compared to the ratings from the previous two administrations.
Nate was reluctant to go with me to the evaluation room throughout the entire study. He often ran and hid and had to be redirected by his father, which was somewhat appropriate given his young age. On other occasions, Nate grabbed his father’s leg and would not let go, for several minutes while examiner offered encouragement for him to come to the assessment room. When Nate finally entered the assessment room, his behavior was erratic. Some days he was more compliant than others. When presented with tasks, he did not want to complete, he often spit at me or threw items from the table across the room and onto the floor. He often licked the toys and other materials along with the two-way observation mirror in the assessment room. Nate’s speech was often difficult to understand, but toward the end of the intervention phase his speech was much more articulate and coherent. He often drooled and soiled his diaper during the assessment or preceding PT session. Improvement was noted in Nate’s compliance with directions and ability to change tasks and activities. I observed Nate playing more cooperatively in the waiting room with his siblings instead of the initial aggressive behavior noted at the beginning of the study. He appeared to exhibit more control of his body or self control and less aggressive behavior toward me, siblings, and toys/materials.

Nate’s therapist reported observations similar to mine: though Nate was typically very eager to go to the playroom. Nate tested limits with the therapists and often threw sand and objects at her during his play. She reported a noticeable difference in his ability to communicate with words and articulate his needs during his play session. Nate typically appeared happy and excited, even when playing aggressively and testing limits.
Nate’s father reported ongoing stress related to his concerns for parenting Nate, as well as his other four children. He reported noticing improvement in Nate’s speech and communication skills. He reported noticing this, especially when Nate was with his extended family. Nate’s father reported a decrease in separation issues and Nate showed improvement in his ability for self-control, and following directions, and accepting limits.

Summary of All Three Participants Findings

Each of the three participants serve as their own control group in this single case analysis and their results cannot be compared to each other; however, the following summarization describes the findings of the results along with similarities and differences among the participant’s results. All three of the participants demonstrated improvement on the Gesell Developmental Observation after receiving the PT intervention. Additionally, marked improvement was noted across the three areas measured by the DAYC by all three participants; however, some results are difficult to interpret due to large effect sizes and high variability during the baseline phase. The DAYC results lend support to the results from Gesell Developmental Observation. These results suggest the need for an extension of the baseline phase to establish a stable pattern. However, as described previously, it is problematic to withhold treatment to those in need in the hopes of establishing a stable baseline. It is important to note the particularly strong relationship between the intervention and the participants’ performance on the DAYC. Once the treatment was removed, the three participants’ performance on the three subtests of the DAYC decreased considerably. These results
demonstrate the robust causal relationship between the intervention and effect and strengthens the internal validity and generalizability of the single case analysis (Sharpley, 2007); however, the inconsistent baseline results may limit this generalizability.

The CBCL and PSI results for all three participants demonstrated mixed results, thus indicating the benefits of this short term treatment on development, but not necessarily as beneficial for behavioral concerns. Because there was such a decrease in DAYC subtest scores across all three participants during the follow-up phase, and only mixed results on the CBCL and PSI, results may indicate the need for longer treatment with this population to determine specific effects on behavior. This study seems to support research that reports although PT is effective in the short term, benefits increase up to 40 sessions (Bratton et al., 2005). Possibly these results suggest that younger children may benefit from greater than eight CCPT sessions to reach optimal benefits of the treatment on behavioral outcome measures. The three participants involved in this study, were recommended to continue with CCPT, and based on therapist’s evaluation they were not ready to terminate services after eight weeks of the intervention phase. This could explain the decrease in performance on the developmental measures during the follow-up phase, in addition to their resentment and emotional reactions during the evaluation from not being allowed to go to the playroom during the follow-up phase.

The developmental measures of the Gesell Developmental Observation and DAYC yielded increases in performance and developmental age quotients, whereas the behavioral measures of the CBCL and the PSI demonstrated mixed results of
improvement, suggesting perhaps it is difficult to compare or measure these two constructs within one study. Considering that Baker et al. (2005) found that children who do not move successfully through the stages or who exhibit delays as young as three years exhibit more behavior problems than their same age peers, it is possible that developmental changes precede behavioral changes. It could be also suggested that developmental changes are easier to observe after some of the participants emotional issues subsided to allow them to be more fully functioning or functioning closer to their chronological age.

Overall, results indicated improvement across all participants’ performance on the DAYC while receiving PT sessions (intervention phase). Although, from a single case design perspective, CCPT appeared to be an effective intervention due to the decrease in performance standard scores during the follow-up phase; from a therapeutic perspective, these results suggest the need for continued CCPT. Results from the developmental and behavioral measures are consistent with the objectives of CCPT in that the intervention was helpful to the children in the following ways: Developing more positive self-concept, assuming greater responsibility, becoming more self-directing and self-reliant, engaging in self-determined decision making, feeling a sense of control, coping, developing an internal source of evaluation, and trusting themselves (Landreth, 2002).

Implications for Future Research

The purpose of using a single case design for this study was to provide a more in depth look at the population and their progress when assessed with several
instruments, to develop a practical understanding in order to make recommendations for counseling intervention. It is important that the study be replicated in order to increase reliability and validity of the results. It became apparent through this study that eight weeks of once weekly PT intervention was not enough time to make a large impact on behavioral progress. The participants were angry and disappointed when they came to the clinic during the follow-up phase to be assessed and were not allowed to go into the playrooms. Future replication of this study may benefit from assessing children on different days or different locations from where they receive CCPT. It is possible that some of the emotional reactions that interfered with the developmental assessment were caused by their longing to go to the playroom, and their anger towards examiner for keeping them in the assessment room. This would be particularly apparent with children exhibiting willful behavior. It may be beneficial to increase the treatment phase to two times weekly when using an eight week format, or extend treatment phase to sixteen weeks to measure developmental and behavioral changes in young children. However, results seem to support the use of a CCPT intervention as a promising intervention for young children with developmental delays, even though the participants were not ready to terminate CCPT services.

Other factors to consider include the appropriateness of using single case design. The design was beneficial in focusing on single participants’ progress over time. This process allowed for the collection of multiple assessments lending a thorough and comprehensive approach of analyzing participant’s progress in terms of practical use for counseling interventions. Replication is recommended to promote reliability and validity measures. However, the literature is limited on the consistent use of this type of
design. Specifically, this research was impacted by the need for an extended baseline which is an ethical consideration for PT researchers who might continue to delay needed treatment for a child for the benefit of research design. In addition, the qualitative nature of single case design may increase the difficulty for other researchers to use the visual analysis over other design's reliance on quantitative analysis, often perceived as more reliable.

Researchers are encouraged to report their findings from single case designs in professional counseling journals to increase replication as well as increasing the potential for validation and generalizability for interventions (Sharpley, 2007). Counselors are also urged of the importance of using and reporting their results from single case designs in order to “increase the scientist-practitioner reputation of counseling and the relative status of it as a therapeutic endeavor within the overall evidence-based mental health field (Sharpley, 2007 p. 351).

Limitations

Participants in this study were chosen from a convenience sample of children listed on the waiting list of a mental health clinic. In addition, because single case design is a mixed method design that involves qualitative and quantitative procedures, generalizability may be affected. Another limitation is that treatment took place over a short period of time and the potential effects of PT may not have been realized, although the literature review includes studies of effective treatment with eight PT sessions or less. However, research also suggests there may be benefits to longer term PT treatment intervention (Bratton et al., 2005).
Additional limitations are in instrumentation. The Gesell Developmental Observation is not sensitive to small, incremental changes in development, but rather provides six-month categories of developmental ages. Limitations may exist in disregarding smaller changes in the participant's development as part of an exploratory analysis of change. In this study, this was not evident, as all three participants exhibited at least a six month developmental gain after treatment. It is possible that developmental changes may have occurred naturally over time, but results from the follow-up phases across all three participants suggest otherwise.

Conclusion

This study used a single case design to explore the relationship between individual child centered play therapy on children with developmental delays by examining its effectiveness in: 1) increasing measured developmental age; 2) reducing problematic behaviors related to developmental delays; and 3) increasing developmentally appropriate behaviors.

Young children are experiencing more stressful and often challenging environments that hinder the development of necessary competencies for early academic and social success (Coolahan, Iantuzzo, Mendez, & McDermott, 2000). Children with developmental delays, specifically intellectual disabilities, appear to be at an increased risk for developing emotional and behavioral problems (Ilg, Ames, & Baker, 1981). Increasing awareness in these areas often involves the assessment and observation of children.
A single case design was used to allow for a more in depth and qualitative experience of assessing and gathering relevant data to make better treatment decisions for children. Single case designs demonstrate causal relations between different conditions and their effects on performance over time. Data was analyzed by visual methods to compare data from the participant’s baseline and intervention phases (Sharpley, 2007). Visual inspection is used when there is continuous data for one or more participants available for observation (Kazdin, 2003).

Children have unique and varied developmental needs. Play therapy is used as a developmentally appropriate form of therapy to treat children’s emotional and behavioral difficulties (Landreth, 2002). Several research studies have demonstrated the effectiveness of PT with children experiencing various emotional, academic, and behavioral issues (Ray et al., 2001).

Humanistic-nondirective PT approaches yielded significantly larger treatment effects than other approaches (Bratton, Ray, Rhine, & Jones, 2005). Participants were three children between the ages of three and five that were assessed as performing at least six months below chronological age on the Gesell Developmental Observation. Participants were assessed weekly with both developmental and behavioral measures during the three phases of the study: baseline, intervention, and follow-up. Additionally, parents of the participants completed behavioral measures at pretest, midpoint, and posttest administrations.

The participant’s weekly standard scores were graphed and results were examined separately using visual analyses. Changes between phases: non-intervention
baseline, intervention, and non-intervention follow-up were examined; specifically, the level, trend, and variability of the data across the phases were examined.

Each of the three participants served as their own control group in this single case analysis and their results, and all three of the participants demonstrated improvement on the developmental measures after receiving the PT intervention. It is important to note the particularly strong relationship between the intervention and the participants’ performance on these developmental measures. Once the treatment was removed, the three participants’ performance on the developmental measures decreased considerably. Results from the behavioral and parent data results for all three participants demonstrated mixed results.

Results from this single case analysis suggest the need for further replication, use and reporting of single case interventions and designs, to promote the efficacy of counseling interventions and to potentially enhance the literature and research base for evidence based interventions.
### Play Therapy Skills Checklist

**Therapist:** ___________________  **Child/Age:** ___________________  **Date:** ___________  **Observer:** ___________________

<table>
<thead>
<tr>
<th>Therapist Non-Verbal Communication:</th>
<th>Too Much</th>
<th>Appropriate</th>
<th>Need More</th>
<th>None</th>
<th>Therapist Responses/ Examples</th>
<th>Other Possible Responses</th>
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<tbody>
<tr>
<td>Lean Forward/Open</td>
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<td>Appeared Interested</td>
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<td>Relaxed Comfortable</td>
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<td>Tone/Expression Congruent with Child's Affect</td>
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<td>Tone/Expression Congruent with Therapist's Responses</td>
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<tr>
<th>Therapist Responses:</th>
<th>Too Much</th>
<th>Appropriate</th>
<th>Need More</th>
<th>None</th>
<th>Therapist Responses/ Examples</th>
<th>Other Possible Responses</th>
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<td>Tracking Behavior</td>
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<td>Reflecting Content</td>
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<td>Reflecting Feelings</td>
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<td>Facilitating Decision Making/Responsibility</td>
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<td>Facilitating Creativity/Spontaneity</td>
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<td>Esteem Building/Encouraging</td>
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<td>Facilitating Relationship</td>
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<td>Enlarging the Meaning/Facilitating Understanding</td>
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<td>Succinct/Interactive</td>
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<td>Rate of Responses</td>
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**Limit Setting:**

**Child Made Contact/Connectedness:**

- Identified Themes:

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**Therapist's Strengths:**

**Areas for Growth:**
APPENDIX B

PARENT CONSULTATION PROTOCOL
Parent Consultation Protocol

1. Meet with parent at assigned time during the study.

2. Discuss current parental concerns regarding development and behavior.

3. Discuss concerns and progress noted in Play therapy session.


5. Avoid giving recommendations or advice for parental concerns until after the study is complete and directed to do so by principal researcher.
REFERENCES


