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EFFECTS OF SELF-MANAGEMENT PROCEDURE IN PRESCHOOL SETTING

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ABSTRACT

The foci of preschool curricula should not be limited to teaching children basic colors, shapes, numbers, and letters of alphabet. Also, it should not be limited to teaching children to play nicely. Ability to attend a task and to stay on task is equally important as other skills such as social skills and pre-academic skills. A multiple baseline across participants design was used to investigate the effects of a self-management procedure with video self-modeling as a training tool to teach preschool children to monitor their task engagement behaviors. The effects of the self-management procedure on these children's transition behaviors, social interactions with peers and/or adults, and aggressive behaviors were also examined. The results showed that children as young as three years and a half, through the use self-management procedure as training, can be taught to monitor their behaviors. Additionally, video self-modeling in the training component can be used to in self-management to attain better task engagement behaviors results in a general education setting for preschool children.

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CHAPTER 1

INTRODUCTION

For most children, the preschool experience is their first experience with children outside of their siblings and with adults other than their family members and/or baby sitters. Regardless, it is the first school experience that requires a more structured environment than the home environment. Preschool age children often need adults' guidance to adjust to this new environment but, to the contrary, the teacher-child ratio in most of the preschool classrooms does not allow teachers to provide such help. Most preschools and day care centers have an average teacher-child ratio of one teacher to at least 10 children for a group of 20 children (National Association for the Education of Young Children, 2005). Some preschools/centers hire assistants for teachers and others ask for volunteers to help in the classroom but most preschool classrooms have only one teacher in one classroom. Without proper guidance, preschool age children are at risk of increasing academic problems and/or behavior problems (Webster-Stratton & Reid, 2004).

Need for the Study

One purpose of education is to teach children to become independent learners. Children who constantly require assistance from an external agent may face problems in the future. Indeed, teachers cannot follow children into every setting. External behavior management systems are appropriate in some situations. However, to promote generalization and maintenance of appropriate behavior, these teacher-based systems should be faded. In addition, the external behavioral management can have several disadvantages. For example, the person on whom the child depends might not notice the

child's undesired behaviors at all times and reinforcers or prompts become associated with the appropriate behaviors (Nelson, Smith, Young, & Dodd, 1991). One method to fade teacher-based management programs is to enable the students to manage their own behaviors through a collection of techniques termed self-management. Self-management procedures are practices designed to guide children through external behavioral management and then move on to internal behavioral management. The procedures help children to be aware of what they are doing and to be aware of which behaviors are appropriate in a particular environment (Barry & Messer, 2003).

Although self-management procedures have been used with various age levels and in many different settings and have shown to be effective in improving children's academic performance and changing children's behaviors (e.g., McDougall & Brady, 1998; Koegel, Harrower, & Koegel, 1999; Todd, Horner, & Sugai, 1999; Panagopoulou-Stamatelatos & Merrett, 2000; Lee, 2001; Anctil & Degeneffe, 2003; Brooks, Todd, Tofflemoyer, & Horner, 2003), studies targeting children in the preschool level are limited. Reid, Trout, & Schartz (2005) reviewed studies related to self-management for children under age 18 with Attention Deficit/Hyperactivity Disorder between 1974 and March, 2003. The youngest participant was six year and eight month old. McDougall's reviewed (1998) research on self-management procedures targeting children with disabilities in the general education setting between 1970 and 1997. These results showed only two studies that targeted children under the age of 5.

Other studies that targeted preschool children, such as Strain, Kohler, Storey, & Danko (1994) used self-monitoring to examine preschool children with autism on social interactions issues. In the study, play behavior initiations (e.g., asking a playmate to play

trucks) and play behavior responses (e.g., responding to a request of a playmate) were taught to participants and their peers. Each participant was asked to record play behaviors by placing a foam blocks into a container. Rewards were given when a student met criterion. In 1999, Reinecke, Newman, and Meinberg employed self-management procedures with the intent to increase sharing behaviors in preschool age children with autism. These children were instructed to self-reinforce with a token each time they shared with or responded to each other. The tokens were exchanged with edible or activity reinforcers. Connell, Carta, & Baer (1993) taught preschool children with developmental delays to self-assess their performance and to recruit teacher's praise after the transition periods. A sticker was given when each child's self-assessment matched 80% of the experimenter's record.

These researchers using self-management procedures attempted to teach preschool age children different skills. The results indicated that, with some forms of reinforcement or rewards, preschool age children can learn these skills. There were comparatively few studies that focused on preschool children with disabilities. There were even fewer that focused on preschool children without disabilities. There may be several reasons for the lack of research in preschool setting with typical children. First, most of the self-management procedures were developed to improve children's academic performance. Unlike children in elementary schools, preschool children do not have academic work at school. Second, most of the authors of the published self-management research studies were researchers working with children with disabilities. Third, most of the self-management procedures were designed for older children so the procedures were

considered too complicated for preschool children. Last and the most important reason, the significance of preschool education was disregarded.

Purpose of Study

If the foci of early education are limited to teach children to play nicely with each other and to be able to name some basic colors, shapes, numbers, and alphabets then the purpose of our early childhood education is inadequate (Simner, 1983, as cited in Miller, Strain, Boyd, Jarzynka, & McFetridge, 1993). Abilities to attend a task and stay on task are as important as other skills such as social skills and pre-academic skills (De Haas-Warner, 1992). As the national standards for children's school performance are raised and standardized tests are instituted nationwide, preschool and kindergarten experiences are evaluated as one of the sources of children's school readiness (NICHD Early Child Care Research Network, 2002). According a national survey of 3,595 kindergarten teachers, when children enter kindergarten, the kindergarten teachers expected them to have some pre-academic skills, to do a lot of work independently, and to remain on-task (Rimm-Kauman, Pianta, & Cox, 2000). However, without explicit teaching, the skills of working independently or staying on task may not be learned or exhibited by every child. Underdeveloped on-task behavior (i.e., ability to stay on task) can result in unpreparedness for any pre-academic, academic skills, and social skills (De Haas-Warner, 1991). Preparing children for kindergarten and later academic success should be one of the primary goals of preschool education.

In this study, a self-management procedure was taught to preschool children with the intent to increase preschool children's on-task behaviors. The procedure included three elements: video self-modeling, self-monitoring, and self-assessing. The effects of the

procedure on the on-task behaviors of preschool children were examined. Furthermore, the effects on these children's transition behaviors, social interactions with peers and/or adults, and aggressive behaviors were investigated. The specific research question is listed below.

Research Question

What are the effects of self-management procedures with video self-modeling on preschool children's on-task behaviors, transition behaviors, social behaviors, and aggressive behaviors?

CHAPTER 2

REVIEW OF LITERATURE

This chapter contains four parts. First, the theoretical framework of self-management through three different theories – the operant conditioning theory, sociocultural theory, and social cognitive theory, that underlying self-management procedure are discussed. Second, a comparison of the differences and similarity of these three theories is described. Third, a review of literature on video self-modeling is identified, and, finally, the summary is given.

Theoretical Framework

Operant Conditioning Theory

Operant theorists believe human behaviors is the result of environmental discriminative stimuli (e.g., siren on police car or verbal command from others) and the construction of discriminative stimuli that individuals build in order to react to (e.g., work plan or new year resolution) (Gredler, 2001). In other words, discriminative stimuli serve as a signal for behavior (Pressley & McCormick, 1995; Gredler, 2001). Reinforcement is another important element of operant theory. The desired behaviors are more likely to occur in the presence of specific stimuli if the behavior is followed by the presentation of a reinforcer.

From operant theorists' view, self-management consists of five components: self-monitoring or self-recording, self-instruction or self-speech, self-evaluation or self-assessment, self-correction, and self-reinforcement (Nelson, Smith, Young, & Dodd, 1991; Mace, Belfiore, & Hutchinson, 2001).

Self-monitoring or self-recording

Self-monitoring refers to the learner observing and recording of her own behaviors, that is, the learner is aware of what he/she is doing and records some dimensions of this behavior or task (Mace, Belfiore, & Hutchinson, 2001). From operant theorists' view, the recording device, the cue for recording, the responses from others, the surrounding environment, and other elements can all serve as discriminative stimuli to help learner complete the task (e.g., learning a skill or finishing homework). For example in a practical study, Todd, Horner, & Sugai (1999) taught a 9-year-old boy to record his behaviors with a recording card in combination with a tape player. He checked on the card each time he heard a signal. The results showed a decrease in his problem behaviors and an increase on his work completion.

Self-instruction or Self-speech

Most of us probably have experienced talking to ourselves either covertly or overtly about what we are doing while working on something (e.g., learning how to drive or make a cake). These statements are termed self-instruction or self-speech. For many people, especially for some children, self-instruction is a very effective strategy when learning a new skill or working on a new task (Duarte & Baer, 1994).

In Bornstein and Quevillon's study (1976) and later Billings and Wasik's replication (1985), self-instruction was used to teach preschool children self-speech. The researchers modeled a task while talking aloud then children performed the task and talked aloud. From overt to covert, the researchers intended to increase these children's attending behaviors and positive behaviors.

The self-speech or self-instruction technique had increased these children's on-task behaviors but had little effects on changing these children's classroom behaviors. These researchers pointed out self-speech or self-instruction technique was effective in teaching a specific task or skill, however, was not effective in other behavioral change (Bornstein & Quevillion, 1976; Billings, & Wasik, 1985).

Self-instruction is a strategy that “provides discriminative stimuli that occasion specific behaviors or behavioral sequences that will lead to reinforcement.” (Mace, Belfiore, & Hutchinson, 2001, p.48) Operant theorists indicate two different types of self-instruction (Mace, Belfiore, & Hutchinson, 2001). The first type is when the person instructs him or herself to arrange the environment so he would have contact with the discriminative stimuli. For instance, you write a note to remind yourself to make coffee in the morning because by doing so can enjoy a cup of coffee on the way to work or talk your way through a difficult task so that you do not omit important steps.

The second type of self-instruction is called rule-governed behavior. It refers to listening to other people's advice or following the formal rules (e.g., laws, religious practice). In other words, the verbal stimuli or the formal rules serve as discriminative stimuli that set the occasion for the behaviors. For instance, you might be reluctant to go to a restaurant if your friend told you she got food poisoning there.

Self-evaluation or Self-assessment

Self-evaluation occurs when the learner observes and records her own behaviors then compares the behaviors to some preset criteria. For instance, a mother asks a child to put toys back into toy boxes after he has done playing. After the play time, the child puts toys into toy boxes and checks if all the toys are in the boxes.

In Connell, Carta, and Baer's study (1993), the researchers taught children clean-up/transition time rules using poster with little pictures which showed the sequence of the rules. Each child was given a booklet which had the same little pictures to assess their task after each transition. The researchers instructed each child to assess him/herself by putting happy face or sad face by each picture on the assessment booklet at the end of session. Children learned to distinguish the good work versus not-good work in accordance with the criteria and evaluated (i.e., happy face or sad face) their own work according to a preset criteria (rules for clean-up).

Self-correction and self-reinforcement

Self-correction takes place after a learner self-evaluates his or her own behaviors or task. Self-correction requires a person to modify and alter his or her performance in order to satisfy the criteria (Mace, Belfiore, & Hutchinson, 2001). Self-correction has been used as a strategy in improving students' spelling performance (e.g., Wirtz & Gardner III, 1996), acquisition of multiplication facts (e.g., Bennett & Cavanaugh, 1998), and second language learning (Kormos, 1999).

Reinforcement is described as any consequence that strengthens a behavior. In other words, reinforcement is "a stimulus that increases the frequency of a response" (Wortman, Loftus, Weaver, 1999, p.193). The reinforcer can come from other agents (e.g., parents, teachers) or it can come from the person himself which is called self-reinforcement. In the self-management procedure, self-reinforcement comes from self-assessment, self-recording, or self-administered reinforcer. For instance, in Miller, Strain, Boyd, Jarzynka, & McFetridge' study (1993), children were asked to self-monitor their behaviors during transition period (e.g., play time to small group instruction time). They

were asked to self-assess by putting thumbs up or thumbs down on their self-assessment card at the end of the transition period. While a child self-monitors each step of the task, the finished check mark, and/or the finished work serve as reinforcement for the child. The self-assessment became self-reinforcement for these children. The purpose and the goal of the self-reinforcement are to motivate learners to learn new skills and to be able to work independently.

Sociocultural Theory or Cultural Historical Theory

From sociocultural theorists' view, the self-management process is constructed from external (e.g., help from teachers) and the result is internal. The interactions between individuals is a very important element in sociocultural theory. Vygotskians believe children's cognitive development develop through the interactions with others. With adults' support, many questions and problems children encounter would be solved (Pressley & McCormick, 1995). Therefore, adults and educators should work with children on their potential development not actual development. The range between the child's potential development and the actual development is called zone of proximal development (ZPD).

When in reference to learning in the school setting, collaboration is a concept that often seen in Vygotsky's work. The word "collaboration" refers to the collaboration between children and adults or between students and teachers (Gredler, 2001). During the process of self-management, the teachers play an essential role.

The six components that list below can not be delivered without teachers' assistance. Sociocultural theorists' view of self-management should be built on these six components

– modeling, coaching, scaffolding, articulation, reflection, and exploration and they are all done with the assistance of teachers (Pressley & McCormick, 1995; Gredler, 2001).

From sociocultural theorists' view, adults play an important role in children's cognitive development. In order for children to learn new skills or do new tasks, adults have to show and explain to children how to perform a new task which is called modeling. Adults make sure children see the action and hear the instructions (Pressley & McCormick, 1995). After modeling the task, it is the child's turn to practice the task the adult demonstrated which is called coaching. Adult stays with the child, watches the child perform, and gives feedback or guidance if necessary. Scaffolding refers to teachers teaching and supporting children's development base on children's zone of proximal development (ZPD). Teachers have to understand each child's development and give assistance the children needs. Articulation serves as a form assessment (Pressley & McCormick, 1995). The teacher models the new skill then the child practice. The child explains what he or she is working on the task. Reflection represents the learner's thought on his own performance in comparison to others. The learners are encouraged to compare their own performance to that of other learners (Pressley & McCormick, 1995). The purpose of exploration is to encourage a child's independent work. With the teacher's assistance and guidance, the child is free to explore new ideas. Ultimately, the major goal of self-management process is to help children to learn to work independently.

Social Cognitive Theory or Social Learning theory

Bandura's social cognitive theory, as suggested by it is named, explains that people learn from others; learn through socializing with others; and learn through social context, that is, learning can occur through observing then modeling the behaviors of others. A

person having observed a behavior is reinforced by modeling that behavior. For instance, a child models his brother putting gel on his hair and his peers compliment him. The compliment serves as the reinforcement for the observer thus reinforcing the behavior.

Like Skinner, Bandura encourages positive reinforcement in education especially in learning a new skill. Bandura also points out the importance of aversive consequences in influencing human's behaviors. When a person is aware of the aversive consequences underlying a certain behavior, he or she most likely will not engage in this behavior.

Another important element of Bandura's social cognitive theory is that he points out the significant influence of peers. People tend to model person whom they admire. We see many live examples around us everyday, such as little girl tries to use her mother's lipsticks or teen age boys dress like Eminem the rap singer.

From social-cognitive theorists' point of view, the process of self-management involved six factors – goal setting, motivation, self-efficacy, self-observation, self-judgment or self-evaluation, and self-reaction or self-response (Pressley & McCormick, 1995; Schunk, 2001).

Self-efficacy. Self-efficacy refers to an individual's beliefs in his or her own ability to accomplish a task. Social cognitive theorists believe a person's self-efficacy has great influence on the actual performance of the person. And the person is more likely to engage in a task when he or she has high self-efficacy. A person's self-efficacy can be influenced by many things, such as the person's experience – for example, failure experience on a task can lower the self-efficacy.

Goal setting. Goal setting is one of the important characteristics the successful learners have. Setting proper and attainable goal has great influence on a person's self-

efficacy. Although the self set goal can increase the learner's self-efficacy. Young children might need adults' help setting appropriate goals for their tasks. Lee and Garvine (2003) involved a group of seven grade students in goal setting for their spelling and punctuation progress. Students assessed their own progress every week. A spelling test and a punctuation test were held at the end of the fourth week. By the end of the eight-week intervention, students showed significant improvement on their spelling and punctuation skills.

Motivation. People can learn through observation but some skills can not be performed just through observation or just the trial and error (Bandura, 1977). The mastery of a skill, from Bandura's point of view, is the observation, care instruction, and motivation. A person can observe the action, listen to the instruction but still not perform it. Motivation plays a critical role in education. Motivation can come from observing the reinforcement of others (e.g., peers or siblings) or from past experiences.

Self-observation. Self-observation is the most important element in Bandura's theory. Gredler (2001) wrote, from social cognitive theorists' view, "learning is defined as the acquisition of symbolic representations in the form of verbal or visual codes that serve as guidelines for future behavior." Bandura believes that learning is internal. It is not always being demonstrated and it does not always equal to the performance. When a person performs, self-observation then can serve to change the behaviors. For self-observation to work as guidelines to change behaviors, the performance of self-observation has to satisfy two criteria.

Schunk (2001) wrote there are two major performance criteria for self-observation to be effective. The first criterion is regularity. The behavior is to be observed continuously

so the person would have the accurate result from the observation. The second criterion is proximity. The behavior has to be closely observed in time when it occurs (Schunk, 2001).

Self-judgment or self-evaluation. Self-judgment is defined as a person's comparison between his performance and his own preset goal (Gredler, 2001; Schunk, 2001). It involves the acquisition of the criteria or standards that use for comparing and the attainment of the reflective assessment. There are four aspects in the process of self-judgment (Schunk, 2001). First, in order for the learner to compare and evaluate the performance, the goals or the standards have to be decided. Second, the explicitness, proximity, and difficulty level of the standards or goals have great influences the judgment and the learner's self-efficacy. Third, the attainment of task and goal need to be addressed. Adults' feedback can motivate children and to raise the attainment level (Schunk, 2001). Fourth, the typical attributions for achieving the goal are ability and effort of the learner, the difficulty of the task (Gredler, 2001; Schunk, 2001). From the description of this element, self-judgment, we can see the importance of the proper and attainable goal setting.

Self-reaction or self-response. Self-reaction is the next step of self-judgment. After comparing the performance and the preset goals, the action should be taken by the learner. Bandura (1986) proposed the self-reactions to the progress of the preset goal have great influence on motivation of the learner. Learners who compare the development of the task and the preset goal then make decision about the progress and satisfaction are more likely to continue and complete the tasks (Schunk, 2001).

A Comparison of the Operant Theory, Sociocultural Theory,
and Social Cognitive Theory

Though researchers may have different opinions about the causal mechanism of self-management, their goals are the same, to teach a child to be an active participant in the child's own learning. The child might learn to observe others performing a task or behaviors, to set the goal, to self-instruct the task (i.e., appropriate behaviors or math problems), to monitor the process, to evaluate the process/result, to compare his task to others, to compare his performance to the preset goal, to correct the error, to self-administer reinforcement, and to explore new ideas. The adult might choose the appropriate task, help the child in setting a goal, model the task/behaviors, and coach the process.

Some of these components of self-management procedures are carried out by the adult and some are carried out by the child. Some are the components of operant conditioning theory, some are the components of sociocultural theory, and some are the components of social cognitive theory. Each of the three important theories underlying the self-management procedures, namely, operant conditioning theory, sociocultural theory, and social cognitive theory, has different focuses. These different focuses can be explained through five categories, particularly, (1) components of the procedure, (2) external to internal learning process, (3) motivator, (4) self-awareness, and (5) how children acquire the procedure. Table 1. displays the three theories compared by five categories.

Table 1. A comparison of three theoretical views in self-management procedure

	Operant Conditioning Theory	Sociocultural Theory	Social Cognitive Theory
Theorist	B. F. Skinner	Lev Vygotsky	Albert Bandura
Year	1953	1962	1977, 1986
Components	<ul style="list-style-type: none"> • self-monitoring or self-recording • self-instruction or self-speech • self-evaluation or self-assessment • self-correction • self-reinforcement 	<ul style="list-style-type: none"> • modeling • coaching • scaffolding • articulation • reflection • exploration 	<ul style="list-style-type: none"> • goal setting • motivation • self-efficacy • self-observation • self-judgment or self-evaluation • self-reaction or self-response
External to internal learning process	Modeling and reinforcement	Adult dialogue mediates internalization of children's speech	Observing and enactive mastery process
Motivator	Reinforcement stimuli	Social context	Self-efficacy and goal-setting
Self-awareness	Do not emphasized on learners' self-awareness	Words meanings	Self-observation, self-efficacy, self-judgment, self-response

(Table 1 continued)

	Operant Conditioning Theory	Sociocultural Theory	Social Cognitive Theory
How children acquire the procedure	Shaping the behavior and fading the stimuli	Children acquire the procedure internally through adults' help	Children acquire the procedure through observing in the social events

Note. Adapted from Zimmerman, B. J. (2001). Theories of self-regulated learning and academic achievement: An overview and analysis. In Zimmerman, B. J., & Schunk, D. H., (Eds.). (2001). *Self-regulated learning and academic Achievement: Theoretical perspectives* (2nd ed.) (pp. 1-37). Mahwah, NJ: Lawrence Erlbaum Associates

Among the differences of the three theories shown in the table is the external to internal learning process. From operant theorists' view, the external to internal learning process is through adult's modeling and reinforcement to create stimuli. As for social cognitive theorists, a child's observing of the process (e.g., task, behavior) increases that child's self-efficacy to a level that they would perform this task/behavior themselves (Zimmerman, 2001). Sociocultural theorists believe the role of adults is essential. Children internalized the social historical context, especially adults' dialogue, and use it to master the task or to perform the behavior.

Another difference between the three is the motivator. Operant theorists view reinforcement and stimuli as the motivator to motivate children performing a task or a behavior. Though sociocultural theorist Vygotsky passed away before he could explicitly

investigate human motivation, it can be inferred from his theory that the social context is an important element of motivation for human behavior. Vygotsky believed the mastery of environment serves as a motivator for learning. Social cognitive theorists believe rewards are the motivator for humans. Children are more likely to perform a task or a behavior when they think they are capable of performing.

Further differences between the three theories pertain to self-awareness. Operant theorists discuss self-recording and self-monitoring but do not use the word “self-awareness” (Zimmerman, 2001). In contrast to the operant theorists, social cognitive theorists place a lot emphasis on self-awareness. For instance, social cognitive theorists discuss self-observation, self-judgment or self-evaluation, and self-reaction or self-response all of which comprise self-awareness. From Vygotsky’s view, the verbal ability is important for children to internalize the knowledge, that is, in order to increase a child’s self-awareness the child has to understand the word meaning of a task or a behavior (Zimmerman, 2001).

Although these three theories have different focuses on the learning process, choice of motivators, and the methods of teaching the procedures, they all have a common goal, that is, to teach children to be independent learners. Learning does not just happen to children, and in fact, learning is the process that needs children and adults to make it happen.

General Steps of Self-management System

The procedures of the existing studies on self-management are composed of several components, such as self-observation, self-recording, self-monitoring, self-evaluation,

self-determination, and self-administration of reinforcement or rewards. The procedures can be summarized by the following five phases.

Phase 1: Determination of the target behavior(s) and baseline data collection – The teacher, the teacher and the children, or the parents (e.g., Brooks, Todd, Tofflemoyer, & Horner, 2003) identifies the target score/rate/behavior(s) and the children record it on a card or a paper as a goal to achieve. In this phase, the teacher or sometimes both the teacher and the children decide the rating interval (e.g., 45 minutes with three equal intervals of 15 minutes or 15 minutes with 90 ten second intervals). For instance, Shapiro, Dupaul, and Bradley-Klug, (1998) asked the teacher to identify academic related desired behaviors and non-academic related behaviors of children with attention deficit/hyperactivity disorder in the classroom. The teacher was asked to rate the student's performance during each 15-minute period for a 60-minute class period in the baseline.

Phase 2: Training – In this phase, the teacher models self-monitoring and self-recording skills. For examples, at the end of each interval, the teacher models counting words written, counting paragraphs read, recording math problems solved, or asking themselves question like “Am I paying attention?” (McDougall & Brady, 1998). The teacher gives a cue when the children need to record/rate their progress or behavior.

Self-modeling is another strategy that often used in this phase. Social cognitive theorists believe people can naturally learn through observation. This type of learning is referred as observational learning (Bandura, 1977). According to Bandura (1977), for a learner to learn a task and perform the task, there are four steps. First, a learner attained to a task that performed by a model then the learner coded and retained the task. Third,

the learner was motivated to perform the task. Finally, the learner is able to perform the task (Gredler, 2001). Bandura noted the importance of the characteristic of the model. He emphasized when a task performing by those who were similar in age and abilities was observed, the observer would most likely be motivated to perform the same task (Schunk & Hanson, 1989).

Video self-modeling is a form of modeling. It is an intervention method using ones self as a model to change ones behaviors (Whitlow & Buggey, 2003; Wert & Neisworth, 2003). This intervention method has been used to improve speech fluency or verbal frequency (e.g., Buggey, 2005; Wert, & Neisworth, 2003; Bray & Kehle, 1998; and Dowerick & Power, 1998) and to increase on-task behaviors or cooperative classroom behaviors (e.g., Clare et al., 2000; Bray & Kehle, 1998; and Hartley, Bray, & Kehle, 1998). Hitchcock, Dowerick, and Prater (2003) reviewed 200 self-modeling studies and eighteen studies used video self-evaluation, video self-modeling, and/or video tapes peer modeling in school setting. Among these studies, eight studies targeted at behaviors related dependent variables (e.g., on task behaviors, disruptive behaviors, and aggressive behaviors) and video self-modeling was proven to be an effective intervention strategy in decreasing aggressive behaviors, decreasing disruptive behaviors, or increasing on-task behaviors. Although these studies have proven effective, there were no more than two studies targeted children under age 5.

Phase 3: Practicing self-monitoring and self-recording – The children practice recording the progress or the score (e.g., McDougall, & Brady, 1998; Lee, 2001). During this phase, the children use techniques that were taught in phase 2 to monitor their task. The teacher gives a cue when the children need to record or rate their progress or behavior. Both the

teacher and the children rate the children's behavior or record the score. Then, the teacher and children compare the ratings and decide the reinforcement or reward. For example, if the goal is improving writing fluency, children's writing projects were collected at the end of each interval. Then, the teacher counted the words and matched the scores with the children's self-recorded scores (Panagopoulou-Stamatelatou & Merrett, 2000).

Phase 4: Self-monitoring, self-recording, and self-evaluation – In this phase, only the children record and monitor their own task (e.g., Lee, 2001; Shapiro, Dupaul, & Bradley-Klug, 1998). If the goal is to improve academic performance then the children compare the actual scores with the target score to evaluate their performance. If the goal is to change behaviors then the children evaluate if their behavior(s) fit the criteria.

Phase 5: Self-administration of rewards and fading – If the children achieve the target score then they receive the reward they choose in phase 1. When every child (or most of children) reaches the goal, the duration of the rating interval can be gradually expanded (e.g., 15 minutes to 25 minutes) (e.g., McDougall, & Brady, 1998 and Shapiro, Dupaul, & Bradley-Klug, 1998).

There were some notable self-management research that focused on children under 6-year-old, such as Mithaug, & Mithaug, (2003) compared the effectiveness of teacher-directed instruction and student-directed self-management on setting goals, selecting assignments, and evaluating their performance. They successfully taught these children the self-management procedures and found student-directed self-management was more effective than teacher-directed procedure. In De Haas-Warner's study (1992), the researcher trained four children age from 4-4 year-old to 6-8 year-old a self-management procedure that included self-talk, self-reinforcement, self-recording, and self-monitoring.

The researcher would read story book about a preschool child who displayed off-task behaviors (e.g., talking with other children, looking around the classroom, or walking around the classroom) and showed the children drawings of on-task behaviors and off-task behaviors. The results indicated the children's on-task behaviors had increased.

Summary

Most of the published studies of self-management system/procedures were conducted by researchers who are in the field of special education, as a result, studies of self-management procedures in helping children with various abilities in various settings has mostly based on operant conditioning theory. Because of the nature of the sociocultural theory and social cognitive theory, the theorist often focus on observing how children learn and interpreting what they observed in a more descriptive way. Bandura (1977) pointed out the empirical study of the relationships of efficacy and performance was difficult because the measure of efficacy “are mainly concerned with people's hopes rather than their sense of mastery” (p.84). Some researchers combined some elements of sociocultural theory and social cognitive theory with operant conditioning theory in the self-management procedures, such as goal setting (e.g., Mithaug & Mithaug, 2003) and self-efficacy (e.g., Schunk, D. H., & Hanson, A. R. (1989) intent to understand and to promote students' learning.

Based on the literature and the studies of self-management procedures, preschool children's ability in adapting the self-management procedure was investigated. The research design in this study was based on operant conditioning theory in self-management with elements of social cognitive theory in self-observation. The procedure included video self-modeling, self-monitoring, and self-assessment. The effects of a self-

management procedure on preschool children's on-task behaviors, transition behaviors, social interactions with peers and/or adults, and aggressive behaviors were examined.

CHAPTER 3

METHOD

Setting

The study was conducted in a private laboratory day care center, located on a university campus. Most of the parents of the children are university faculty members, staff, or graduate students. Each teacher in the day care center has at least an associate degree or higher in early childhood education or a related field. This center contained four infant and toddler classes (age 3 month to 2-11), four preschooler classes (age 3-0 to 5-11), and one kindergarten class (from age 4-9 to 6-11). Each class contained a range of 13 to 21 children and three teachers. The daily schedule in each class varied slightly, but basically consisted the following elements: free play (around 90 minutes per day), breakfast time (around 40 minutes), circle time (around 45 minutes per day), indoor center time (around 40 minutes), outdoor gross motor time (around 160 minutes per day), lunch time (around 80 minutes), nap time (around 90 minutes) and snack time (around 55 minutes) (See Table 2).

The research was conducted during indoor center time. At the beginning of the indoor center time, one of the teachers described the activities that were set up for the day in the different centers and asked each child to select a task. The activities/centers usually included: a science table (one science project was set up for the day), a quiet area (including books, audio tapes, puzzles, and finger puppets), a wooden blocks area, a dramatic play area, a kitchen area, a hands-on table (including building toys, such as magnet-tile, Lego, and games), an art table (one art project will be set up for the day), a computer area (there were two computers in each class), a water table, and a sand table.

Some of the areas were limited to two to four children at a time (e.g., the computer area, the water table, the sand table, the art table, or the science table). Children could leave or join a center (i.e., participate in the activity associated with that center) whenever she/he wanted. If the center was occupied, the child needed to wait for his/her turn. Center time usually lasted 30 to 45 minutes.

Table 2. Typical Daily Schedule of a Pre-K Class

Activity	Time
Free Play	8:00 AM to 9:00AM
Breakfast Time	9:00AM to 9:40AM
Circle Time	9:40AM to 9:55AM
Outdoor Gross Time	9:55AM to 11:15AM
Circle Time	11:15AM to 11:30AM
Indoor Center Time	11:30AM to 12:10PM
Lunch Time	12:10PM to 1:30PM
Nap Time	1:30PM to 3:00PM
Free Play	3:00PM to 3:30PM
Circle Time	3:30PM to 3:45PM
Snack Time	3:45PM to 4:40PM
<i>Outdoor Play Time</i>	4:40PM to 6:00PM

Participants

All the pre-K teachers in the day care center were interviewed and asked to nominate children who presented some degree of reluctance to engage in on-task behaviors, transition, social interactions, and/or aggressive behaviors in comparison with children in the same class. The teachers each nominated three children and sent the parent consent forms home with each child (See Appendix A for informed consent forms for research study). Twelve forms were sent and 6 forms were returned. Children were included only when their parents had returned a signed consent form and the child gave oral consent for participation.

The six participants were from three different pre-K mix-aged classrooms. Sam, Chap, and Jim were four years old and attended the same classroom (Group 1) (See Table 3 for demographic information). Con and Ken were from Class 2 and were grouped in Group 2. Ed was from Class 3 and was grouped in Group 2. Table 3 lists the age, gender, and ethnicity of each participant. The reason for grouping was due to the nature of multiple baseline research method, that is, the fifth and sixth participant would have a very long baseline period relative to the other participants when all six participants were in the same group.

Table 3. Participant Characteristics Related to Age, Gender, and Ethnicity

Group	Name	Age (year-month)	Gender	Ethnicity	Class
1	Sam	4-6	M	Indian American	Class 1
	Chap	4-9	M	Euro American	Class 1
	Jim	4-9	M	Latino American	Class 1
2	Con	3-9	M	Euro American	Class 2
	Ed	3-6	M	Euro American	Class 3
	Ken	3-10	M	Asian	Class 3

Experimental Design and Data Collection

A multiple baseline across subjects design was used to evaluate the effectiveness of the self-management procedures across four dependent variables. *On-task behavior/engagement* occurred when the participant looked at the object or the person that was related to the activity; when the participant physically manipulated an object that was related to the activity; comply with adult request (e.g., blow his/her nose, to pick up a toy/ toys, to wash his/her hands, and/or to work with an adult); and/or when the participant did what he was told. *Transition behaviors* occurred when the participant left the activity he was working on but has not started another activity. *Social interactions with peers and/or adults* was defined as talking to other children or an adult or handing or accepting an object from a child or an adult. The quality of the social interactions was not a subject of this study. *Aggressive behavior* occurred when the participant grabbed an object from others or hit, bit, pinched, kicked, or pushed a child or an adult.

Data collection. A whole interval system of data collection was used to monitor behaviors targeted for increase. The whole interval data collection method generally underestimates the target behaviors and as such is ideal to monitor behaviors that occur continuously and are expected to increase (Cooper, Heron, Heward, 1987). For the whole interval method of data collection, each 15-min session was divided into ninety 10-second segments (i.e., interval). Intervals were scored when the participant engaged in the target behaviors for the entire 10-second of a given interval. In this study, the whole interval data recording system was used in collecting on-task behaviors data (see Appendix A for sample data sheet and an example). A partial interval data collection

system was used in collecting transition behaviors data, social interaction with peers and/or adults data, and aggressive behavior data.

The partial interval data collection method generally overestimates the target behaviors and as such is ideal to monitor behaviors that are expected to decrease (Cooper, Heron, Heward, 1987). For the partial interval method of data collection, each 15-min session was divided into ninety 10-second segments (i.e., interval). Intervals were scored when the participant engaged in the target behaviors during a 10-second interval (See Appendix A for Sample Data Sheet).

Each session was 15 minutes in duration and was divided into ninety 10-second intervals. As each interval occurred, the presence of each variable was recorded. The percentage of the ten-second intervals which each variable was scored for both whole interval and partial interval was calculated for each session. The number of the intervals where the variable was present was divided by the number of total intervals and multiplied by 100.

Procedures

Materials. An electronic timer (WEST BEND No. 40053) was used by the participants to monitor their behaviors, and a belt was used to hold the timer. The participants wore the belt on the waist with the timer clip on the belt.

Baseline. Teacher randomly asked each child in the class to select a task. Children could leave their chosen center or move to a new center (e.g., painting at the art table or working at the science table) at any time unless the center was occupied. A participant was given a timer to carry in his pocket or attached to his waistband. The timer was

deactivated during baseline. No further instruction regarding the timer was given to the participant. Baseline data collection steps checklist are listed in Appendix C.

Training Phase. Training phase for the first participant in each group, Group 1 – Sam and Group 2 – Con, started when the data path for each participant became stable, that is, no data point varied more than 50% from the mean of the baseline data (Alberto & Troutman, 2003).

Prior to the training, each participant was video taped engaging in three different activities during the indoor center time. Each activity was edited into four video clips of approximately 20 seconds. The first clip showed an example of each participant engaged in a task (e.g., building a castle with wooden blocks). The second clip showed an example of a participant who was distracted. The third clip showed an example of each participant engaged in a task, but one that was different than the first clip. The fourth clip showed an example of a participant who was off-task. The fifth clip showed an example of each participant engaged in a task. The sixth clip showed an example of a participant who was off-task (e.g., looking at other children playing). The seventh clip showed an example of a participant who engaged in working on a project. The eighth clip showed an example of a participant who was distracted. The ninth to twelfth clips were arranged in the same order (i.e., on-task clip, off-task clip, on-task, and off-task).

The training phase included three components: video viewing, timer, and in-classroom training. The first step of training was video viewing. Three video viewing sessions were conducted during training. These training sessions were conducted in a quiet area in the participant's classroom or in a small room next to the classroom.

The first training session began with learning to differentiate on-task and off-task. Before showing the clips to the participant, on-task and off-task behaviors were explained to the participant as “doing my job” and “not doing my job”, respectively. “Doing my job” was defined as when he plays with a toy, his eyes look at the toy and his hands touch the toy; “Not doing my job” was defined as when he played with a toy, his eyes did not look at the toy and his hands did not touch the toy, or when he walked around. The participant was shown video clips of the first two activities. Then, the participant was asked to identify the on-task and off-task behaviors shown on each clip.

A timer was used as a prompt to remind the participant to self-monitor then to self-assess his behaviors. A model/prompt/check procedure was used to teach timer use. First, the researcher modeled proper use of the timer. Then, the researcher prompted the participant on the use of timer. Finally, the participant was asked to perform the operation of the timer independently. If the participant failed to perform the procedure to 100% criterion, the model/prompt/check procedure would be repeated. At the end of the first training session, the participant practiced using timer while one of the clips was shown to the participant (See Appendix B for Script/Checklist for Training Sessions – First Training Session).

The second training session included review the definitions of on-task and off-task behaviors and review of timer use. Before showing the clips to the participant, on-task and off-task behaviors definitions were reviewed. The participant was shown video clips of the first two activities and was asked to identify the on-task and off-task behaviors shown on each clip. The procedure of using the timer was reviewed in the second training

session (See Appendix B for Script/Checklist for Training Sessions – Second Training Session).

On the third training session, a checklist was used to assess the participant's ability to recall the definitions of "doing my job" and "not doing my job"; to stop the timer when it beeps; ask himself if he is "doing my job"; to say he needs to find something to do when he is "not doing my job"; and to identify his on-task and off-task behaviors on the third activity video clips.

The in-classroom training started when the participant obtained 100% correct on the third training session assessment checklist (See Appendix B for Script/Checklist for Training Sessions – Third Training Session). If the participant received less than 100% correct on the third training session, the second training session was repeated. In this study, all six participants received 100% correct in the third training session.

The last step of training phase was in-classroom training sessions. There were two in-classroom training sessions for each participant. In the in-classroom training session, the timer was set and given to the participant to carry (on the belt or on the waist bend) during indoor center time. The participant practiced turning off the timer, asking himself "Am I doing my job?", self-assessing on-task and off-task behaviors, and "doing my job" or finding something to do in the 15-minute in-classroom training session.

Fading Phase. The fading phase followed the end of intervention. The purpose of the fading phase was to decrease the physical presence of the timer and overt monitor of behaviors. In this phase, the participant carried the timer, but the timer was not set. In the 15-minute session, the participant wore the belt with the timer clipped on or had the timer clip on the waist bend. The participant was told that he did a very good job on turning off

the timer when it beeped, on asking himself “Am I doing my job?”, and on finding something to do if he was “Not doing my job”. The participant wore the timer but the timer was not set. The participant was told to keep asking himself “Am I doing my job?” and to keep “doing a good job”.

Interobserver Agreement

Three graduate students majoring in early childhood education collected interobserver agreement data. Each graduate student observed the classrooms, observed the data collection process, and practiced the data collection procedures prior to the actual data recording. During the practice period, each observer was asked to use actual data sheet to record the target behaviors for the data recording sessions (15 minutes). A discussion and question-and-answer session followed each practice period. For each interobserver, at least two practice periods were given.

Agreement data were independently recorded on each dependent variable for 46.9% of the sessions spread out through baseline and intervention phase. The agreement data were calculated using a point by point method and the following formula:

$(\text{Agreements}/\text{Total Intervals}) \times 100 = \text{Percent of Agreement}$.

The mean agreement data of on-task behaviors, transition, social interactions, and aggressive behaviors during the baseline were 97.33%, 99.03%, 92.15%, and 100%, respectively, across all six participants (See Table 4). The mean agreement data for on-task behaviors, transition, social interactions, and aggressive behaviors during intervention phase were 98.78%, 99.44%, 92.89%, and 99.96%, respectively, across all six participants. The mean interobserver agreement data across all six participants and across all four variables through baseline and intervention phases was 97.56%.

Procedural integrity data for training sessions were collected by an independent observer using a checklist of the procedure (See Appendix B Script/Checklist for Training Sessions) for 20% of the session with a mean of 100%.

Due to the ending of the semester, only interobserver data for Sam was collected in the fading phase. The interobserver agree data for Sam was 95.2% for on-task behaviors, 98.53% for transition, 96.3% for social interaction with peers and/or adults, and 100% for aggressive behaviors. Interobserver agreement data are displayed in Table 4.

Table 4. Percentage of Interobserver Agreement for Each Participant Through Baseline, Intervention, and Fading Phase

		<u>Baseline</u>			
Participants	% of session	On-Task	Transition	Social	Aggressive
Sam	40%	95.6%	99.4%	89.4%	100%
Chap	11.1%	98.9%	100%	86.7%	100%
Jim	20%	98.9%	98.3%	88.3%	100%
Con	33.3%	97.8%	99.4%	96.1%	100%
Ed	33.3%	98.9%	99.2%	93.6%	100%
Ken	35.7%	96.4%	98.4%	91.1%	100%
Mean	28.3%	97.33%	99.03%	92.15%	100%
		<u>Intervention</u>			
Sam	41.7%	99.1%	98.7%	92.9%	100%
Chap	62.5%	99.3%	99.6%	93.1%	99.78%
Jim	75%	98.3%	99.6%	91.9%	100%
Ed	80%	98.1%	99.6%	97.4%	100%
Ken	100%	98.6%	99.8%	93.1%	100%
Mean	69.7%	98.78%	99.44%	92.89%	99.96%
		<u>Fading Phase</u>			
Sam	100%	95.6%	98.5%	96.3%	100%

CHAPTER 4

RESULTS

Results are presented in this chapter for each group to answer the following research question. What are the effects of self-management procedure with video self-modeling on preschool children' on-task /task engagement behaviors, transition behaviors, social behaviors, and aggressive behaviors?

Results of Group One

Group 1 – On-task Behaviors

Figure 1 displays the results of the percentage of on-task behaviors per each 15-minute observation period for each participant in Group 1 during baseline, intervention, and fading phases. Table 5 shows mean and range percentage of on-task behaviors for participants in Group 1. Sam had a mean of 59.1% during baseline. When intervention was instituted, Sam's intervention data showed a stable and increasing trend with a mean of 78.1%. Chap's intervention data showed an immediate change in level and had a mean of 96.5%. In addition, the intervention reduced the variability of Chap's on-task behaviors. Jim's baseline data showed a slightly ascending trend with a mean of 71.3% and an increasing trend in intervention with a mean of 75.5%. The percentage of on-task behaviors per 15-minute for Sam during maintenance phase was 95.6%. Due to the starting of the summer vacation, the fading data for Chap and Jim could not be obtained for more than one data point. The percentage of on-task behaviors per each 15-minute session during the fading phase was 98.9% for Chap and 86.7% for Jim. The data indicated considerable increase in participants' on-task behaviors in the intervention phase.

Figure 1. Percentage of On-Task Behaviors for Group 1

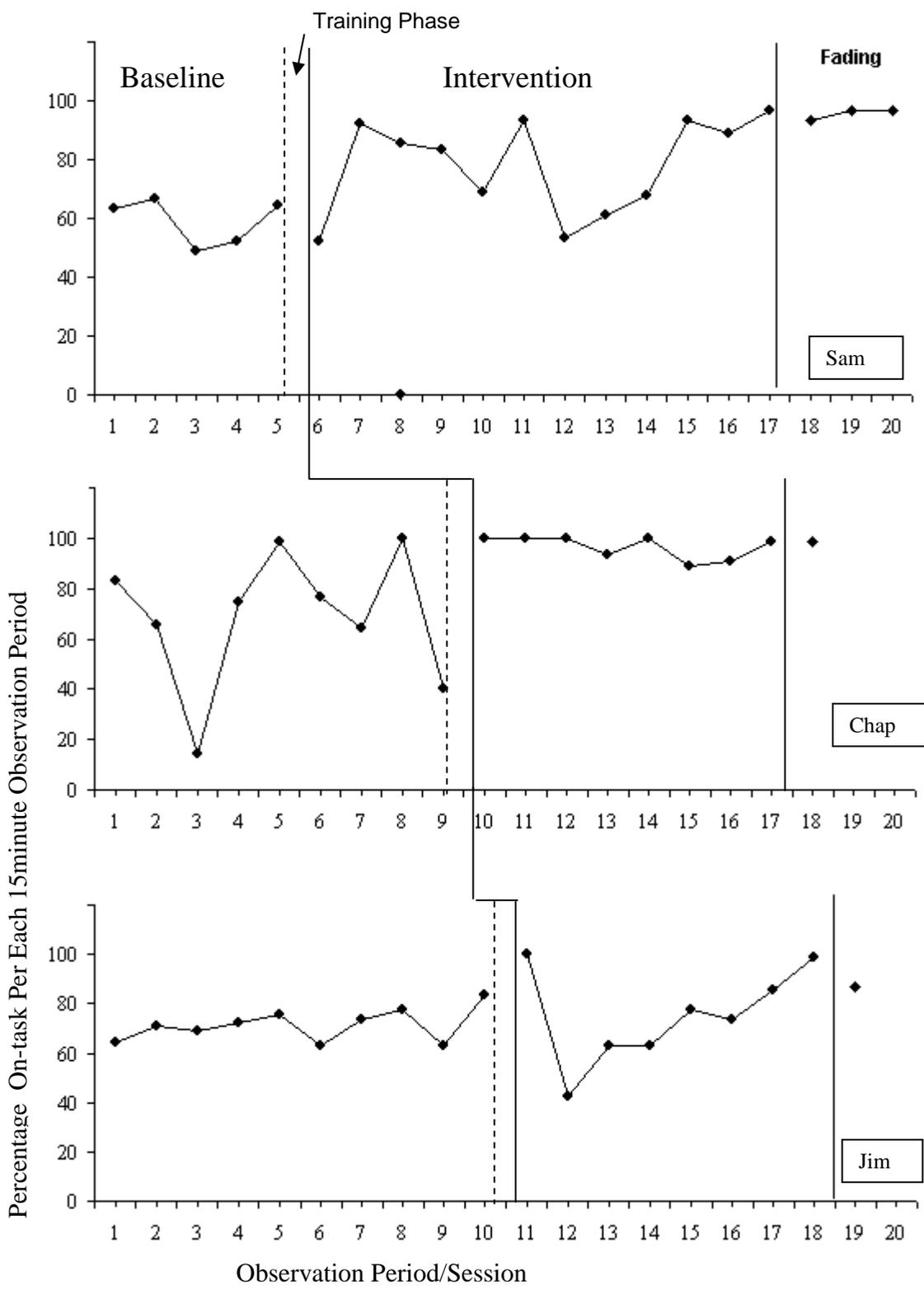


Table 5. Mean and Range Percentage of On-task Behaviors

Participants	On-Task Behaviors											
	Baseline			Intervention			Fading					
	M	Md	R	StD	M	Md	R	StD	M	Md	R	StD
Sam	59.1	63.3	48.9-66.7	7.14	78.1	84.45	52.2-96.7	15.74	95.6	96.7	93.3-96.7	1.6
Chap	68.6	74.4	14.4-98.9	25.82	96.5	99.45	91.1-100	4.36	98.9		98.9-98.9*	
Jim	71.3	71.65	63.3-83.3	6.25	75.5	75.55	42.2-100	18.25	86.7		86.7-86.7*	

Note. *Indicates that there is one data point for this category. M: Mean; Md: Median; R: Range; StD: Standard Deviation

Group 1 – Transition Behaviors

Figure 2 displays the percentage of transition behaviors per each 15-minute observation period during baseline, intervention, and fading phase for Sam, Chap, and Jim. Sam's baseline data declined slightly with a mean of 17.3%. The intervention data showed a descending trend with a mean of 14%. Chap's baseline data was highly variable with a mean of 18.5% (range = 0-83.3%) (See Table 6). When intervention was implemented, Chap's data indicated a decreasing trend with a mean of 2.6% (range = 0-11.1%) (See Table 6). Jim's baseline data showed a slightly descending trend with a mean of 13.3% (range = 0-33.3%) (See Table 6). The intervention data showed some variability with mean of 7.2% (range = 0-28.9%). The results indicated that the intervention had influences on the three participants' transition behaviors. The mean percentage of transition behaviors remained low for participant Sam in the fading phase. Participant Chap and Jim each had been observed for their transition behaviors once in the fading phase. The percentage of transition behaviors were 1.1% and 13.3% for Chap and Jim, respectively.

Figure 2. Percentage of Transition Behaviors for Group 1

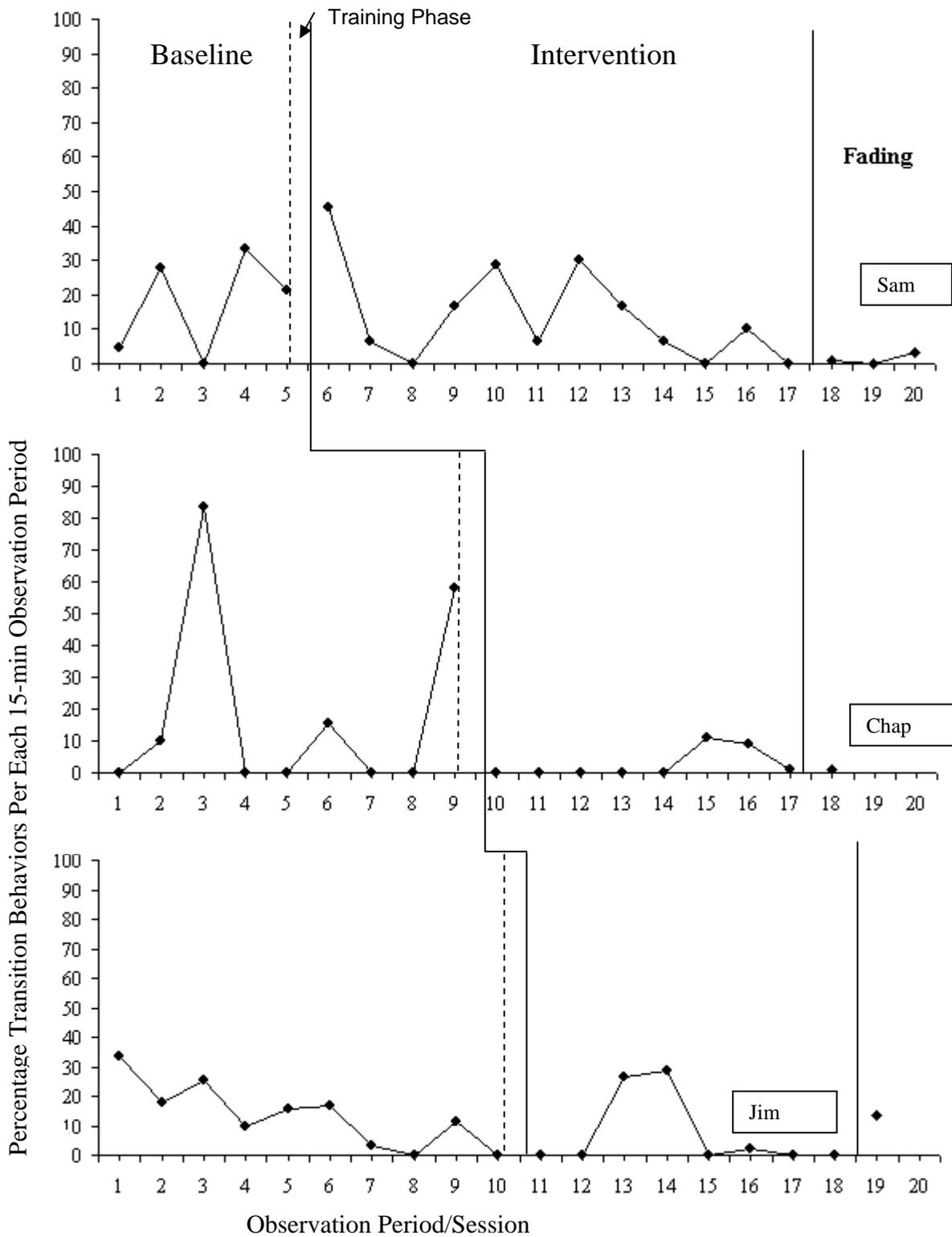


Table 6. Mean and Range Percentage of Transition Behaviors for Group 1

Participants	Transition Behaviors											
	Baseline			Intervention			Fading					
	M	Md	R	StD	M	Md	R	StD	M	Md	R	StD
Sam	17.3	21.1	0-33.3	12.99	14	8.35	0-45.6	13.71	1.5	1.1	0-3.3	1.37
Chap	18.5	0	0-83.3	28.94	2.6	0	0-11.1	4.3	1.1*		1.1-1.1*	
Jim	13.3	13.35	0-33.3	16.65	7.2	0	0-28.9	11.91	13.3*		13.3-13.3*	

Note. *Indicates that there is one data point for this category. M: Mean; Md: Median; R: Range; StD: Standard Deviation.

Group 1 – Social Interactions with Peers and/or Adults

Figure 3 displays the percentage of social interactions with peers and/or adults per each 15-min observation period for Sam, Chap, and Jim during baseline, intervention, and fading phase. Table 7 shows the mean and range percentage of social interactions with peers and/or adults. Sam's data during baseline did not show a clear trend. The mean percentage of social interactions for Sam during baseline was 35.6% (range = 25.6-41.1%). Sam's intervention data showed variability but with a descending trend with a mean of 23.5%. Chap's data during baseline was highly variable with a mean of 31.2%. The intervention reduced the variability of Chap's social behaviors. Chap's intervention data showed descending trend. Jim's baseline data was highly variable with a mean of 28.4% (range = 2-83.3%). The intervention reduced variability of social interactions. The mean percentage of social interactions during intervention was 38.2% (range = 16.7-65.6%). The mean percentage for Sam during fading phase was 10.8% (range = 5.6-15.6%). The one data point collected for Chap in fading phase was 14.4%. The only data point collected in the fading phase for Jim was 66.7%.

Figure 3. Percentage of Social Interactions with Peers and/or Adults for Group 1

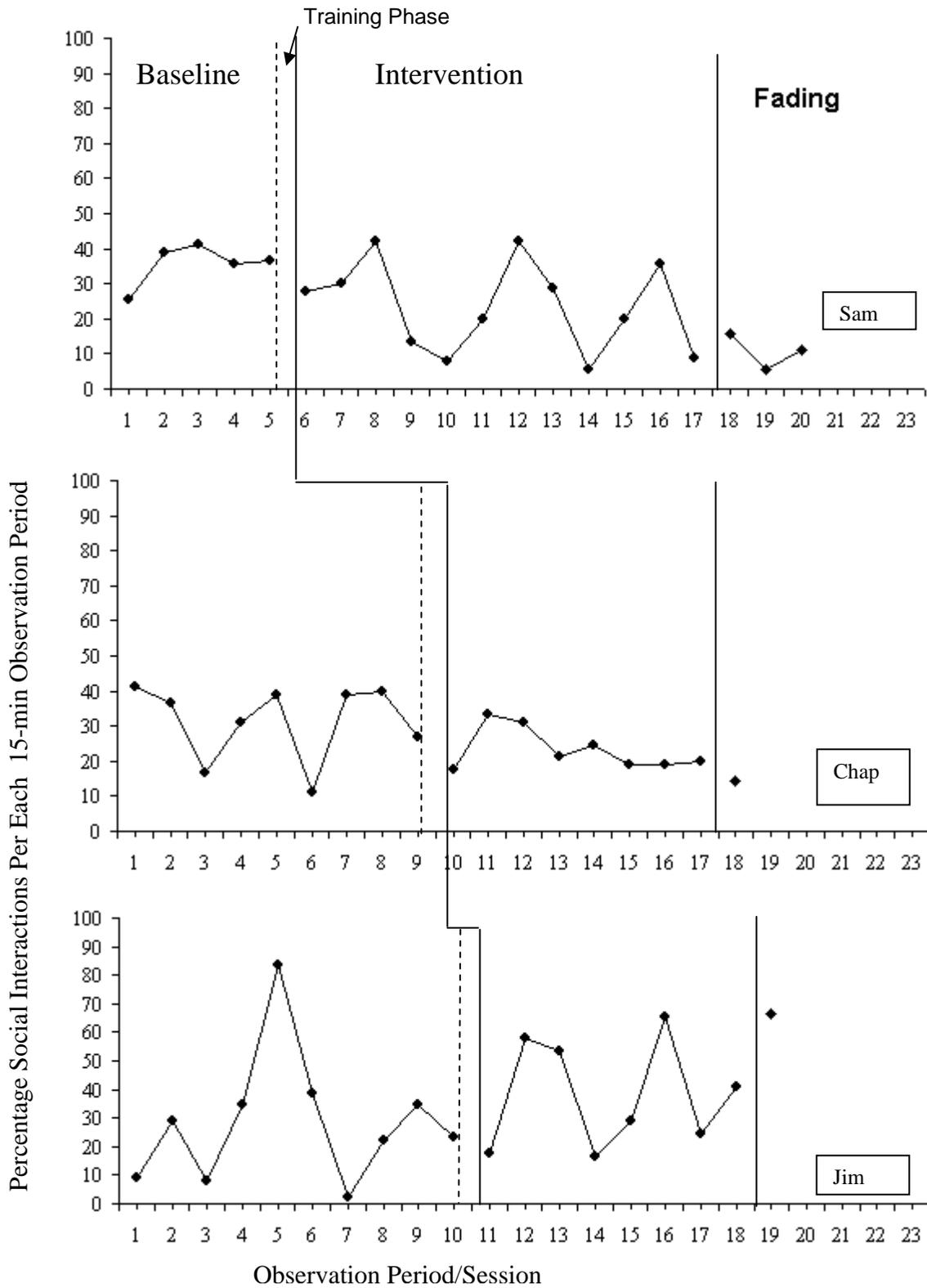


Table 7. Mean and Range Percentage of Social Interaction with Peers and/or Adults for Group 1

Participants	Social Behaviors											
	Baseline			Intervention			Fading					
	M	Md	R	StD	M	Md	R	StD	M	Md	R	StD
Sam	35.6	36.7	25.6-41.1	5.34	23.5	23.9	5.6-42.2	12.40	10.8	11.1	5.6-15.6	4.09
Chap	31.2	36.7	11.1-41.1	10.32	23.3	20.55	17.8-33.3	5.55	14.4*		14.4-14.4*	
Jim	28.4	26.1	2-83.3	21.81	38.2	35	16.7-65.6	17.79	66.7*		66.7-66.7*	

Note. *Indicates that there is one data point for this category. M: Mean; Md: Median; R: Range; StD: Standard Deviation.

Group 1 – Aggressive Behaviors

Figure 4 shows the percentage of aggressive behaviors per each 15-min observation period for Sam, Chap, and Jim during baseline, intervention, and fading phase. Table 7 displays the mean and range percentage of aggressive behaviors. The aggressive behaviors were not observed on participant Sam across all three phases. For Chap, the aggressive behaviors were observed one time (15.6%) during baseline and none during intervention and fading phase. For participant Jim, the aggressive behaviors were observed twice (2.2% and 4.4%) during baseline and none during the intervention and the fading phase.

Figure 4. Percentage of Aggressive Behaviors for Group 1

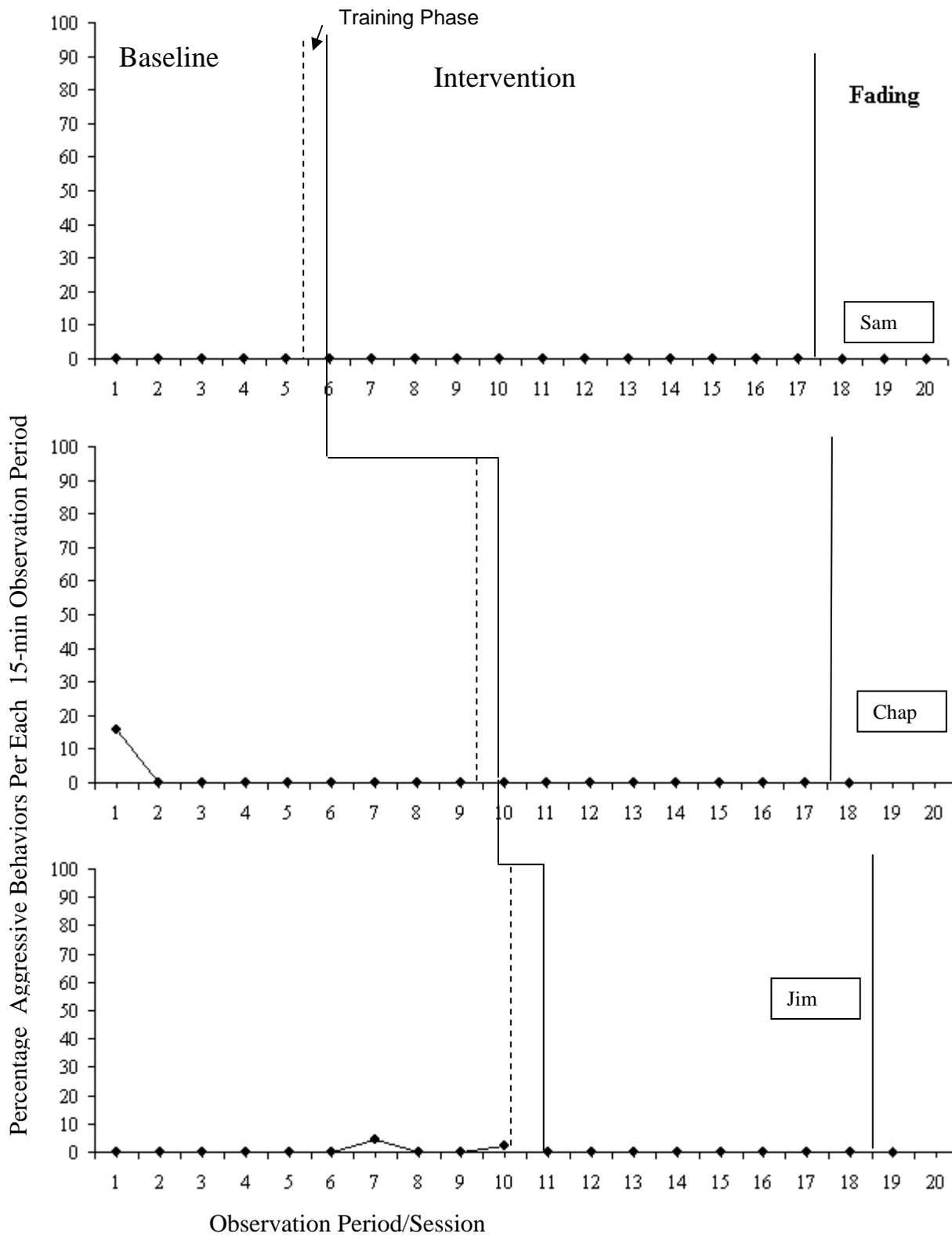


Table 8. Mean and Range Percentage of Aggressive Behaviors for Group 1

Participants	Aggressive Behaviors											
	Baseline			Intervention			Fading					
	M	Md	R	StD	M	Md	R	StD	M	Md	R	StD
Sam	0	0	0-0	0	0	0	0-0	0	0	0	0-0	0
Chap	1.7	0	0-15.6	4.90	0	0	0-0	0	0*	0	0-0*	0
Jim	0.7	0	0-4.4	1.41	0	0	0-0	0	0*	0	0-0*	0

Note. *Indicates that there is one data point for this category. M: Mean; Md: Median; R: Range; StD: Standard Deviation.

Results of Group Two

Group 2 – On-task Behaviors

Figure 5 displays the percentage of on-task behaviors per each 15-minute observation period for Con, Ed, and Ken during baseline, intervention phase, and fading phase.

Con's baseline data showed a descending trend with a mean of 53.2%. During the training phase, Con presented some resistance. He finished the five-session training sessions but he did not enter the intervention period. After a five-session training phase, Ed entered the intervention phase. Ed's baseline data was highly variable with a mean of 49.6%. Due to the absence of the participant Ed, there were five data points collected during the intervention phase. The intervention reduced the variability of Ed's on-task behaviors. The mean percentage of on-task behaviors after the intervention was 85.1% (range = 66.7-96.7%). Ken's baseline data was greatly variable with a mean of 53.7% (range = 5.6-90%). When the intervention instituted, Ken's data showed an immediate change in level and stability with a mean of 96.2% (range = 86.7-100%). Fading phase was not conducted for Ed due to the ending of the semester and the frequent absence of Ed. Because of the ending to the semester, one data point was obtained in the fading phase for Ken and it was 100%.

Figure 5. Percentage of On-task Behaviors for Group 2

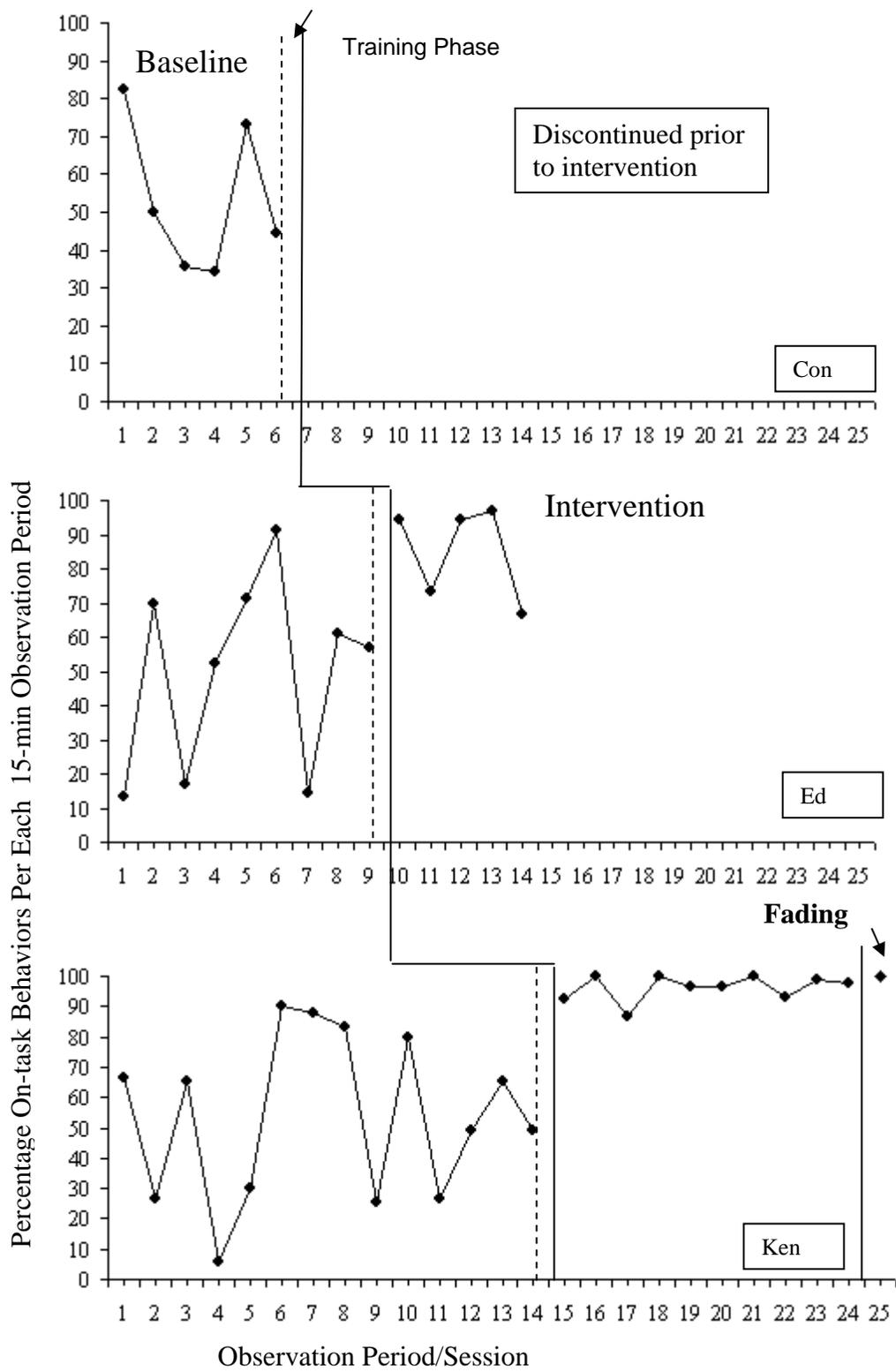


Table 9. Mean Percentage of On-task Behaviors for Group 2

Participants	On-task Behaviors											
	Baseline			Intervention			Fading					
	M	Md	R	StD	M	Md	R	StD	M	Md	R	StD
Con	53.3	47.2	34.4-82.2	18.24								
Ed	49.6	56.7	13.3-91.1	26.73	85.1	94.4	66.7-96.7	12.53				
Ken	53.7	57.25	5.6-90	26.28	96.2	97.25	86.7-100	4.10	100*			100-100*

Note. *Indicates that there is one data point for this category. M: Mean; Md: Median; R: Range; StD: Standard Deviation.

Group 1 – Transition Behaviors

Figure 6 displays the percentage of transition behaviors per each 15-min observation period during baseline, intervention, and fading phase for group 2 participants – Con, Ed, and Ken. The mean and range percentage of transition behaviors for Con, Ed, and Ken are displayed in Table 10. Con's baseline data showed an ascending trend and variability with a mean of 18.52% (range = 0-52.2%). Con's intervention data was not available. Ed's baseline data showed highly variable with a mean of 33.2% (range = 0-86.7%). When intervention was instituted, Ed's data showed an immediate change in level and variability with a mean of 2.2% (range = 0-5.6%). During baseline, Ken's transition behaviors were greatly variable with a mean of 25.6% (range = 0-94.3%). Ken's data showed an immediate change in level with a mean of 2% (range = 0-12.2%). In addition, the intervention reduced the variability of Ken's transition behaviors. Due to the ending of the semester, only one data point for Ken's fading phase data was obtained. The percentage of transition behaviors for K during the fading phase was 0%.

Figure 6. Percentage of Transition Behaviors for Group 2

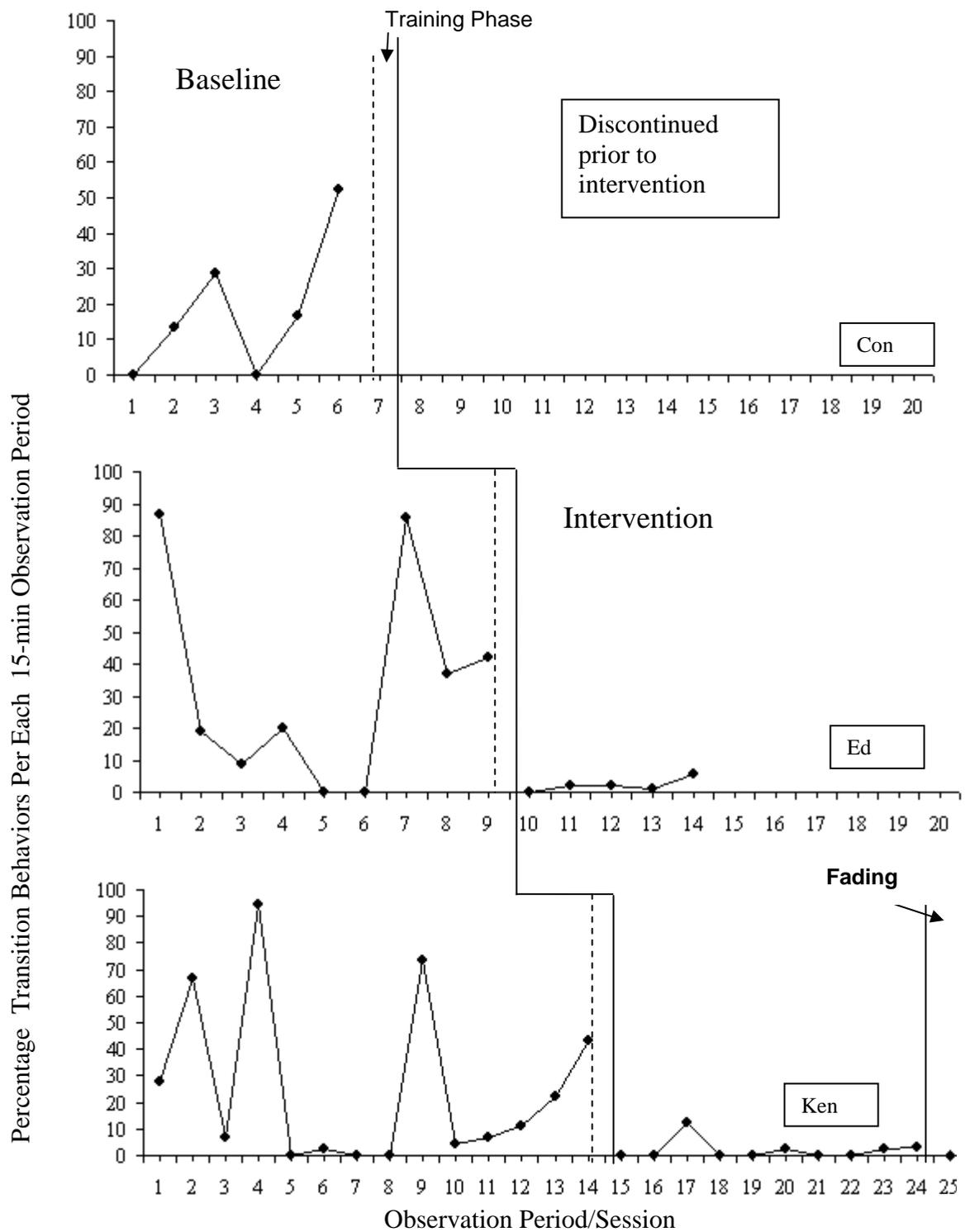


Table 10. Mean and Range Percentage of Transition Behaviors for Group 2

Participants	Transition Behaviors											
	Baseline			Intervention			Fading					
	M	Md	R	StD	M	Md	R	StD	M	Md	R	StD
Con	53.2	15	0-52.2	18.07								
Ed	33.2	20	0-86.7	31.40	2.2	2.2	0-5.6	1.88				
Ken	25.6	8.9	0-94.4	30.37	2	0	0-12.2	3.60	0*		0*	

Note. *Indicates that there is one data point for this category. M: Mean; Md: Median; R: Range; StD: Standard Deviation.

Group 2 – Social Interactions with Peers and/or Adults

Figure 7 shows the percentage of social interactions with peers and/or adults for Group 2 participants Con, Ed, and Ken during baseline, intervention, and fading phase. Table 11 displays the mean and range percentage of social interactions with peers and/or adults. Con's baseline data showed a slightly descending trend with a mean of 29.8% (range = 18.9-44.4%). The intervention data for Con was not available. Ed's baseline data was variable and slightly descending with a mean of 37.3% (range = 14.4-88.9%). The intervention reduced the variability of Ed's social interactions with a mean percentage of 33.5% (range = 10-53.3%). Ken's baseline data was highly variable with a mean of 30.5% (range = 7.8-91.1%). When the intervention was instituted, Ken's data showed a slight change in variability with a mean of 24.6% (range = 5.6-58.9%). Ed's fading phase data was not available due to the ending of the semester. There was one data point for Ken in the fading phase and the percentage of social interactions for Ken was 17.8%.

Figure 7. Percentage of Social Interactions with Peers and/or Adults for

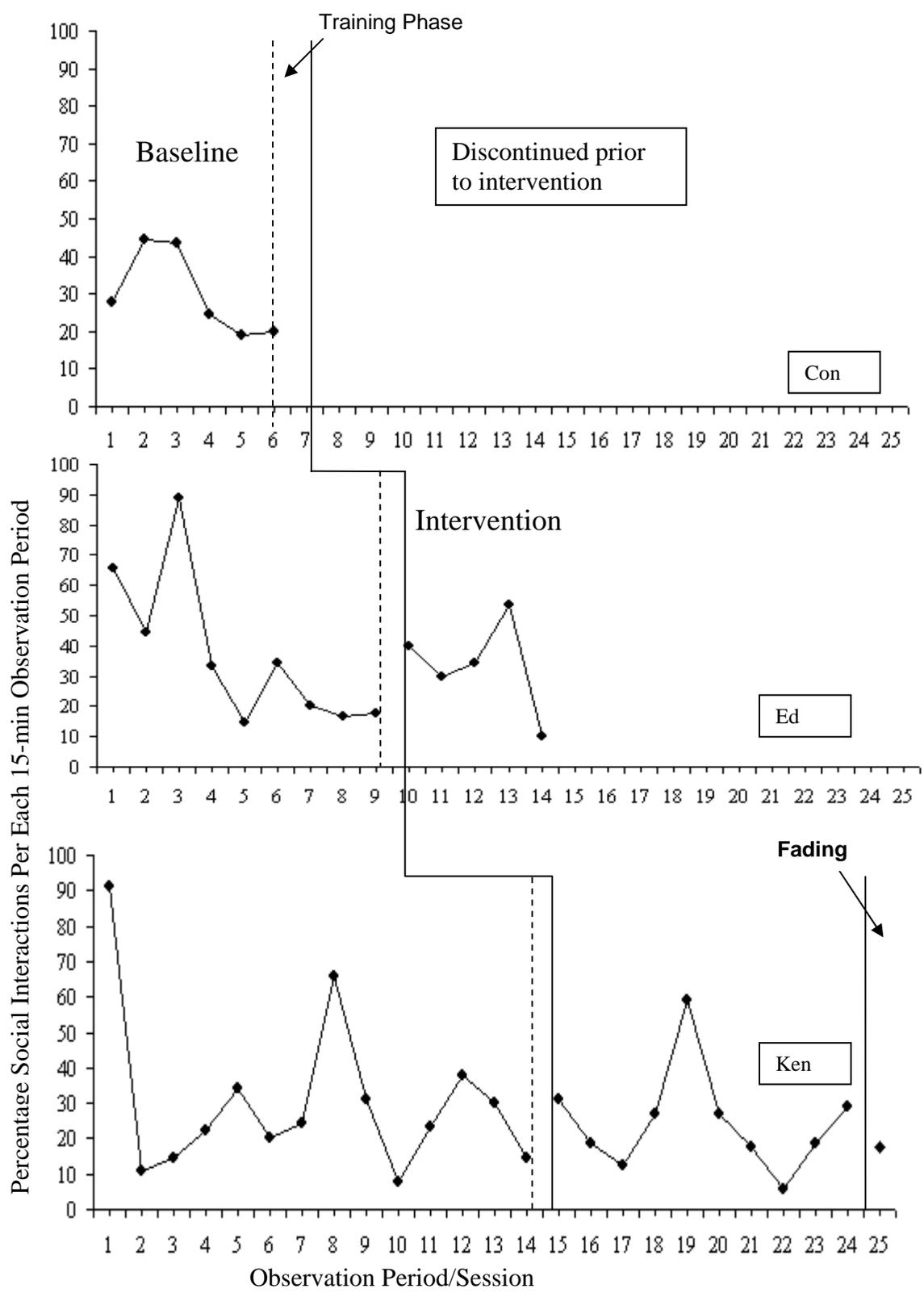


Table 11. Mean and Range Percentage of Social Interaction with Peers and/or Adults for Group 2

Participants	Social Behaviors												
	Baseline				Intervention				Fading				
	M	Md	R	StD	M	Md	R	StD	M	Md	R	StD	
Con	29.8	26.1	18.9-44.4	10.36									
Ed	37.3	33.3	14.4-88.9	23.96	33.5	34.4	10-53.3	14.14					
Ken	30.5	23.85	7.8-91.1	21.80	24.6	22.8	5.6-58.9	13.68	17.8*				17.8-17.8*

Note. *Indicates that there is one data point for this category. M: Mean; Md: Median; R: Range; StD: Standard Deviation.

Group 2 – Aggressive Behaviors

Figure 8 displays the percentage of aggressive behaviors per each 15-min observation period during baseline, intervention, and fading phase for Group 2 participants – Con, Ed, and Ken. Table 12 shows the mean and range of the percentage of aggressive behaviors for all three participants. Aggressive behaviors were not observed in all three participants during all phases.

Figure 8. Percentage of Aggressive Behaviors for Group 2

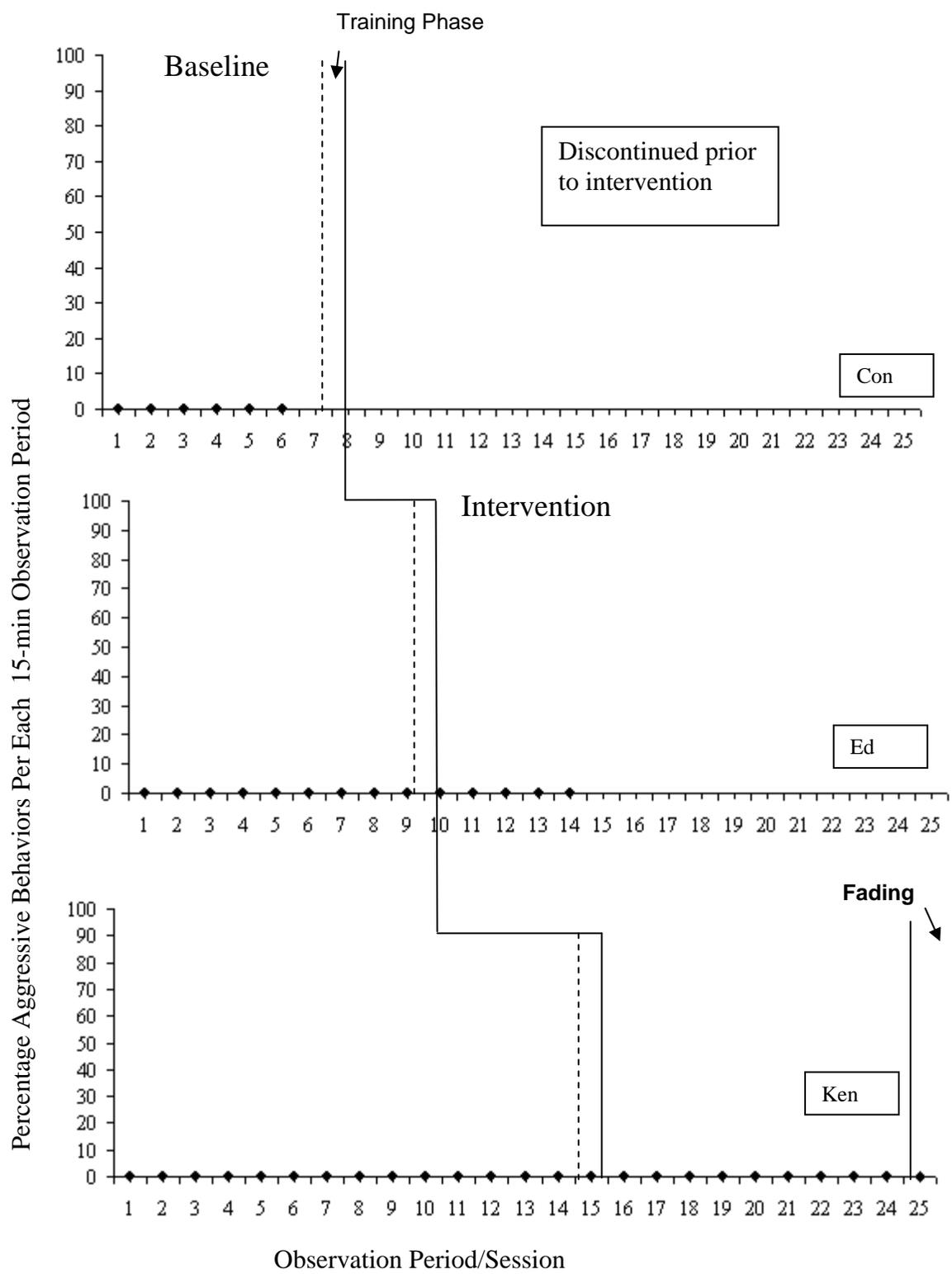


Table 12. Mean and Range Percentage of Aggressive Behaviors for Group 2

Participants	Aggressive Behaviors											
	Baseline			Intervention			Fading					
	M	Md	R	StD	M	Md	R	StD	M	Md	R	StD
Con	0	0	0-0	0								
Ed	0	0	0-0	0	0	0	0-0	0				
Ken	0	0	0-0	0	0	0	0-0	0	0*			0-0*

Note. *Indicates that there is one data point for this category. M: Mean; Md: Median; R: Range; StD: Standard Deviation.

Summary

Overall the implementation of the self-management procedures increased the on-task behaviors of five participants – Sam, Chap, Jim, Ed, and Ken (Participant Con had dropped out of the study after the training sessions. The data of the intervention phase for Con was not available.) The transition behaviors decreased during intervention and remained lower than the mean percentage of transition behaviors except participant Jim. The only data point in fading phase for participant Jim was 13.3% which was higher than the mean percentage 7.2% in the intervention phase but within the range of the intervention phase (range = 0-28.9%). For the social interactions with peers and/or adults, participants – Sam, Chap, Ed, and Ken’s social interactions decreased during the intervention and remained lower than the mean percentage in the intervention phase except participant Jim. The only data point obtained during fading phase was 66.7% which was higher than the highest data point in the intervention phase. There were no aggressive behaviors observed for participants Sam, Con (during baseline), Ed, and Ken in all three phases. There were two data for Chap and one data for Jim above zero during baseline but none were observed in the intervention and in the fading phases.

CHAPTER 5

DISSCUSSION

The National Educational Goals Panel (2000) had announced the educational goals that defined by the Congress and the Governors of all fifty states. The first goal was to provide young children quality preschool programs to prepare children for later academic success. A quality preschool program should not be limited to teaching children to play nice with each other and to recognize numbers and letters of the alphabet. A quality preschool program should assist children to acquire behaviors that are important for learning and to develop learning strategies that are essential in the kindergarten and, furthermore, in the elementary school (De Haas-Warner, 1992). Rimm-Kauman, Pianta, and Cox (2000) stated preschool children's academic, social, and emotional skills are the predictors of their success of later school. Children who have difficulty remaining on-task are at risk of academic failure (De Hass-Warner, 1991; Miller, Strain, Boyd, Jarzynka, & McFetridge, 1993). The purpose of this study was to examine self-management as a method to assist preschool children to remain on-task and to investigate the effects of self-management on transition behaviors, social interactions with peers and/or adults, and aggressive behaviors.

The Effects of Self-management Procedure

The Effects of Self-management on On-task Behaviors

In this study a timer provided preschool children a prompt to self-assess their task-related behaviors. Overall, the self-management procedure was effective in increasing children's on-task behaviors.

The findings from this study indicate that the self-management procedure produced clear benefits for Sam, Chap, Ed, and Ken on increasing their mean percentage of on-task behaviors from 19% to 42.5%. The procedure was less effective for Jim. In order to increase his on-task behaviors, other elements might be added to the self-management procedures, such as prompts or other reinforcers.

Although participants in Group 1 were approximately a year older than participants in Group 2, Group 2 participants also showed significant improvement in their on-task behaviors. The common belief in child development is that, as children mature/age their attention span increases and distractibility decreases (McDeveitt & Ormrod, 2004; Charlesworth, 2004). The data showed, with self-management procedure training, some children, as young as three and a half years old, could learn to monitor their behaviors.

The Effects of Self-management Procedure on Transition Behaviors

During the indoor center time, the children could move to and from activities when they want. As a result of this system, some of the children would travel through centers (e.g., from hands-on table to sand table to art table) and not engage in any activity (e.g., play in the sand table for two minutes then move to hands on table for three minutes and so forth). Transition behaviors (i.e., when the participant left the activity he was working on but has not started another activity) was another indicator of the ability to remain on a task. The higher the percentage one had, the less time a participant remained on a task. With the purpose of reducing the transition behaviors, every participant was instructed to “find something to do” when he was “not doing my job” in the training sessions. Generally, the procedure was effective in reducing the participants’ transition behaviors.

Similar to task engagement, the procedure was more effective for Sam, Chap, Ed, and Ken and less effective for Jim.

Sam's data showed variability in the first half of intervention. After the 7th session of intervention, a descending trend was observed. Chap's transition behaviors decreased after the intervention and stayed stable throughout the intervention. Ed and Ken's mean percentage decreased significantly after the intervention was instituted. The results indicate, after the intervention, the participants Ed and Ken were more skilled in avoiding distractions and were able to focus on what they need to attend to. Participants in Group 2 had higher mean percentage of transition behaviors (Ed-33.52% and Ken-25.6%) than participants in Group 1 (Sam-17.3%, Chap-18.5%, and Jim-13.3%) during baseline might be due to their age and/or maturity (McDeveitt & Ormrod, 2004; Charlesworth, 2004). After the intervention was instituted, the mean percentage of the transition behaviors decreased (from 33.2% to 2.2% for Ed and from 25.6% to 2%) which showed more significant improvement than Group 1. Jim's transition behaviors during intervention decreased considerably except the 3rd session and the 4th session.

Two factors may have affected the transition data. First, the child may have taken a long time to find an activity he wanted. Second, the child may have needed to wait until a center was vacant (e.g., a child left the computer center so he could take his place). The specific reason(s) for the Sam and Jim's transition behaviors need to be further investigated. From the anecdotal observation, Sam's transition behaviors happened often due to the first reason and Jim's transition behaviors happened often because he was waiting for a center to become vacant. It is possible that Sam could make a more efficient transition if Sam were prompted when he wandered between two activities. It is also

possible Jim's transition behavior could be more efficient if his behavior of choosing another center instead of waiting for an occupied center was reinforced. And, further research needs to be done in understanding the relationships between children's age and the effectiveness of the self-management procedure on children's transition behaviors.

The Effects of Self-management Procedure on Social Interactions with Peers and/or Adults

Data for the present study indicated when children interacted with other children the on-task behaviors decreased. In contrast, from anecdotal observation, when these children interacted with adults, their percentage of on-task behaviors did not decrease. One possible explanation was adults could interact with children without interrupting their work. Peer interactions required children's attention, therefore, these children could not remain on-task. In general, the participants' percentage of on-task behaviors appeared to be higher when their mean percentages of social interactions were low. All five participants' mean percentage of social interactions decreased during the intervention phase but Jim's mean percentage of social interactions increased during intervention. After examining Jim's data, the highest data point in Jim's social interactions data was 65.6% on the 6th session of the intervention and the mean percentage of on-task behaviors was 73.3%. The high mean percentage of social interactions was due to a peer's constant distraction in the first half of the session. The low mean percentage of on-task behaviors was due to the interactions with an adult. The purpose of this study was not to decrease the participants' social interactions with peers and/or adults. The intent was to understand the effects of self-management procedure on children's social interactions.

The Effects of Self-management on Aggressive Behaviors

There were no aggressive behaviors presented throughout the study for Sam, Ed, and Ken. Chap and Jim's aggressive behaviors were observed during baseline but were not observed during intervention phase. Previous researchers have used self-management to reduce the frequency of problem behavior (e.g., Todd, Horner, & Sugai, 1999). Although further research is suggested, one possible explanation for the decrease of aggressive behaviors is that when young children are focused on their tasks, the aggressive behaviors would decrease. That is, task engagement and inappropriate behavior may, to some extent, be incompatible.

Discussion of the Present Research and Previous Studies

Research on self-management has generally occurred under one of two related paradigms, operant theory and social cognitive theory. Operant theorists define learning as behavioral change. The goal is to arrange the environment to influence a learner's behaviors. The foci of operant theory are more external. Conversely, the foci of social cognitive theorists are more internal. Social cognitive theorists believe a learner's self-efficacy and motivation play important roles in his/her learning. Although the foci are different for these two theories that underline the self-management procedures, paradigms focus on arranging the environment, using prompts, and modeling the behaviors in order to teach or to change learners' behaviors.

Self-management procedures are designed to help learners increase desired behaviors or decrease undesired behaviors by using self-monitoring to provide immediate consequences and self-speech and self-assessment to serve as reinforcers and prompts for the change of behaviors (McDougall, 1998). Self-modeling, a concept from social

cognitive theory, was shown to be effective in changing children's behaviors (Hitchcock, Dowrick, & Prater, 2003). In the present study, self-management procedures included self-modeling (i.e., the participant watching video clips of himself and modeling his own on-task behaviors), self-monitoring (i.e., the participant monitoring his own behaviors during the indoor center timer), self-speech (i.e., the participant asking himself "Am I doing my job?" when he hears the timer beeping), and self-assessment (i.e., the participant deciding whether he is on-task or off-task then deciding what action he needs to pursue, such as finding an activity to do if he is "Not doing my job" or continuing to do a good job if he is "doing my job"). The results have shown the procedure was effective in increasing children's on-task behaviors during the participants' indoor center time.

One novel aspect of the present study was that, children as young as three years and a half, through the training of using self-management procedure, can be taught to monitor their behaviors. Even though it is believed that the younger the child, the more distractible he/she is (McDeveitt & Ormrod, 2004; Charlesworth, 2004). Researchers often focused self-management instructions on children with developmental disabilities in a classroom or home settings (e.g., Mithaug & Mithaug, 2003, Reinecke, Newman & Meinberg, 1999, Strain, Kohler, Storey, & Danko, 1994, Connell, Carta, & Baer, 1993, De Haas-Warner, 1992, and Shriberg and Kwiatkowski, 1990). The results of this study expand on this literature and showed that self-management techniques can be applied effectively to typical preschool children. The improvement of task engagement observed in the present study corroborates the findings of De Haas-Warner (1991), Miller, Strain, Boyd, Jarzynka, and McFetridge (1993), Bornstein and Quevillion (1976), and Billings

and Wasik (1985) who used self-management procedures to improve preschool children's on-task behaviors. Furthermore, the results of this study showed children who are younger than age three years and a half could learn to use the self-management procedure to regulate their task engagement behaviors.

A second novel aspect of this study was the use of video self-modeling in the training component. The results of the present research indicate that video self-modeling can be used in self-management to attain better on-task behaviors results in a general education setting for preschool children. While in the past, video self-modeling has been applied to preschool children with developmental delays (e.g., Whitlow & Buggey, 2003, Hepting & Goldstein, 1996, and Wert & Neisworth, 2003), this study shows that video self-modeling can be applied into a general classroom setting as a tool in self-management.

Limitations

The results of this study suggest that self-management with video self-modeling component is effective for increasing task engagement. However, there are several limitations that may limit the generality of these findings. First, the participants in this study responded better when the requests associated the procedure came from their teachers rather than the researcher. For instance, the participants needed to wear the timer during the intervention phase. Some of the participants would show some resistance if the requests came from someone who was not one of their teachers. Therefore, these intervention procedures maybe better implemented when assisted by the child's teacher or caregiver.

Second, when recruiting children for this study, all the teachers in the pre-K classes were asked to nominate children who presented some degree of reluctance to engage in

on-task behaviors. In addition, although there was no preferred gender for the potential participants in the beginning of the study, the teachers nominated participants of this study were all male. Previous researchers have documented that preschool/kindergarten aged children who are male and have difficulties remaining on-task are at risk for attention deficit hyperactivity disorder (ADHD) (McGoey, Eckert, & DuPaul, 2002). Future researchers may wish to validate the presence of possible disorders in order to establish the effects of self-management with specific disordered and nondisordered groups. Third, the multiple baseline research design requires an extended period of time for baseline data collection. Length of baseline may allow for carry-over effects. That is, task engagement may begin to increase in participants prior to treatment. However, given the stable baseline across participants carry-over effects are unlikely in this case. Fourth, this study required extended baseline and intervention periods. Consequently, there was not much time left before the end of the school year to investigate the effect during the maintenance phase for every participant.

Suggestions for Future Research

To address limitation of this study, some suggestions for future research emerge. First, the present study had only male participants. In order to understand the effectiveness of the self-management procedures on both male and female, female participants should be recruited. Second, the reason(s) that the intervention was effective for some children but not very effective for the others need to be investigated. A component analysis might be conducted to analyze the effectiveness for each step of the training package. Third, carrying a timer might be aversive for some children. Future study might be conducted using different media other than a timer. Fourth, the

generalization of the self-management procedures was not been examined in the present study. Although some of the teachers have used the sentence “Are you doing your job?” and “You are not doing your job” in the classroom, the effect of the self-management procedures in other settings could be investigated in the future studies.

Many of the self-management studies were targeted at an individual child, and were delivered by the investigators/researchers other than the classroom teachers. To make the self-management more practical and functional to the classroom in the preschool setting and to the preschool teachers, some additional of the following suggestions are offered.

Teacher management. One of the purposes of this study was to develop a self-management procedure that would help preschool teachers in guiding young children’s learning. The procedure has been proven effective in increasing children’s on-task behaviors. The effectiveness of implementing by a classroom teacher needs to be investigated.

Group training. One of the reasons parents send children as young as age 3 to schools is that children could learn to play and to work as a team at school. Therefore, the training of using self-management components might consider using group training. The teacher or the researcher teaches children these skills in a small group or in the class and evaluates the effectiveness. If the group training is too overwhelming for the teacher, pairing one child with undesired behavior(s) with one child who does not exhibit undesired behavior and teach both of them the same skills might be considered.

Suggestions for Practitioners

Derived from the present study are several suggestions for practitioners in the preschools or daycare centers. From the beginning of the baseline, some participants of

this study were reluctant to carry the timer and/or to receive the training sessions unless one of their teachers asked them to carry it. Therefore, when implementing the intervention in preschool classrooms, for reluctant children, teachers should institute the technique themselves.

Self-management procedure can be used in different settings such as circle time, lunch time, and/or free play time. Teachers may also use this intervention technique in the different settings to promote generalization.

Finally, the self-management procedure requires some basic understanding of the language such as understand the meaning of “doing my job”, “not doing my job”, and “Am I doing my job?” It is recommended to introduce to a child the meaning of pronoun such as “my” and “yours”.

Conclusions

Self-management procedures have been supported to be effective in children with special needs in different settings. This study supports previous studies on the effectiveness on preschool age children using self-management procedures and video self-modeling. Additionally, this research study begins to satisfy a deficiency in the literature by extending the self-management procedures to subjects of younger age. This intervention technique can be applied in a regular preschool or a day care setting. For preschool teachers, the results could provide a tool in designing or planning a child’s behavior management plan. For parents of young children, the results might offer an effective technique to management their own child’s behaviors.

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APPENDIX A
DATA COLLECTION INSTRUMENT

Data sheet - **Sample**

Name/Code:

Date & Time:

Activity:

Behavior	On Task	Transition	Social Interactions	Aggressive	Behavior	On Task	Transition	Social Interactions	Aggressive
1-1		✓			6-1	✓			
1-2		✓			6-2	✓			
1-3		✓			6-3	✓			
1-4	✓		✓		6-4	✓			
1-5	✓		✓		6-5	✓			
1-6	✓				6-6	✓			
2-1	✓				7-1	✓			
2-2	✓				7-2	✓			
2-3	✓		✓		7-3	✓			
2-4	✓				7-4	✓			
2-5	✓		✓		7-5	✓			
2-6	✓				7-6	✓			

The above sample sheet shows parts of the data sheet, that is, the first, the second, the sixth, and the seventh minute observation periods (The other periods are omitted for clarity). Each minute was divided into six 10-second intervals (labeled from 1-1 to 1-6; from 2-1 to 2-6; from 6-1 to 6-6; and from 7-1 to 7-6). In the example, during the first interval (1-1), a check mark is marked in the transition behavior box because the transition behavior was observed at least one time in this interval. The on-task behavior box is not checked because the participant was not on-task during the 10-second interval. The social interactions box and the aggressive behavior box are not checked because there were no social interactions nor aggressive behaviors observed during the 10-second interval. In the third interval in the second minute (2-3), the on-task behavior box is checked because the participant's on-task behavior was observed the whole time in the interval. The social interactions box is checked because there was at least one interaction

was observed in this interval. The transition behavior and the aggressive behavior box are not checked because there were no transition behaviors nor aggressive behaviors observed in this interval. The on-task behavior data was collected using whole interval data collection system and the transition behavior, the social interactions, and the aggressive behavior were collected using partial interval data collection system.

APPENDIX B
SCRIPT FOR TRAINING SESSIONS

Script/Checklist for Training Sessions

Video taping will be used for recording and teaching children the desire behaviors.

First training session:

Name:

Date:

Check	Script
	<p>Hi _____, (Child's name)</p> <p><u>(Introduce the video tape the child will see)</u></p> <p>I have a video tape I want to show you. Before I show you the tape, I want to ask you a question. (Activity One – On Task#1) A1: Do you know what “doing my job” means? (Let the child explain.)</p>
	<p>A2: “Doing my job” means when I play with a toy my eyes look at the toy and my hands touch the toy.</p>
	<p>A3: (Before watching the clip) In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the on task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>
	<p>A4: Can you tell me were you doing your job?</p>
	<p>(Activity One – Off Task#1) B1: Do you know “not doing my job” means? (Let the child explain.)</p>
	<p>B2: “Not doing my job” means when I play with a toy my eyes do not look at the toy and my hands do not touch the toy. I walk around.</p>
	<p>B3: (Before watching the clip) In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the off task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>

	B4: Can you tell me were you doing your job?
	(Activity One – On Task#2) C1: Do you remember what “doing my job” means? Can you tell me? (Review the definition – “Doing my job” means when I play with a toy my eyes look at the toy and my hands touch the toy.)
	C2: (Before watching the clip) In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the on task clip.) Tell me what you were doing. (The child says what he was doing.)
	C3: Can you tell me were you doing your job?
	(Activity One – Off Task#2) D1: Do you remember what “Not doing my job” means? Can you tell me? (Review the definition – “Not doing my job” means when I play with a toy my eyes do not look at the toy and my hands do not touch the toy. I walk around.)
	D2: (Before watching the clip) In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the off task clip.) Tell me what you were doing. (The child says what he was doing.)
	D3: Can you tell me were you doing your job?
	(Activity Two – On Task#1) A1: We are going to watch next video. In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the on task clip.) Tell me what you were doing. (The child says what he was doing.)
	A2: Can you tell me were you doing your job?
	(Activity Two – Off Task#1) B1: In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the off task clip.) Tell me what you were doing. (The child says what he was doing.)
	B2: Can you tell me were you doing your job?

	<p>(Activity Two – On Task#2) C1: In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the on task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>
	<p>C2: Can you tell me were you doing your job?</p>
	<p>(Activity Two – Off Task#2) D1: In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the off task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>
	<p>D2: Can you tell me were you doing your job?</p>
	<p><u>(Introduce the timer the child will carry)</u></p> <p>Remember the timer you carry? I put in a battery and set the timer now. The timer will ring every 5 minutes. I want you to push this button to turn the timer off every time it beeps. (Demonstrate)</p>
	<p>After you turn off the timer, I want you to ask yourself “Am I doing my job?”</p>
	<p>Can you tell me what do you do when the timer ring? (Answer: push this button to turn it off.) What do you do after you turn the timer off? (Ask self “Am I doing my job?”)</p>
	<p>Let’s try it out. (Set the timer for few seconds. Let the child turn it off and say “Am I doing my job?”) (Practice two times)</p>
	<p>Let’s try it with the video on. (Set the timer for few seconds. Let the child turn it off and identify if he is doing his job.)</p>

The Second Training session:

Name:

Date:

Check	Script
	<p>Hi _____, (Child's name)</p> <p>You think you remember what we learn yesterday? A1: Do you know what "doing my job" means? (Let the child explain.) (Review the definition.) A2: "Doing my job" means when I play with a toy my eyes look at the toy and my hands touch the toy.</p>
	<p>(Activity One – On Task#1) A3: (Before watching the clip) In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the on task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>
	<p>A4: Can you tell me were you doing your job?</p>
	<p>(Activity One – Off Task#1) B1: Do you know "not doing my job" means? (Let the child explain.) (Review the definition.) B2: "Not doing my job" means when I play with a toy my eyes do not look at the toy and my hands do not touch the toy. I walk around.</p>
	<p>B3: (Before watching the clip) In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the off task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>
	<p>B4: Can you tell me were you doing your job?</p>
	<p>(Activity One – On Task#2) C1: Do you remember what "doing my job" means? Can you tell me? (Review the definition – "Doing my job" means when I play with a toy my eyes look at the toy and my hands touch the toy.)</p>
	<p>C2: (Before watching the clip) In this video tape, you are in the _____. Tell me what you were doing after you watch the video.</p>

	<p>(Show the on task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>
	C3: Can you tell me were you doing your job?
	<p>(Activity One – Off Task#2) D1: Do you remember what “Not doing my job” means? Can you tell me? (Review the definition – “Not doing my job” means when I play with a toy my eyes do not look at the toy and my hands do not touch the toy. I walk around.)</p>
	<p>D2: (Before watching the clip) In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the off task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>
	D3: Can you tell me were you doing your job?
	<p>(Activity Two – On Task#1) A1: We are going to watch next video. In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the on task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>
	A2: Can you tell me were you doing your job?
	<p>(Activity Two – Off Task#1) B1: In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the off task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>
	B2: Can you tell me were you doing your job?
	<p>(Activity Two – On Task#2) C1: In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the on task clip.)</p> <p>Tell me what you were doing. (The child says what he was doing.)</p>

	C2: Can you tell me were you doing your job?
	(Activity Two – Off Task#2) D1: In this video tape, you are in the _____. Tell me what you were doing after you watch the video. (Show the off task clip.) Tell me what you were doing. (The child says what he was doing.)
	D2: Can you tell me were you doing your job?
	<u>(Introduce the timer the child will carry)</u> Remember the timer you carry? I put in a battery and set the timer now. The timer will ring every 5 minutes. I want you to push this button to turn the timer off every time it beeps. (Demonstrate)
	After you turn off the timer, I want you to ask yourself “ Am I doing my job? ”
	Can you tell me what do you do when the timer ring? (Answer: push this button to turn it off.) What do you do after you turn the timer off? (Ask self “Am I doing my job?”)
	Let’s try it out. (Set the timer for few seconds. Let the child turn it off and say “Am I doing my job?”) (Practice two times)
	Let’s try it with the video on. (Set the timer for few seconds. Let the child turn it off and identify if he is doing his job.)
	When you hear the timer beep, you will turn off the timer then you will ask yourself “Am I doing my job?” After you ask yourself “Am I doing my job?”, if you are doing your job then you will keep doing what you do. If you are not doing your job then you will quickly find an activity to do.
	What do you do when the timer beep? What do you do after you ask yourself “Am I doing my job?”? What do you do if you are doing your job? What do you do if you are not doing your job? What activity can you do?

The Third Training Session

Name:

Date:

Check	Script
	<p>Review the definitions: “Doing my job” means when I play with a toy my eyes look at the toy and my hands touch the toy. “Not doing my job” means when I play with a toy my eyes do not look at the toy and my hands do not touch the toy. I walk around.</p>
	<p>When you hear the timer beep, you will turn off the timer then you will ask yourself “Am I doing my job?”</p> <p>After you ask yourself “Am I doing my job?”, if you are doing your job then you will keep doing what you do.</p> <p>If you are not doing your job then you will quickly find an activity to do.</p>

Check	Script
	<p>Let’s see if you remember what we learned. (Let the child hold the timer.) What do you do when the timer beep? _____ What do you do after you ask yourself “Am I doing my job?”? _____ What do you do if you are doing your job? _____ What do you do if you are not doing your job? _____ What activity can you do? _____</p>
	<p>(Activity Three – On Task#1) (Set the timer for few seconds and let the child hold the timer.) When the time beep, you will turn off the timer and ask yourself “Am I doing my job?” then you will tell me if you are doing your job in the video tape.</p> <p>(Show the on task clip.)</p>
	<p>(Activity Three – Off Task#1) (Set the timer for few seconds and let the child hold the timer.) When the time beep, you will turn off the timer and ask yourself “Am I doing my job?” then you will tell me if you are doing your job in the video tape.</p> <p>(Show the off task clip.)</p>

	<p>(Activity Three – On Task#2) (Set the timer for few seconds and let the child hold the timer.) When the time beep, you will turn off the timer and ask yourself “Am I doing my job?” then you will tell me if you are doing your job in the video tape.</p> <p>(Show the on task clip.)</p>
	<p>(Activity Three – Off Task#2) (Set the timer for few seconds and let the child hold the timer.) When the time beep, you will turn off the timer and ask yourself “Am I doing my job?” then you will tell me if you are doing your job in the video tape.</p> <p>(Show the off task clip.)</p>

APPENDIX C
BASELINE DATA COLLECTION STEPS

Baseline data collection steps:

- a. Have the data sheet ready.
- b. Set the tape recorder – 15 minutes with 90 ten seconds intervals.
- c. Ask a teacher to ask the subject to put the timer in his pocket or to clip on the waistband.
- d. Write down the name of the subject, the date, the time, and the activity the subject chooses.
- e. Record on/off task behaviors, transition behaviors, social interactions with peers and adults, and aggressive behaviors.
- f. Ask the subject to return the timer.

VITA

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Professional Experience

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- Tseng, H. Y. (2004). Self-management and second language learning. Mid-Western Educational Research Association Annual Conference. Columbus, Ohio: October, 2004.