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Janet L. Dodd [α], Kayla LoCoco [σ], & Marissa Caccavale [ρ]

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Keywords: social skills intervention, emotional intelligence, executive functioning.

I. Introduction

Academic and social success is not only reliant on social competence but also requires the integration of emotional intelligence (EI) and executive functioning (EF) (January, Casey, & Paulson, 2011).Students with deficits in these areas often experience extreme difficulty achieving communicative effectiveness in school. They are challenged daily in social interactions, often due to issues with self-regulating inappropriate behaviors and recognizing others' emotional states. These students often participate in a myriad of interventionscollectively referred to as social skills training (SST). These SST interventionsare often provided either in a one-on-one session or in a small group setting commonly referred to as a "social skills group" (SSG) (Moore & Montgomery, 2008). SSGs can be comprised of children with similar deficits or include typically developing peers as models or facilitators.

Although found to be effective for younger children and those with proficient language skills (Cook et al., 2008), SST remainsdebatable for older students with significant language impairments (SLI) (Forness, 2005), or high-incidence disabilities (i.e., disabilities that are identified frequently in the school setting)(Gresham, Sugai, & Horner. 2001). The challenges of students with deficits in social competence, EF, and Elare often compounded by the presence of significant interfering behaviors (De Roiser, Swick, Orstein-Davis, Sturtz-McMillen,& Matthew, 2011; Reid & Nelson, 2002).

II. A Review of the Literature

It is without question that the ability to interact with peers is one of the most important aspects in a student's development. Social competence has significant predictive value for a student's long-term psychosocial adjustment (Greshamet al., 2001). The ability to initiate and maintain successful interactions, collectively referred to as *social competence*, has been one of the distinguishing characteristics of children diagnosed with high-incidence disabilities (Gresham et al.). Autism spectrum disorders (ASD), intellectual disability (ID), and other health impairment (OHI), are among some of the diagnoses characterized by deficits in social competence. It has been suggested in recent literature that these students often struggle to develop and maintain positive peer relationships in school, often failing to initiate interactions with others, maintain reciprocity during conversation, share enjoyment, take others' perspectives, or infer the interests of peers (Flynn & Healy, 2012). For these students impairments

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in social competence are often compounded by impaired skills related to EI and EF.

Of particular interest to this study is the influence EI plays in being a socially competent person. Emotional intelligence has been described as one's ability to recognize emotions in one's self or in others, facilitate thought relating to those emotions, comprehend the meaning of these emotions, and manage and integrate this emotional information (Mayer & Salovey, 1997; Rieck & Callahan, 2013). Development of EI may be further impacted secondary to concomitant cognitive deficits, particularly those related to EF skills. EF skills encompass those higher-order cognitive thinking skills one utilizes to reason through problems, formulate plans, self-regulate emotions, and inhibit sociallyinappropriate behavior to optimize success in unfamiliar situations (Gilbert & Burgess, 2008).These skills typicallyemerge by approximately eight years of age (Diamond, Kirkham, & Amso, 2002). Students who fail to develop EF skills are often faced with a combination of poor impulse control, cognitive inflexibility, poor planning, and poor self-regulation of emotion and behavior (Stichter et al., 2010). Proficiency in EI and EF skills is dependent on how well these skills can be integrated by the individual. Without the foundation of EF skills, a student's EI is impacted as the yare faced with immense difficulty understanding their own internal states, even more so formulating an understanding of what information is being presented externally from others.

Executive functioning requires the integration and processing of information from a wide range of internal and external sources (Stichter et al., 2010). Integrating external emotional information of others (i.e., facial expressions/emotions, body language) might not be accomplished when EF skills are impaired. For example, if a peer is angry, his face may be frowning, his body tensed, and his tone of voice higher or lower than usual. External information such as these can be integrated and perceived as anger and/or aggression. For students with deficits in EF, receiving, integrating, and comprehending the varying emotional cues is difficult to accomplish and EI then remains impaired as well. In addition to problems recognizing external information, recognition of internal emotionsis also challenged. Understanding and managing internal states is a critical first step toward demonstrating appropriate behavior during interactions with others (Stichter et al., 2010).Thus, impairment in EF and, therefore EI, placesstudents at risk for losing opportunities to develop and maintain relationships with peers throughout the duration of their childhood and adolescent years in school.

A particularly stressful period in any student's life is adolescence (Stichter et al., 2010). For students with various diagnoses, this is when self-awareness of social imperfections emerges and they begin to recognize how they differ from their peers (Stichter et al.). It is in early adolescence when the development and refinement of social skills occur; thus, interventions should be implemented, not only with adolescents who have average to above average intellect, but also with those students who have intellectual impairments (Stichter et al.).

As previously mentioned, a popular approach to promote skill remediation is *social skills training* (SST). In this approach, clinicians utilize strategies to promote skill acquisition, generalization, and maintenance by teaching target skills in naturalistic environments through modeling and coaching appropriate behaviors, and reinforcing the target behaviors consistently (Greshamet al., 2001). Delivery of SST may be provided individually to a child in a one-on-one setting; however, a group setting, known as a social skills group (SSG), may better develop social skills by allowing adolescents to interact with peers while receiving guidance from clinicians or facilitators (Tse, Strulovitch, Tagalakis, Meng, & Frombonne, 2007).In order to increase a student's motivation to spend time with their peers and subsequently develop friendship skills it is important that these SSGs be fun and engaging (Tseet al., 2007).

Review of the literature indicates that many types of SST interventions uses Gas a model of service delivery. Lerner and Mikami (2012) conducted a randomized control trial with students with proficient language skills comparing the SSTs Skill streaming (Goldstein & McGinnis, 1997) and Sociodramatic Affective Relational Intervention (SDARI) (Lerner & Levine, 2007). Skill streaming involves teaching the discrete behavior steps and rules of a successful social interaction. SDARI indirectly trains social skills through games and naturalistic interaction with students who have deficits in EF, EI, and overall social competence. Results of this study indicated that both groups improved in their ability to develop friendships with peers and staff members reported improvement in social skills (Lerner & Mikami), providing support for the use of SSGs for implementing SST interventions.

A similar population of students participated in Tseet al.'s (2007) study examining the effectiveness of SST provided within an SSG composed of adolescents with diagnoses of Asperger's syndrome and high-functioning autism. Tse et al. specifically indicated that SSGs could be an effective model of service delivery for verbal adolescents with deficits in EF, EI, and social competence. There has been growing interest in this model of service delivery for students with varying speech and language deficits. Flynn and Healy (2012) concluded that SSGs were effective across various age groups and diagnoses; however, there were limitations to their conclusions with application to students with more significant language impairments. SSGs are most beneficial for students who have more developed foundations in language(Flynn & Healy).Also, there is

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little evidence that SST has long-term effects when used with students who have significant deficits in cognitive or emotional functioning (Gresham et al., 2001).

There is a preponderance of evidence of research related to the use of SSG for students with proficient language abilities. However, there is minimal research available on SSGs that includes the participation of students with high-incidence disabilities and SLI. With what little research is available for this population within an SSG, a clinician may be discouraged from using this service delivery model to implement intervention. The question remains: if appropriate modifications were made to a social skills intervention, could this population of students acquire, generalize, and maintain learned strategies?

The purpose of this study was to discover if modifications to an intervention curriculum addressing emotional learning through self-regulation and self-awareness and EF skills delivered in an SSG could be effective for students with moderate to severe communication deficits. The following research questions were considered prior to implementation of the intervention:

1. Will social skills training intervention be effective for students who present with significant language impairment secondary to other diagnoses (e.g., autism spectrum disorders)?
2. What types of modifications would be necessary to make the curriculum accessible and comprehensible?

III. Methods

a) Participants

Participants in this cohort study were nine students between the ages of 10:8 and 16:0with diagnoses of autism spectrum disorder (ASD), intellectual disability (ID),other health impairment (OHI), and multiple disabilities (MD)all with concomitant behavioral challenges including inappropriate vocalizations, task avoidance, inattention, playing with materials, tantrums, negative verbal statements, and inappropriate peer interactions(Reid& Nelson, 2002). A chart review of each participant was conducted to determine the severity of language impairment, all varying from moderate to significant. All participants attended an after-school SSG that targeted skills to support social competence through the development of EI and EF skills (DeRoiser et al., 2011). Of these participants, seven attended a non-public school (NPS), an institution dedicated to educating and providing therapy to children and adults with developmental and acquired disabilities, and two were home schooled. Five of the seven students who attended the NPS concurrently received weekly speech and language services focusing on social skills training in addition to the after-school SSGs. The speech and language services of the other two students addressed weaknesses in the areas of expressive and receptive language functioning only. The two students who were homeschooled did not receive any additional speech and language services outside of the after-school SSG. Table 1 provides participants' ages and eligibility for services.

Table 1 : Participant information

Participant	Age	Grade	Primary Eligibility	Secondary Eligibility	Social Profile
1	13:4	7	OHI[1]	None	Active but odd
2	11:3	5	ASD[2]	None	Active but odd & aloof
3	13:11	7	MD[4]	OHI	Active but odd
4	11:11	6	ASD	None	Passive and aloof
5	12:1	5	ASD	SLI	Passive
6	10:8	4	ASD	None	Active but odd and aloof
7	10:9	4	ASD	None	Active but odd
8	12:11	NS[6]	ASD	None	Passive
9	15:11	10	ID	None	Active but odd

Abbreviations included in this chart defined: [1]OHI, Other Health Impairment; [2]ASD, Autism Spectrum Disorders; [3]ID, Intellectual Disability; [4]MD, Multiple Disabilities; and [5]SLI, Specific Language Impairment.

Six out of nine of the participants introduced in Table 1presented with a diagnosis of ASD; however, participants with varying diagnoses were included in this study because they shared common intervention needs. Regardless of diagnoses, each participant demonstrated characteristics consistent with one of Wing's (1996) social profile descriptions of the children on the autism spectrum (i.e., *aloof, passive,* and *active but odd children*). Three of the participants were considered "aloof," and appeared withdrawn or indifferent to others in the group and were often difficult to comfort when distressed. Several participants were "passive" and often reluctant to participate in the group voluntarily, but if approached would cooperate on most occasions. A clinician or support staff member was often required to sit with these individuals and use encouraging language, such as "You will do great," or "Show your classmates how to do this," to elicit

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participation. There were also the "active but odd" individuals who spontaneously participated but often in an odd or inappropriate manner. They paid little attention to the responses of others in the group and exhibited tangential speech that was monitored by clinicians. They were encouraged to become active listeners and allow for others to take turns during the session. Participants often varied between the three profiles and clinicians managed the behaviors accordingly. Table 1 lists the most salient social profile description of each participant.

b) Procedures

Prior to implementation of the Kimochis™ curriculum, each student participated in assessments to determine baseline competence in the areas of emotion identification, social skills, and higher-level language pertinent to successful social interactions in various environments. The students then completed the twenty-two-week intervention targeting these skills. To determine the impact of intervention on the students' social competence, the measures used to determine baseline information were then administered post-intervention.

c) Baseline and Post-Intervention Measures

Baseline and post-intervention measures were obtained to determine participants' response to the intervention. The following measures were used: Social Emotional Evaluation (SEE), identifying emotions in photograph cards, and the Social-Emotional Behavior Scale.

i. *Social Emotional Evaluation (SEE)*

The SEE is a norm-referenced test that evaluates social skills and higher-level language necessary for students to be successful in daily situations within multiple environments (i.e., school, home, community). Subtests target the recall of facial expressions, identification of common emotions, recognition of emotional reactions, understanding social gaffes, and understanding conflicting messages. Administration of the SEE is intended for students who are between the ages of 6:0 through 12:11 with scores representing typically developing students, students diagnosed with autism, and students with severe language deficits. Because the participants' ages fell outside the range of standardization, the researchers recorded the raw scores to represent pre- and post-intervention skill levels.

ii. *Emotion Identification*

Emotional Identification was an informal assessment administered by researchers using thirty culturally diverse photograph cards portraying the emotions of *happy, mad, sad, afraid, thoughtful, and surprised.* The six emotion words were printed separately from the photographs. Participants were required to match the printed emotion to the photograph shown. A total of 30 photographs were shown to each student (5 photographs of each emotion).

iii. *Social-Emotional Behavior Scale (SEBS)*

SEBS is a Likert-style observational checklist to rate a child's behaviors in multiple areas using a scale from 1 through 5 (a rating of "1" indicates "Almost Never" and a rating of "5" indicates "Almost Always"). The checklist provides information regarding issues of personal space, tone of voice, the use of positive and negative comments toward others, attention seeking behaviors, etc.

d) Intervention and Curriculum

Intervention occurred after school in a large classroom one time per week for sessionsforty-five minutes in length for a total of twenty-two weeks. The Kimochis™ curriculum was implemented; however, modifications were made to meet the learning styles exhibited by the students. The students sat in a semi-circle configuration as researchers demonstrated the lessons. At the end of the demonstration, participants were given the opportunity to practice the new social techniques with guidance and support of the researchers. An overview of the Kimochis™ curriculum has been provided along with a timeline of a typical forty-five-minute session.

Kimochis™ is a school-based social-emotional learning program designed to help students gain knowledge and skills to recognize while interacting with others and how to manage their own emotions during heightened emotional states. The curriculum is comprised of the following elements:

1. Introductory Lesson: Meet the Kimochis™
2. Keys to Communication
3. Feelings Lessons

Table 2 : Timeline of a forty-five-minute lesson

Timeline	Description
1 to 5 minutes	Review previous lesson's target skills.
15 minutes	Teach and model new skills.
15 minutes	All students practice the new skill in front of the group, with a student or adult partner, as a small group.
10 minutes	Practice integrating previously learned skills with new skills.

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i. *Introductory Lesson*

In the introductory lesson, children were introduced to each of the Kimochis™ characters. Each character helps children learn about different emotions that represent aspects of their individual personality. The following is a brief description of each character, their personality, and the emotions associated with their personality:

- Cloud—Cloud is unpredictable and moody. He has a hard time controlling his emotions but does not mean to be hurtful. Cloud teaches children about the emotions happy, mad, and sad.
- Bug—Bug is a caterpillar that fears change. He is very thoughtful and considerate to all his friends but is afraid to try new things. Bug teaches children about the emotions happy, brave, and left out.
- Huggtopus—Huggs (short for Huggtopus) is very affectionate, strong, and easily excited. She is very well intentioned but sometimes has difficulty respecting others' boundaries. Huggs teaches children about the emotions happy, silly, and frustrated.
- Cat—The leader of the Kimochis™ is Cat. She is persuasive and determined but can be a bit bossy sometimes. Her bossy behavior can sometimes hurt others' feelings. Cat teaches children about the emotions happy, curious, and cranky.
- Lovey Dove—Considered the mothering figure of the group, Lovey Dove is sweet and nurturing. Lovey Dove tries very hard to make everyone happy and maintain harmony in the group. She sometimes feels sad when one of her friends feels let down. Lovey Dove teaches children about the emotions happy, proud, and hopeful.

ii. *Kimochis™ Keys to Communication*

The keys to communication represent communicative behaviors that need to be mastered to achieve successful communication interactions and to build positive relationships (Dodge, Rice, & Grimm, 2010). The keys are as follows:

1. Call someone's name, wait for eye contact, and give a communication tap, if necessary, before you speak.
2. Use a talking tone of voice instead of a fighting tone of voice.
3. Use a talking face and relaxed body language instead of a fighting face and tense body language.
4. Choose words that help instead of hurt.
5. Be brave and redo hurtful moments.
6. Be kind and let people try again.
7. Assume the best.

Each key was taught through multiple activities that all owed the students to practice specific behaviors that were vital under each key. Children discussed the feelings associated with correctly using the keys versus when someone does not (ex. How do you feel when someone uses a talking voice versus when they use a fighting voice?). Each activity taught a skill that needed to be grasped for successful performance of the key. For example, Key 1 (i.e., call someone's name, wait for eye contact, and give a communication tap before you speak)was broken down into 5 different activities in order to teach all the necessary skills for execution of the key . Activities focused on each skill individually and concluded with the students practicing all of the skills under the key in predictable situations.

iii. *The Feelings Lessons*

The keys of communication were reinforced in Feeling Lessons. Each Feeling Lesson focused on a single emotion and contained activities on how to recognize and manage the target intrinsically and in others. Emphasis was placed on self-awareness, self-regulation, and "re-doing" or correcting one's actions. Participants discussed what situations provoke certain emotions and discussed how they often react and how they could react differently the next time they feel a certain way. Lessons had activities and tips specific to early childhood and elementary age students. Each lesson contained multiple activities that allow the students to practice multiple aspects of the emotion or communication behavior being taught. The program included multiple learning activities and encouraged the instructor to choose activities that catered to the needs of his/her students.

IV. Results

The overall purpose of this study was to determine if modifications to an intervention curriculum specifically addressing emotional learning through self-regulation, self-awareness, and EF skills provided in a SSG setting could be effective for students with moderate to severe communication deficits. Two research questions were posed prior to implementation of the intervention: 1) Will social skills training intervention be effective for students who present with significant language impairment secondary to other diagnoses (e.g. autism spectrum disorders); and 2) What modifications would be necessary to make this curriculum accessible and comprehensible? This preliminary investigation found that SST provided in the context of a SSG model is effective for students with SLI secondary to other diagnoses. At the beginning of the intervention program, the first lesson was presented to the group with the original language and format provided in the curriculum. As the various needs of the students became more apparent, modifications to the curriculum were made (e.g., repetition of key concepts, sharing of examples, demonstrations, etc.) and consistently used throughout each lesson to maximize

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learning. Table 3 provides a description of the modification simple mented throughout the course of the study.

Table 3 : Modifications

Modification	Description
Repetition	Frequent repetition of key concepts in each lesson. The clinicians repeated the concept 2-3 times with a demonstration of a typical social situation in which the concept would occur.
Sharing Examples	Students shared personal experiences related to the key concept being demonstrated. Some students readily volunteered, whereas others required more encouragement to participate (i.e., allowing students to choose a friend to provide the next example, allowing students to choose a partner for the example to reduce anxiety, verbal and tactile prompts to encourage device use).
Demonstration& Practice	Clinicians provide 1-2 demonstrations of typical social situations in which a key concept occurs. Each student then demonstrated a similar situation individually, with a partner, or with a small group of students under guidance of the clinicians.
Comprehension Checks	Checks for comprehension were frequently employed to confirm students' understanding of the information. Students were asked questions such as "What did he just say?" or "How did that make him feel?" to keep them engaged in the lesson.
External Motivators	Some sessions required external motivators, such as being able to hold a favorite Kimochis™ character, as a way to maintain engagement and interest in the lesson. Eventually, these motivators were faded out.
Dividing the lesson into two lessons	Some concepts considered more difficult to grasp were divided into two lessons. This extended the overall length of the 18-weekintervention but was necessary for the students to best comprehend the lesson.
Review of the previous lesson	Before the introduction of a new lesson/concept, the clinicians deliberately asked if the students could remember and demonstrate what was taught previous session. These newly learned concepts were integrated into each new lesson for further reinforcement.

The participants' baseline performance was measured prior to implementation of the Kimochis™ intervention utilizing the Social Emotional Evaluation (SEE), Emotion Identification, and the Social Emotional Behavior Scale. Response to the intervention was similarly evaluated upon completion of the twenty-two-week intervention. Based on the results of testing and qualitative accounts of skill improvement from teachers, therapists, and other staff members, the modifications were successful in allowing the students to comprehend and use the skills taught in a SSG. For several participants in particular, gains were noted in the comprehension and practical use of learned social skills, pragmatics, and emotion identification. Also of importance, improvement in behavior regulation, that is, the individual's ability to maintain low-reactivity to an emotion-inducing stimuli (Blair, 2002), was also reported. Participants who typically cried, yelled, ran away, or became physically aggressive at the presentation of undesired stimuli (e.g., sounds, activities) upon completion of the intervention, were capable of recognizing that the stimuli was unfavorable and either asked to take a break or continued with the activity until its completion.

Excluded from the results is participant 7, who did not return to the After School Club after the sixteenth week, and participant 8, who was unable to complete post-intervention evaluations due to inconsistent attendance during the final evaluation period in addition to failed return of pre- and post-intervention behavior scales. Quantitative results for the remaining participants are represented in Figures 1 through 3, followed by qualitative information gathered from faculty and staff who worked closely with the participants.

a) Social Emotional Evaluation

All participants improved in their performance on the Social Emotional Evaluation as seen in Figure1. Participants 4 and 6 were only able to complete half of the Social Emotional Evaluation prior to implementation

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of the intervention due to difficulty with behavior regulation; however, both participants were able to complete all post-intervention evaluation procedures.

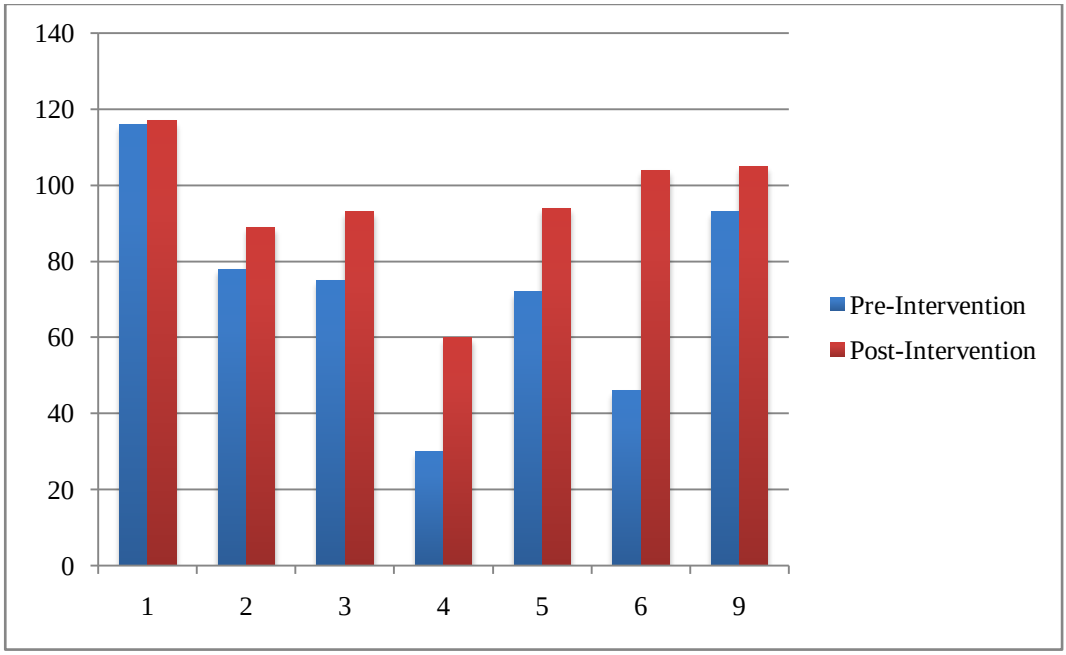

Figure 1 : Social Emotional Evaluation

b) Emotion Identification

Of the seven participants, five improved in their identification of emotions from photographs as shown in Figure2. Participant 6 was considered untestable during the pretest phase due to difficulty with behavior regulation. Two participants 1 and 2did not display improved emotion identification from photographs.

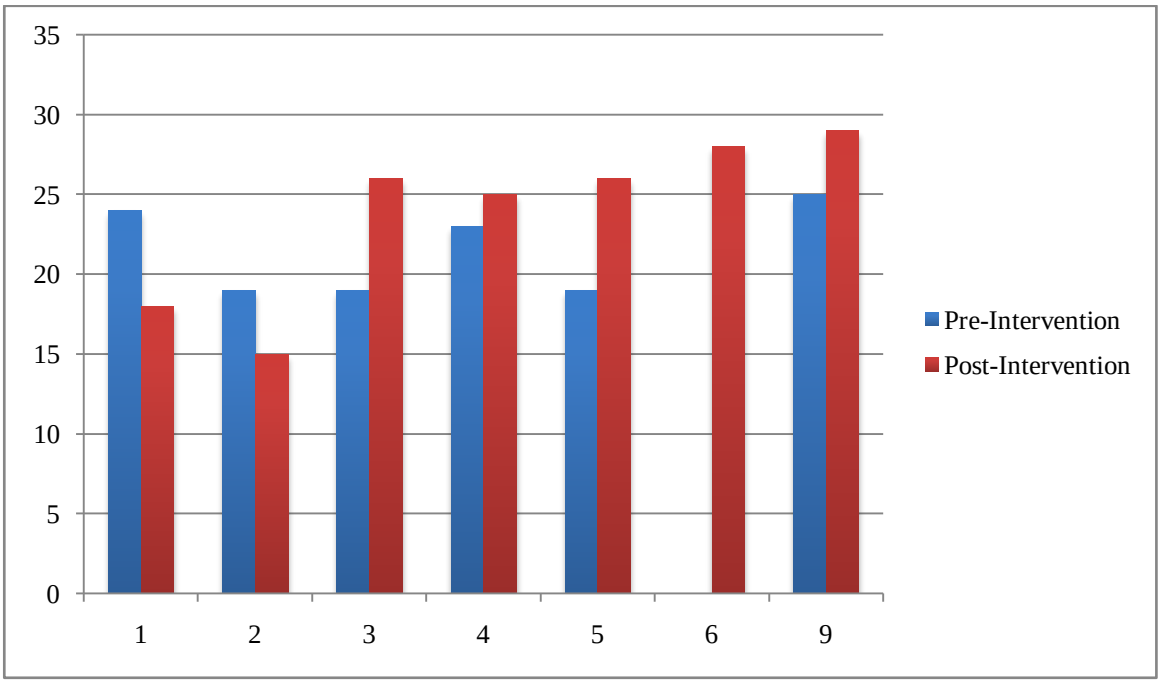

Figure 2 : Emotion Identification

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c) Social Emotional Behavior Scale

Five participants were given higher scores by their classroom teachers on the Social Emotional Behavior Scale when compared to their scores prior to intervention. Participant 9 pre-intervention data was not returned, but post-intervention data was collected. Two participants received lower scores upon post-testing from their classroom teacher. Factors that may have contributed to the lower scores could have been that the scales were completed under different circumstances. For participant 2, the follow-up scale was completed quickly (i.e., <5minutes) and indicated that there was no improvement made after intervention and reflected worsening of behaviors within the classroom.

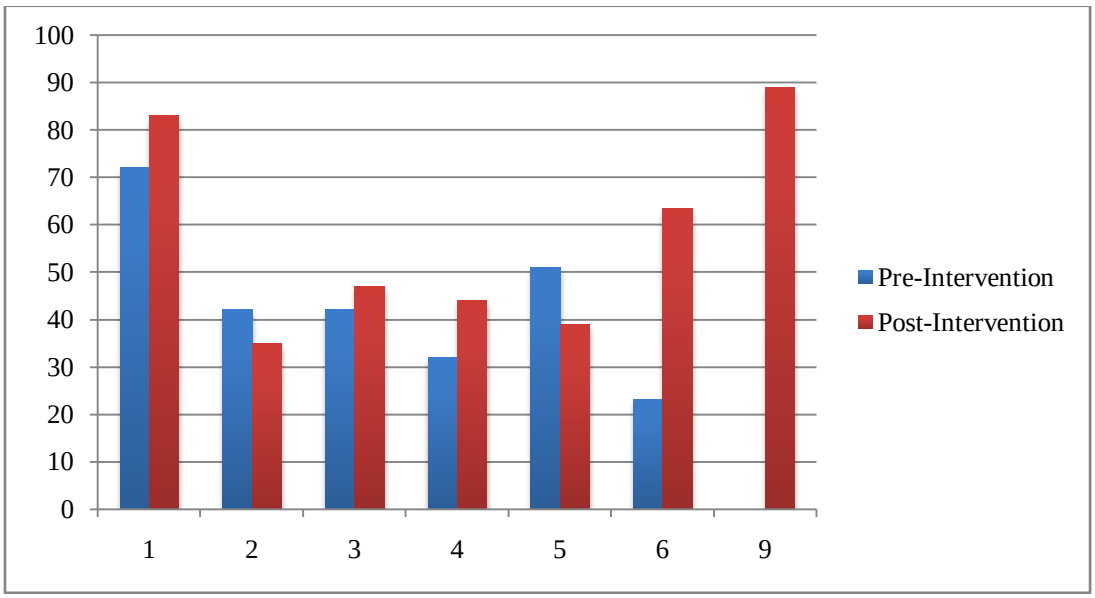

Figure 3 : Social Emotional Behavior Scale

The results of the post-testing measures indicate increased social competence on the part of each participant, which subsequently resulted in gains in the areas of EI and EF. This particular group of participants was deemed difficult to assess in a formal manner by the faculty and staff. Care was taken to gather qualitative data on each participant's growth with such methods as observations within the classroom, playground, and group settings, in addition to parent and teacher interviews. The following descriptions provide a brief summary of the information collected:

- Participant 1, an adolescent male with a diagnosis of OHI, was best described as "active but odd" (Wing, 1996). His classroom teacher shared that he often experienced difficulty recognizing when a joke was no longer funny or was hurting a peer's feelings. Upon completion of the twenty-two-week intervention his classroom teachers noted improvement in his ability to recognize when he had unintentionally offended another person and he was beginning to resolve conflicts without the guidance of an adult.
- Participant 2, an adolescent male with a diagnosis of ASD, was best described as a combination of "aloof" and "active but odd" individual. Heoften appeared uninterested in social interactions. He would join in an interaction by shifting the topic to one of his choosing, often times ignoring the topic of the interaction. In an attempt to blend into the conversation he often engaged in self-talk about an unrelated topic. Upon completion of the intervention program hedemonstrated improvement in the areas of topic maintenance and emotional understanding.
- Participant 3, a preadolescent male with the diagnosis of MD, was described as an "active but odd child". Although non-verbal, heenjoyed participating in social interactions and showed a great desire to interact with others. In an attempt to engage with another student he would impulsively grab the student by the arm or around the neck and hug them tightly. A reduction in this impulsive behavior was noted throughout the course of intervention as he consistently used the communication tap to gain attention rather than his previously aberrant behaviors. He also began to match his facial expression with emotional statements made on his communication device (e.g. "I am sad").
- Participant 4, an adolescent female diagnosed with ASD, was categorized as both passive and aloof. She frequently appeared uninterested in others and engaged in self-talk about a preferred topic.

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Occasionally, given verbal and physical prompting, she would interact for a brief period of time. Improvement was noted in the areas of gaining another's attention (using the communication tap), maintaining a social interaction, and behavior regulation. Deemed untestable at the beginning of the study, she was able to complete all aspects of post-testing.

- Participant 5, an adolescent male with the diagnosis of ASD, was described as passive. He would only participate in group activities given adult prompting and verbal encouragement. He demonstrated displayed improvement initiating interactions and many staff members reported a general increase in confidence.
- Participant 6, an adolescent male with the diagnosis of ASD, was categorized as both aloof and active but odd. He appeared withdrawn from social interactions and uninterested in others, often engaging in videogame-related self-talk. When asked to engage in an undesirable activity, heresponded with escape behaviors such as eloping, covering his ears, singing, and yelling. He was unable to complete pre-testing procedures due to difficulty with behavior regulation. A reduction in escape behaviors was noted, as well as overall improvements in topic maintenance and emotion recognition and regulation. He was able to complete all post-testing measures with minimal opposition.
- Participant 9 is an adolescent female with the diagnosis of ID, and fit the active but odd profile. Difficulties with emotional regulation were noted prior to the onset of the study. She was described as somewhat rigid in her thinking, over-reactive, and displaying a tendency of dominating social interactions with peers. Improvements were noted in her reactions to challenging situations and her regulation of the emotions that accompanied those situations.

As the results indicated, students with SLI do benefit from SST provided in SSGs. Accessibility to the curriculum was dependent on the consistent implementation of specific modifications.

V. Discussion

As the results of this preliminary investigation suggest, SST provided through an SSG model can be effective for students who present with significant language impairment secondary to other diagnoses (e.g. autism spectrum disorders). The modifications used throughout the intervention period allowed the students access to material and skills previously deemed only accessible to students with higher-level language skills. The results of this study indicate the modifications made to the Kimochis™ curriculum assisted in fostering the development of self-regulation, self-awareness, and emotional learning in the context of a SSG for several participants. This study, to our knowledge, is the first addressing SST for adolescents with moderate to severe communication deficits. Improvements made on the SEE indicate overall increased understanding and/or use of social skills and higher-level language functioning, potentially impacting the participants' social competence. Success in social competence has positive implications for overall EI and EF skills (Gresham et al., 2001). It is suggested that the gains participants made in Emotional Identification also contributed to their development of EI and EF skills. Teacher responses on the Social Emotional Behavior Scale indicated improvements in the area of social competence as seen in the classroom for five of the seven participants. These improvements included increased independent problem solving, increased emotional awareness and regulation, and observed generalization of targeted intervention skills (i.e. communication tap, stop hands, talking and fighting voice).

Monitoring progress with students who present with communication disorders of varying degrees can be challenging. Students with higher-level language skills may perform better on standardized tests with a stronger language base than those who have SLI (Adams, Lloyd, Aldred, & Baxendale, 2006). Standardized tests and some informal measures are a method of measuring change of specific skills; however, qualitative data regarding behavior, classroom engagement, and generalization of skills is an essential supplement to progress monitoring with a population as diverse as the one included in this study.

The modifications used during intervention can be easily applied to any SSG to allow accessibility of the curriculum for students with a broad spectrum of communication disorders. Modifications such as repetition, comprehension checks, review of the previous lesson, sharing examples, dividing one lesson into two lessons, and demonstration are supported by the literature surrounding this population. Leaf, Dotson, Oppenheim, Sheldon, and Sherman (2010) found that the use of demonstration, repetition, and comprehension checks embedded within an SST procedure was effective in the acquisition of social skills in children with communication deficits secondary to a diagnosis of ASD. Strain and Odom (1986) encouraged review of targeted social skills prior to the demonstration and practice of the target skills during therapy. By combining demonstration, role-play, comprehension checks, and review of students' performance during an SST program, Bass and Mulick (2007) found improvement in the basic communication of their participants. These modifications can be utilized in any SST or SSG to allow students with language difficulties to participate and reap the benefits of the intervention. Clinicians should consider the various presentations of

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the students' communication disorders in determining the most effective modifications to be made.

There were several limitations noted during this study. One participant completed only sixteen of the twenty-two weeks and was unavailable for post-testing procedures. Two participants exhibited difficulties with attendance and were unavailable for pre- and/or post-testing procedures. Participant 1 and 2 did not show improvement on the Emotional Identification, however did improve on the SEE that targets emotional identification. Factors that may have contributed to this discrepancy might be fatigue from having been in class that morning, excitement because the school-wide awards ceremony was taking place, and/or quality of images depicting emotions on the SEE versus those on the Emotional Identification photographs. Several inconsistencies exhibited on the Social Emotional Behavior Scale by a classroom teacher of two participants (i.e., utilizing staff to assist in scale completion for one participant, inconsistent interpretation of ranking). This classroom teacher had also required multiple reminders to complete the behavior scale in a timely manner, and in two instances, required additional copies of the behavior scale due to having lost the original completed copies. There is no evidence of the consistencies between the lost scales and those that were submitted for the study. The parent of the home-schooled participant 8 failed to return both behavior scales despite multiple attempts by clinicians to retrieve the data. Using observational behavior scales, in general, has its limitations for progress monitoring. As seen in this study, the issue of guaranteed submission of the scales was a concern. To ensure submission of the scales by those involved with the participants, multiple reminders and additional replacement copies were provided; one remained unreturned by a parent for post-testing procedures. In addition to the concern of submission is the issue of reliability and validity of the scores given to each student. The scales are to be completed as objectively as possible; however, in some cases, this is not so. Factors such as evaluator's emotional state at the time of rating the student, time constraints, and use of other staff's opinion affect the accuracy of the scale. If students' behaviors are rated at moments that are not impacted by such factors, the observational behavior scales can provide useful information of how the student is generalizing learned skills into various environments.

VI. Conclusion

This study of SST implementation in an SSG for adolescents who have moderate to severe communication deficits secondary to varying diagnoses is valuable to educators and clinicians working closely with this population. Many professionals have veered away from utilizing SSTs with students who exhibit these deficits because it has often been thought that successful SSTs require the students to have higher-level language skills. Modifications made to an intervention targeting social-emotional recognition and regulation allow students the opportunity to practice key skills necessary for development of social competence, EI, and EF skills. The results of this study indicate that modifications made to one curriculum led to gains in these areas; however, further investigation of modified interventions with this population is necessary to achieve consistent evidentiary support.

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