EMOTIONAL COMPETENCE IN A

PRE-KINDERGARTEN CLASSROOM:

LINKS TO SOCIAL AND ACADEMIC COMPETENCE

By

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TABLE OF CONTENTS

Chapter	Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

By the time a child enters preschool (or pre-kindergarten), he or she has been developing a wide variety of emotional competence skills (Denham et al., 2003). The child is able to understand and express different emotions. He or she can discern other's facial expressions and talk about them. The child might even be able to respond with concern when a parent expresses a negative emotion. Finally, the child is beginning to manage his or her emotions. These competences will be critical to the child's ability to succeed in the preschool classroom, for it is here that the child, often for the first time, will begin using these emotional competencies to develop relationships with peers and teachers that will have a lasting impact on his or her school success (Denham et al., 2001; Stuhlman & Pianta, 2001).

When a child develops emotional competence, they develop an understanding of their own feelings and how to regulate those feelings as the situation dictates. Social competence requires the child to understand *other's* feelings and to regulate their emotions in response to another. Emotional competence also aides in academic competence by helping a child to maintain focus in class, persisting with a task and delaying gratification (Garner & Waajid, 2008).

Emotional competence is of particular significance for high-risk populations because of the unique link between social/emotional competence, academic achievement and positive adaptation (Mendez et al., 2002). Children from low income families who fail to develop emotional competence face academic and social problems in preschool and beyond (Izard, Fine, Schultz, Mostow, & Ackerman, 2001). As such, many intervention efforts are geared towards improving emotional skills or fostering social competence for children in high risk settings (Miller et al., 2005). However, the preschool level has not been a major target for intervention programs, even though the importance of early intervention has been established (Humphries & Keenan, 2006).

Bronfenbrenner (1986) discussed the relationship between the individual child and the different systems that influence the child. He believed that the child is influenced on a 'microsystem' level by peers, parents and teachers. In turn, the characteristics of the child can influence this system. It would follow that the child's microsystem in particular will have a profound influence on his or her social and emotional development. The child's attributes, for example temperament, emotion regulation, and language, have an impact on social development and peer relations (Mendez, Fantuzzo & Cicchetti, 2002).

For children from low income communities, the microsystems of peers and teachers can serve in a critical, supportive role.

The purpose of this study was to examine how emotional competence is related to children's social and academic competence in the classroom, particularly how these competencies changed over time. The research was interested in looking at the inter-relationships among social, emotional and academic competence. Moreover, this study utilized an intervention program that focused on teaching emotional competence. The researcher was interested in whether an increase in emotional competence would improve the academic and social competence of children from low-income families.

Emotional competence in this study was defined as empathy, emotion knowledge and emotion regulation (Denham et al., 2003). Each of these abilities will now be explored in more depth. How these abilities develop and how they occur in the classroom will also be explored. Finally, the relationship between each of these abilities and social and academic competence will be detailed.

CHAPTER II

REVIEW OF THE LITERATURE

Empathy

Empathy has been termed a cognitive response, an affective response or both (Lennon, Eisenberg, & Carroll, 1983). It can include both a cognitive component through role-taking and an affective component through an emotional response to another's condition (Cress & Holm, 1998). Hoffman (2001, p. 62) defines empathy as "a feeling that fits someone else's condition more than one's own." An empathic response does not require the person to feel exactly what the other person feels; rather, the responder must feel something not instinctual to themselves. In order to do this, a person must have knowledge of the emotions of self and others, perspective taking, and the ability to communicate feelings to others. Hoffman (1979) proposed a developmental sequence of empathy that involves increasingly complex cognitive competencies, beginning with person permanence in infancy, role-taking in toddlerhood and then in preschool, 'vertical empathy' for another's feeling—an understanding that people can have feelings which are independent of their own. Roberts and Strayer (1996) proposed a theoretical model to explain the development of empathy in preschoolers. They found that emotional expressiveness, emotional insight and role taking to be strong predictors of empathy.

Empathy is related to social competence (Izard, et al., 2001). Hoffman (1979) proposed that empathy would encourage prosocial behavior due to a person's ability to experience the feelings of another and their desire to promote success and satisfaction with their partner. Roberts and Stayer's (1996) study supports this notion, finding empathy was a strong predictor of prosocial behavior (defined as helpfulness towards an adult and cooperation with a peer).Moreover, they found gender differences with respect to empathic responses, with boys' empathy being a strong predictor of prosocial behavior, while girl's empathy was related to prosocial behavior with friends but not peers. Similarly, Compared to low-empathic peers, more empathic children were reported to exhibit greater prosocial behavior (Findlay, Girardi, & Coplan, 2006).

Lack of empathy has been associated with problematic behavior (Qi & Kaiser, 2003). However, this may be limited to a small portion of the population. One study on children with callous-unemotional traits has shown that these children have lower guilt and empathy, due to a combination of their temperament and lack of sensitivity to punishment (Cornell & Frick, 2007). However, most four-to five-year-olds show the same level of personal concern, regardless of whether they have significant behavior problems (Hastings, Zahn-Waxler, Robinson, Usher & Bridges, 2000). As children get older, those with behavior problems show less concern. In particular, children who demonstrate more frequent antisocial behavior are less likely to respond empathically to peers in distress (Hughes, White, Sharpen, & Dunn, 2000).

Children's emotional competence, including empathy, is first influenced by caregivers, who provide working examples of functioning relationships (Ashiabi, 2000). The comfort, protection, and security provided from these relationships in the early years

serves to help   children develop essential social skills. As such, it is important to briefly examine parenting as it relates to empathy development. Mussen and Eisenberg (2001) have looked at how parenting practices can socialize children into more or less empathic responses. One such example, induction, occurs when parents use reasoning to influence children's behavior; this method is thought to be effective because it focuses the children's attention on the consequences of their behavior and because it induces an optimal level of arousal for learning. Inductions have been associated with an increase in children's prosocial behavior and moral orientation. Victim-centered induction, in which the parent links children's behavior to another's feeling, can influence the development of empathy in particular (Ramaswamy & Bergin, 2009). Punitive parenting practices have been negatively correlated with individual differences in children's prosocial behavior. Children who are disciplined by punishment are unlikely to develop prosocial motives and values (Mussen & Eisenberg, 2001). Lastly, reinforcement, through verbal praise or tangible rewards, has also been linked with prosocial or empathic development. Praise that focuses on children's specific behavior is more effective while long-term effects of concrete rewards have been found to inhibit prosocial development.

Research on empathy development in the classroom has focused on specific strategies teachers employ to enhance its development. Ramawsamy and Bergin (2009) examined the effectiveness of the teacher's use of induction and reinforcement in increasing children's prosocial behavior in the classroom. They found induction and positive reinforcement to produce different results; teachers who utilized induction had classrooms which gained in caring behaviors, while the reinforcement group increased in helping, sharing and cooperation. Other strategies include modeling empathic responses

6

and providing support to children through bonding with them and their families (Swick, 2007). Teachers can also try to help children understand other's feelings through referring to the child's own similar experiences (Johansson, 2002) or referring to character's experiences in literature (Cress & Holm, 1998). Quite simply, empathy can be enhanced through teacher's realization that children are emotionally sophisticated and capable of a caring response (Ashiabi, 2000).

Emotion Knowledge

The second component of emotional competence is emotion knowledge, which includes an understanding of different emotions, the ability to identify the expression on another's face, and the ability to match normative emotion labels with environmental events (Shultz, Izard, Ackerman, & Youngstrum, 2001). It requires the child to utilize both verbal and nonverbal cues in the environment as well as to rely on knowledge of situations that elicit different emotions (Garner, Jones, & Miner, 1994). During preschool, children are able to identify emotion expressions and situations as well as verbalize about the causes of emotions in themselves and others (Denham, Zoller, & Couchoud, 1994).

Emotion knowledge has a distinctively cognitive element in the processing of emotional stimuli and the mediation of emotional and behavioral responses. Denham et al. (2002) suggest that emotion knowledge serves as an informational warehouse which can be utilized through children's social-information processing in peer interactions. Preschoolers begin to develop this database though recognizing key expressions of emotions, understanding personalized causes of emotions and remembering the emotions associated with particular social events. Upon developing an understanding of emotions,

they begin to use affect-event linkages to anticipate future emotional consequences for themselves and others and to make plans. It would be expected then that early emotion knowledge would aid in children's development of peer relationships, and that children who could not utilize their emotional database might rely on more aggressive strategies in peer interactions.

Emotion knowledge has been positively associated with positive peer interaction (Garner et al., 1994). This could be because the child who is relatively knowledgeable about other's emotions may be able to negotiate emotion-eliciting situations with peers that facilitate positive outcomes (Schultz et al., 2001). Children with greater emotional vocabularies and those who were better able to label emotions have more positive peer sociometric ratings and teacher-reported social functioning (Miller et al., 2005). These abilities appear to be unique, as emotion knowledge has been able to predict children's social functioning after covarying grade, sex and previous level of functioning (Miller et al., 2006).

In contrast, children who lack emotion knowledge do not form positive relationships with peers, perhaps because they are not attuned to another's emotional states and thus react inappropriately (Denham et al., 2002). It could be that children who cannot label their own feelings tend to use physical rather than verbal responses (Miller et al., 2005). Children who have difficulty understanding emotions are less often prosocially responsive and rated as less socially competent and less liked (Denham et al., 2002). Low levels of emotion knowledge have been associated with social problems and social withdrawal as well (Schultz et al., 2001). Similarly, Denham et al. (2002) found deficits in emotion knowledge at age three and four predicted subsequent years' aggression.

Much of the research on parenting and emotional knowledge centers on the power of parents' socialization of children's emotions (Smith & Walden, 1998). Parental expressiveness and intensity of expression can account for individual differences in children's understanding of emotions (Denham et al., 1994). Parents can adapt their emotional socialization practices (which can include caregiver's expressions of emotions) to their perceptions of their children's current emotional understanding, which seems to influence the development of children's regulation, perhaps intentionally or unintentionally. However, parent socialization may not be as effective for some children with limited attentional and behavioral control (Schultz et al., 2001). It could be that these children do not attend to parents' attempts at emotion socialization or that these children's behavior can induce parental anger which can impede the development of emotion knowledge. Garner et al. (1994) found that maternal anger directed toward the child was negatively related to knowledge about angry situations. Family conflict was also positively predictive of children's knowledge about sad situations, suggesting perhaps that exposure to negative affect situations can contribute to children's emotion knowledge.

Emotionally expressive parents model emotions and may allow children freedom to observe and encode information about emotional expressions (Denham et al., 1994). However, too much negative emotional expression or anger was associated with (children's) higher aggression, diminished empathy, increased negative affect and less effective coping. They propose a coaching hypothesis in which caregivers may encourage children's exploration of emotions directly through adult-led conversations about the causes and consequences of children's emotions, which helps children to link

expressions, situations and words into schema. They found that explanations about emotions and positive and negative responsiveness to child emotions predicted emotional understanding.

Emotion Regulation

A final emotional competency, and perhaps the most salient in a preschool classroom, is emotion regulation (Denham et al., 2001). Generally, emotion regulation refers to regulating the experience of emotion by monitoring one's expressive behavior. This is accomplished via physiological, behavioral and cognitive components that allow individuals to modulate the form, intensity or duration of expression of both positive and negative emotions (Bridges, Denham, & Ganiban, 2004). Emotion regulation consists of neurophysiological responses, attention processing, encoding of internal emotional cues, and selection of adaptive responses for the purposes of accomplishing some social adaptation or individual goal (Valiente & Eisenberg, 2006). It requires behavior activation, attention shifting and planning, among other things. Emotion regulation is not simply emotion management. It involves the ability to be proactive in situations requiring emotion management, i.e. effortful or voluntary control. Effortful control involves the child's ability to suppress a dominate response in favor of utilizing a subdominant response (Eisenberg & Morris, 2002). It would be expected in children who are able to regulate their emotions well, showing joy or appreciation at getting a disappointing gift, rather than showing displeasure.

Delay of gratification is an important component of emotion regulation. It is the ability to postpone immediate gratification in favor of later outcomes (Lee, Lan, Wang, & Chiu, 2008). It has been associated with empathy, prosocial behavior and better

adaptation at school. In the classroom, it helps children to cope with frustration, resist temptation from their peers and focus on the academic tasks at hand. Children who use distraction techniques to control behavior are better able to comply, wait and resist temptation (Dennis & Keleman, 2009). A child's ability to delay gratification is influenced by parenting style, family environment and even the child's own mood (Lee et al., 2008). Children who had a happy or neutral mood were better able to delay gratification. Even positive thinking has been associated with fewer signs of emotional or behavior problems (Dennis &Keleman, 2009).

Children develop a wide array of emotion regulation strategies that get increasingly sophisticated as they age (Dennis & Keleman, 2009). Children will shift from more ineffective strategies (rumination, venting, telling mother) to more effective strategies that are problem-focused or emotion-focused. These strategies include behavioral distraction (i.e. delay of gratification) or attempting to repair the situation. As they get older, they will try to change their own feelings if they are not able to change the situation (Eisenberg & Morris, 2002). Preschoolers become adept at modulating displays of negative emotion according to social rules (Cole, Zahn-Waxler, Foz, Usher, & Welsh, 1996).

Researchers have found a particular link between emotion regulation strategies and social competence. Children who utilize venting to reduce negative emotions had lower maternal reports of social skills (Dennis & Kelemen, 2009). Indeed, the use of passive coping strategies has been associated with both internalizing and externalizing maladaptive behaviors (Blair, Dengam, Kichanoff, & Whipple 2004). It is important to remember that effective strategies for emotion regulation are those which are socially

acceptable. 'Ineffective strategies' such as venting and rumination utilized in the Dennis and Kelemen (2009) study were deemed too child-like for older subjects and thus socially unacceptable.

Emotion regulation allows the child to succeed in the classroom (Eisenberg, Sadovsky & Spinrad, 2005). Emotion regulation requires attention shifting, planning and persistence (Valiente & Eisenberg, 2006). These skills aid the child in focusing on the learning task, controlling disappointment and continuing to learn through trial and error (Coolahan et al., 2000). Emotion regulation allows children to engage in positive interactive play behaviors, like turn taking, which in turn allows for active engagement in classroom learning activities. Children who are well-regulated emotionally can elicit behavior from others that promotes learning and are more likely to be perceived by their teachers as attentive and cognitively advanced (Garner & Waajid, 2008). Children who are well-regulated also elicit language from teachers that is more complex (Eisenberg et al., 2005). Finally, part of the relationship that exists between emotion regulation and achievement may be mediated by motivation or liking school (Eisenberg et al., 2005).

Emotion regulation has been linked directly to social competence (Carlson & Wang, 2007). Children who are better able to regulate emotions are more popular with peers and teachers and have more positive adjustment and are more able to engage in peer interaction (Mendez et al., 2002). Children who can manage their emotions are better able to behave in more socially competent ways at school, and this holds for present and future functioning (Eisenberg et al., 1997). Regulating emotions helps children sustain play (Mendez et al., 2002).

Children who are not able to regulate their emotions may face difficulty forming relationships with peers (Miller et al., 2006). Blair et al. (2002) found that children characterized by negative emotionality were likely to experience difficulty in the application of high order cognitive processes because these types of emotional responses do not call for planning, reflection or problem solving. Children reacting with negative emotions tended to ignore messages sent by their peers. Similarly, Cole et al. (1996) found that preschoolers with high expressivity (i.e. low emotion regulation) had a tendency for heightened emotional reactivity to external input and less skill at using internal experience to regulate responses.

Poor emotion regulation and intention have been shown to be important predictors of externalizing behavior (Hill, Degnan, Calkines, & Keene, 2006). Miller et al. (2005) similarly reported that dys-regulated behavior predicted peer conflict and adjustment difficulties. Hill et al. (2006) found gender differences in the relationship between emotion regulation and problem behaviors. For boys, socioeconomic status was a predictor of membership in the chronic-clinical profile group for behavioral problems, while for girls, emotion regulation at age two was an important predictor for differentiating the chronic-clinical profiles from all other profiles. Thus, ensuring that children have proper emotion regulation skills has particular significance for girl's social functioning.

Poor emotional regulation has been linked with problematic behavior and lower academic competence in the classroom, particularly because learning opportunities in the classroom contain distinct cognitive and social demands that can increase the likelihood of problem behaviors (Bulotsky-Shearer, Fantuzzo, & McDermott, 2008). These

problems can continue throughout the year. Socially negative behavior early in the school year can account for a significant amount of variance in emotional dysregulation at the end of the year (Fantuzzo, Bulotsky-Shearer, Fusco and McWayne, 2005) Children who exhibited socially and academically disruptive behavior early in the year demonstrated lower levels of cooperative, engaged and attentive learning behaviors within the classroom. The effects are long lasting;

Particularly among preschoolers, play is an important arena where children demonstrate emotion regulation and develop social competence, either through prosocial or aggressive behavior (Coolhan et al., 2000). Children whose play was characterized by angry and negative emotional responsiveness were evaluated as lacking in social competence up to a year later (Denham et al., 2001). Children who displayed negative emotions may be sending the message to peers that they do not wish to engage in play (Miller et al., 2006). Children who are over activity also may have problematic peer interactions, particularly when they are not in harmony with their peer's activity level (Mendez, Fantuzzo, & Cicchetti, 2002).

Parenting practices, particularly parental expression of emotions, can influence children's emotion regulation abilities. Parental expression of appropriate levels of negative emotion has been associated with increased social-emotional competence (Garner & Spears, 2000). Parental discipline, particularly harsh or punitive discipline has been associated with poorer emotion regulation outcomes, as evidence suggests that parenting practices often intensify children's expression of negative affect. Inconsistent or lax parenting can result in children's use of non-constructive regulation responses.

The relationship between parental socialization and children's emotion regulation is bidirectional—part of how parents influence their children has to do with the skills of the children themselves (Garner & Spears, 2000). A number of different factors are involved in parent socialization of emotion-related behaviors (Valiente & Eisenberg 2006). These include reactions to children's emotion, parental discussion of emotion, parental emotional expressiveness and the selection of emotional situations. They suggest that these influence children's arousal which ultimately influences child outcomes, like emotion understanding, emotional expression and regulation. Potential moderators of the influence of parental socialization include the quality of the parent-child relationship, the type and intensity of the parent's or child's emotions and the appropriateness of parent's emotion and behavior in context. However, children's effortful control can mediate the relationship between social competence and parental socialization. High levels of mothers' expression of positive emotion can lead to higher levels of children's effortful control, which in turn can lead to higher levels of social competence.

Children's emotion regulation strategies are particularly salient in the classroom. Children who are emotionally well-regulated tend to develop positive relationships with teachers that lead to more positive adjustment and academic outcomes, both in the current year and in future academic years (Stuhlman & Pianta, 2001). These positive relationships can also improve social and emotional development, particularly for minority children (Ray & Smith, 2010). On the other hand, children who are aggressive or express frequent negative emotions have difficulties forming relationships with teachers and have difficulty adjusting to school (Arbeau & Coplan, 2007). Teachers are

15

less involved and have more conflicted relationships with children who exhibit behavior problems (Ray & Smith, 2010).

Teachers can teach emotion regulation in the classroom a number of different ways. One effective way is modeling, which is associated with better discipline and improved student relationships (Sutton, Mudrey-Cambino & Knight, 2009). Boyer (2009) points out that the creation of a home-like environment is important in teaching about emotion regulation. This involves providing books and puzzles, structured time with adult interaction and modeling of appropriate emotion regulation. This seems to ease the transition from behaving at home to behaving at school. Teachers can also provide a space for children to retreat when they are overwhelmed by negative emotions (Ashiabi, 2000).

The preschool classroom has many demands which can be emotionally taxing for preschoolers (Denham et al., 2003). Preschoolers need external support (from teachers) to become skilled at coping and interacting with peers. Teachers can help children develop emotional competence informally through maintaining a positive classroom climate or through encouraging positive interactions. However, evidence suggests that emotional competence can be improved for the majority of children when teachers or counselors utilize more formal intervention programs (Miller et al., 2006).

Emotional Competence in Special Populations

Two special (sometimes overlapping) populations require unique attention—children living in low income communities and those whose primary language is not English. In some ways, the challenges for these populations can be the same—both populations of these children may have to adapt to different emotional display rules and interact with children who may have different emotion regulation strategies (Downs, Strand, & Cerna, 2007). Both populations may have to negotiate in classrooms where the language/vocabulary is different from their home environments (Mendez et al., 2002). Ultimately, these challenges can affect the academic achievement or classroom success of these populations.

Unfortunately, there has been limited research on these unique populations with regards to emotional competence when they enter pre-k (Downs et al., 2007; Niles, Reyonlds, & Roesepowitz, 2008). It is unclear whether these special populations follow similar trends in the development of emotion recognition or emotion management (Downs et al., 2007; Fantuzzo et al., 2005.) It is also unclear if the unique environments that these children live in serve as risk or protective factors in their emotional development. The research that exists is mixed.

Emotional Competence in Low-Income Samples. Much of the research on the emotional competence of low income samples has focused on the idea that living in such an environment can be a risk factor for poor social and emotional development (Mendez et al., 2002). It could be that the environment is not stimulating (lacking books or educational resources), is highly stressful (high crime) or that the parents themselves, often working long hours, cannot emotionally nurture or communicate with their children (Evans & Rosenbaum, 2008). Some researchers believe that this leads to an emotional

'income achievement gap', where children from low income communities have more difficulty regulating their emotions and behavior in comparison to their wealthier counterparts. This in turn can contribute to a gap in the academic achievement for students from low income communities, where academic achievement is a function of cognitive competencies with emotional and behavioral components. Some researchers believe that many children from low income communities do not enter school with adequate resources to meet their social and emotional needs (Fantuzzo et al., 2005).

Research that has been conducted on children from low income communities has tended to focus on how maternal interpersonal factors (like emotional expression, education level, communication style, etc.) influence children's emotional competence (Smith & Walden, 1998). Research is beginning to look at intrapersonal factors like cognitive or language skills relate to emotional competence (Niles et al., 2008). Several studies have found some unique between groups and within group variability with respect to the emotional competence of this population. For example, Smith and Walden (1998) found that both language skills and age contribute to within-group variability of emotional understanding in a low-income sample of African American preschoolers, where increasing age contributed greatly to emotional understanding. Additionally, they found that their African American sample was able to identify fear from facial expressions earlier and more successfully than their middle class counterparts. Miller et al (2006) also looked at emotional competence in a low income sample by exploring emotion knowledge, emotional expression and emotion regulation. They found some within-group variability in terms of emotional expression; negative emotion expression was associated with aggression and social skills after covarying

verbal ability, age, and emotion knowledge. Mendez, McDermott, and Fantuzzo (2002) explored the relationship between social competence and interpersonal factors, finding that their low income sample of African American children was both similar and unique to research on white, middle class samples. They found that age had an impact on social competence with respect to temperament. Younger children demonstrated greater activity while older children showed greater tendencies towards approach. This study uniquely demonstrated that there were no significant differences for African American children with regards to gender and withdrawal/approach temperament. This suggests the existence of a competent, outwardly engaging style of interaction for African American girls. Finally, some of the research with children from low income communities has looked more specifically at within group variability to look for intervention strategies. Mendez, Fantuzzo, and Cicchetti (2002) found evidence of a prosocial-resilient cluster of children who were highly adaptable, flexible, willing to engage in new situations, self-regulated and possessing a larger than average vocabulary. Evans and Rosenbaumm (2008) found that delay of gratification in early childhood was able to mediate the relationship between family income and cognitive development in 5th grade.

As has been said, research is still lacking in the area of emotional competence and low income communities. It is particularly important to study how emotional competence affects academic competence for these low income samples so that the income achievement gap does not widen. Discovering the variability of this population is one way to create targeted interventions that can successfully boost the emotional competence in this population.

Emotional competence in Hispanic Populations. Teachers have seen an increasing rise in the population of Hispanic students in their classrooms in recent years (Fernandez, 2000). Moreover, many of these students are English Language Learners, posing a unique challenge to early childhood educators who need to develop both academic skills and English proficiency in their students. Hispanic students can face these difficulties throughout their school career—as Hispanics are less likely than most other racial/ethnic groups to finish high school or college (Gormley Jr., 2008). Is it primarily a language issue? Or are there cultural differences that influence the emotional competence of Hispanic students?

Few studies have explored how Hispanic or Latino parenting practices affect the children's social or emotional competence (Galdino & Fuller, 2010). Two different studies have looked at how parenting practices affect the outcome of children's social skills. Howes and Hong (2008) explored the relationship between Hispanic mother's sensitivity and structuring and children's social competence, finding that sensitivity and structure affected social competence differently. Higher maternal structuring was associated with complex peer play. Mothers with lower sensitivity scores and who enrolled children in child care had children with less complex peer play. Perez and Fox (2008) looked at how parenting practices in families of very young children contribute to children's social and emotional development, particularly for those children with significant behavior problems, but their findings were similar to those of a non-Hispanic sample. Mothers in the clinical sample nurtured their children less often and used more frequent verbal or corporal punishment as a discipline strategy. It was income, rather than race or ethnicity which was associated with use of corporal punishment.

Perex and Fox (2008) discussed the unique cultural factors of Latino populations that can contribute to social and emotional development. For example, Latino children are expected to acquire *respeto,* which is respect for authority that extends to family members beyond the parents. Additionaly, *familismo*, which is close identification and attachment to the nuclear family is strongly desired. These values can translate into loyalty, respect and obedience. Galindo and Fuller (2010) point to *bien, educado, respeto,* which is good behavior and respectful communication, and *carino,* cooperation and caring for peers. These values can become assets in the classroom because they can be valued by teachers for the good behavior they manifest. In their study, they looked at the extent to which these social competencies could account for children's cognitive growth, finding that 'approach to learning' contributed the most to cognitive growth. They also found that Hispanic children from low income families displayed weaker social competencies overall.

While Hispanic cultural values can contribute to Hispanic children's social competence, language acquisition can still make school difficult. Downs et al. (2007) looked at how language was related to emotional development, attempting to answer some important questions. First, does emotional competence develop similarly across cultures? Secondly, how much impact does language acquisition have on emotional understanding (does emotional understanding develop in the same sequence for children with varying levels of verbal ability), or even can children interpret emotional expressions from people from different cultural backgrounds? They found that both English and Spanish-speaking children showed similar patterns of age-based differences and changes in emotion understanding, thus emotional understanding likely follows a

similar developmental trajectory in both groups of children. However, the Hispanic children were still outperformed by the English-speaking children on the measure of emotional competence. Downs et al. (2007) point to possible differences in verbal ability; although the Hispanic students were assessed in their native language, the difficulties of learning in two language environments can contribute to lowered verbal ability.

Both special populations can face unique challenges, from language abilities to cultural differences that can impede learning in the classroom. Research, though limited, has found both within and between group variability (e.g., Galindo & Fuller, 2010; Mendez, McDermott & Fantuzzo, 2002). Children's repertoire of emotional skills will be tested when they enter the classroom environment and interact with both teachers and peers. It is important then, to understand how these emotional competencies develop, how they affect academic and social outcomes, and what it looks like in the classroom. We can then better understand how to serve these special populations—how to target interventions to meet their unique needs.

Use of Interventions to Teach Emotional Competence

A number of different programs have been developed to teach emotional competence or social skills to preschool students. Of the existing programs, those which have been most widely researched include ones which focus on the development of problem-solving skills or the reduction of behavioral aggression (McMahon, Washburn, & Felix, 2000). These programs demonstrate efficacy in reducing externalizing behaviors in young children.

One example of a prevention program is the "Resilient Children Making Healthy Choices Project" (Humphries & Keenan, 2006). Based in resilience theory, this program

believes that children who develop appropriate communication, empathy and other social competence skills can be protected from factors that place them at risk. "Al's Pals" is a 43 lesson curriculum based utilizing a hand puppet (Al) who acts as a positive role model. Lessons, given by classroom teachers, are approximately ten to fifteen minutes long and are given twice per week. Lessons are aimed at pre-kindergarten and kindergarten students, but there is an additional set of "booster lessons" for first and second graders. Effectiveness studies found that children from intervention classrooms were rated by their teachers as displaying more social competence skills compared to control classrooms (Humphries & Keenan, 2006). However, this study looked at classrooms with highly skilled teachers, and it is unclear whether study results are generalizable to other classroom teachers of less skill. Lynch, Geller, and Schmidt (2004) found that the program led to significantly lowered teacher-rated behavior problems and increased independent functioning.

An additional intervention program is the PATHS (Promoting Alternative Thinking Strategies). It is a K-6 program that fosters the development of emotional awareness, self-control, interpersonal problem-solving skills and peer relationships (Weissberg & O'Brien, 2004). This curriculum focuses on friendships, emotional awareness, emotion regulation, self esteem and social problem solving using an eleven step model (Domitrovich, Cortes, & Greenerg, 2007). Lessons are given in the classroom by the classroom teacher who determines the frequency and duration of lessons based on her students. Trial research done on Head Start children revealed that children who received the intervention had greater emotional understanding and were rated as more socially competent compared to a control group. Additional research has revealed that

students utilizing the program demonstrated reduced aggression and hyperactive-disruptive behaviors and overall, followed classroom rules better and stayed on task more often (Weissberg & O'Brien, 2004).

"The Incredible Years" is a social skills coaching program with the goal of promoting social and emotional competence and reducing aggression in children ages zero to twelve. It has three different core programs, one for teachers, one for parents, and one for children (Humphries & Keenan, 2006). Parent groups and teacher groups meet (separately) with a trained facilitator to discuss individualized behavior management strategies. The child program, 'Dina Dinosaur' focuses on teaching school rules, developing emotional and social competence skills and managing anger and utilizes a three-step problem solving model and the use of puppets. It can be taught in either a 'pull out' method with small groups of targeted children or an 'inclusion' model with all children in the classroom. Lessons are delivered twice weekly. Studies have found that children using the Incredible Years program generate more prosocial responses to conflict, had less aggressive behavior, and higher school readiness scores. A study by Reid, Webster-Stratton, and Hammond (2003) found that 75% of the children who received the program were functioning normally (demonstrated less symptoms of oppositional-defiant disorder); teacher training (i.e. classroom-based intervention) contributed significantly to more positive outcomes. However, Humphries and Keenan (2006) point out that this program requires the use of an extra facilitator (besides the classroom teacher); this may be difficult to arrange in high-risk schools.

Second Step is a program utilized in the current study because of its demonstrated effectiveness for working with low income populations (McMahon et al., 2000). The goal of Second Step is to decrease aggressive behavior and increase prosocial behavior. There are programs for students in grades pre-k to 8th grade. The pre-k and kindergarten version contains three units: empathy (12 lessons) that teaches children to recognize, experience, and respect others' feelings; problem solving (10 lessons) that teaches children to learn and practice problem solving skills; and emotion management (6 lessons) that focuses on recognition of angry feelings and anger-reduction techniques. The basic format of the lesson includes an introductory activity, discussion of a photograph of children in a specific situation with accompanying vignette, and a role play. The lessons are designed to be taught once per week.

Overall, studies have found the program effective in lowering instances of discipline problems and in increasing social competence (Bear, 1998; Taub, 2001). One of the earliest studies, done by Grossman et al. (1997) examined the effectiveness of the program when taught by classroom teachers to students in the 1st-3rd grade. The study found that the program had modest effectiveness in reducing the aggression and increasing the prosocial behavior of program participants compared to the control group Behavioral observations revealed that physical aggression had decreased, and the reductions were the greatest in least-structured activities (like recess).

Several studies have been done with various populations that have demonstrated Second Step's effectiveness. Taub (2001) conducted a study wherein Second Step was implemented in a rural elementary school to students in 3rd through 6th grades. The school saw significant improvement in social competence and a decrease in antisocial behavior

compared to a nonintervention school. Independent behavioral observations also revealed improvements in prosocial behavior. Cooke, Ford, Levine, Bourke, Newell and Lapidus (2007) conducted a study wherein Second Step was implemented city wide to 3rd through 5th grade students. The study revealed that two-thirds of students showed significant positive change on at least one prosocial behavior variable, though this study did not utilize a comparison group. However, there were no significant findings on the reduction of aggression. Schick and Cierpa (2005) conducted a study wherein 'Faustlos', the German equivalent of Second Step was utilized for elementary school children in a 3-year control group study. This study found a reduction in anxiety and internalizing behaviors for the intervention group, while parental rating showed improved social behaviors. Lastly, Edwards, Hunt, Meyers, Grogg, & Jarrett (2005) implemented the program in an urban school district with 4th and 5th graders. Students showed gains in empathy, anger management, impulse control and bullyproofing, though there was no control group to compare results.

Several themes emerged from the Second Step effectiveness literature. First, it is critical that there is 'buy in' from teachers, administrators and community members when fully implementing this program (Cooke et al., 2005). Follow up on the Grossman et al. (1997) study revealed that program ineffectiveness was linked to low level of teacher commitment at some program sites. Cook et al. (2005) addressed this problem in their study through the teacher training and weekly visits from a program director; they found this increased teachers' likelihood of fully implementing the program. Edwards et al. (2005) also found that teachers were more likely to sustain the Second Step program when they found it effective.

Secondly, the results paint a mixed picture of the effectiveness of the program, often depending upon who is assessing- teachers or researchers (Edwards et al., 2005). For example, in the Grossman et al. (1997) study, researchers found an increase in observed prosocial behavior, while teachers' and parents' ratings did not reflect this. Similarly, in the McMahon et al. (2000) study, researchers found increases in knowledge of nonviolent concepts; however, teacher and parent report did not indicate any behavioral changes.

Third, it is necessary for the program to be implemented in the long term in order for the program's true effectiveness to be seen (Taub, 2002). Second Step is not a "quick fix" and requires time to allow the program to become part of the cultural make up of the school. Edwards et al. (2005) report that long periods of time are needed to capture observable effects in behaviors and evidence of emotional changes. This could explain some of the findings in the three year Taub (2002) study, wherein students in the invention school actual decreased in their ratings of teacher compliance at time two. While compliance increased at time three, greater trends in increases could be seen if the study had continued.

Finally, most studies conclude the importance of implementing the program as early as possible. Taub (2001) points out that most programs are aimed at middle or high school students even though the anti-social behaviors and attitudes are present long before adolescence. Cooke et al. (2007) believe that prevention programs must begin early to break the continuum of violence. McMahon et al. (2000) overall found that the earlier that prevention efforts like Second Step are implemented with at-risk children, the

more likely the development and continuation of aggressive and violent behavior will be altered.

Several programs are available to improve the social skills of students in a wide variety of grades. Second Step is one of those programs. It has been demonstrated to improve the social competence of a diverse array of samples. Several components are necessary to improve the program's outcome—teacher support, long term implementation and early intervention. While studies have examined the effect of Second Step on social outcomes, few studies have explored how these increased social skills will lead to improved achievement in the classroom. Moreover, very few studies have looked at how this plays out in a pre-k classroom.

The Current Study

There is a paucity of research done that has captured the unique social competences of children from low income communities, given the number of risk factors they face. What studies have been done on this group have not taken into account within group variability that exists (Garner & Waajid, 2008). Other studies tend to operate from a deficit hypothesis—focusing on what the child is lacking in (Fantuzzo et al., 2005). Additionally, few studies have addressed how multiple interrelated characteristics (i.e. emotional, academic, behavioral) influence the expression of social competence (Mendez, McDermott, & Fantuzzo, 2002). Moreover, few studies have examined how emotional competence skills relate to school functioning among low income children (Miller et al., 2005). This group is critical to consider given both the school adjustment difficulties and the potential impact for improvements from school-based prevention programs.

Eisenberg et al. (2005) utilize a model to describe the relationship between emotional and academic competence based on the empirical literature. This model highlights two consistent research findings—that there is a relationship between emotion regulation, language and emotion understanding and that these variables have implications for academic competence. In their model, emotion knowledge led to regulation which led to social competence which ultimately led to academic skills (though the direction of influence on all variables was bidirectional). To date, this model has not been empirically tested. This study will add to the literature by looking at how these variables are inter-related in a low income sample. This study will also add to the literature by looking at how improving emotional competence can improve social and academic competence.

Thus, for children from low income communities, the teaching of social skills, through a program called Second Step, was hypothesized to lead to increased emotional competence. This increased emotional competence would then lead to gains in academic and social achievement. This project utilized data of pre-k students from the researcher's school. Emotional competence was operationalized based on empathy, emotion regulation (delay of gratification), and emotional knowledge. Academic competence was operationalized in terms of a verbal and math component and teacher report.

The current study had two main objectives. First, the researcher was interested in looking at the inter-relationships between social, emotional and academic competence at the pretest. Secondly, the researcher was interested in examining the effectiveness of Second Step through a quasi-experimental design in terms of increased emotional, social and academic competence.

Hypotheses

In order to better understand the relationship between emotional competence, social competence, behavior and academic development in a low income pre-kindergarten sample, the proposed study sought to test the following hypotheses:

1) Children's emotional competence scores will be positively associated with academic variables and social competence measures.

2) Compared to the control group, the children who received Second Step training will have a greater increase in emotional competence scores from the fall to the spring.

3) Compared to the control group, the children who received Second Step training will have a greater increase in academic achievement scores from the fall to the spring.

4) Compared to the control group, children who received the Second Step training will have a greater increase in social competence scores from the fall to the spring.

CHAPTER III

METHODOLOGY

Participants

  The elementary school participating in the current study serves a high percentage of children in need; currently 100% of the student body receives free/reduced lunch. The Hispanic population is continually rising in this region, and the school is seeing a greater influx of Hispanic students, many of whom come directly from Mexico and speak very little English. Currently, 245 out of 500 students are of Hispanic descent.

  Participants in this study include 62 (out of a possible 65) students during the pretest phase of data collection, representing three different pre-k classes. There were 41 students in the experimental condition and 21 students in the control group. Students were between the ages of 4 and 5. Table 1 reveals the demographic characteristics of participants in the experimental and control groups.

  Chi square analysis was performed for both gender and language status to determine if the observed frequencies of these groups were different from what was expected. During pretest, there were slightly more boys in the experimental group and slightly more girls in the control group, though these differences were not significant (χ^2 (1, N=62) =1.37, p=ns). The experimental group also had slightly more native English speakers (NES) than English language learners (ELL).

The chi-square analysis was not significant (χ^2 (1, 62) =.08, p=ns). Nine students moved out of the school district after taking the pretest, including four females and five boys. The experimental group still had slightly more girls, but the difference was not significant (χ^2 (1, 53) = .34, p=ns). The numbers of native English speakers and English language learners was roughly equal in both the experimental and control group, though those differences were not significant (χ^2 (1, 53) = .00, p=ns).

Table 1: Demographic characteristics of study participants

	Pretest				Posttest			
	Gender		Language Status		Gender		Language Status	
	Boys	Girls	Native English Speaker	ELL	Boys	Girls	Native English Speaker	ELL
Experimental	24	17	23	18	20	16	19	17
Control	9	12	11	10	8	9	9	8
Total	33	29	34	28	28	25	28	25

Parents were informed about the nature of the study in the beginning of the school year and were asked to complete a consent form for children's participation. Consent forms were translated into Spanish for Spanish-speaking parents. Over 93% of parents consented to participate in the study.

Prior to initiation of the study, the researcher went through several approval processes. First, permission was granted from the site principal and the district

superintendent. Secondly, approval was granted from the University's Institutional

Review Board.

Procedures

  Students were divided into two groups by classroom—i.e. two classrooms were

selected at random to represent the treatment group and one classroom was selected at

random to be a control group. One of the classrooms in the treatment group was the

researcher's own classroom. The classrooms in the treatment group received the

intervention and underwent assessments. The control group did not receive the

intervention, but was given assessments at pretest and posttest similar to the treatment

groups.

  Students were given assessments in emotional, social and academic competence

in the fall and in the spring. The emotional competence measures were completed by an

independent researcher. Teachers filled out questionnaires on students. After completion

of the program, measurements were taken again.

  Accommodations were made for English Language Learners. First, all

assessments were translated into Spanish by a native speaker. At the time of assessment

(both pretest and posttest), teachers indicated the English proficiency of each student.

When the student had limited proficiency, a Spanish-speaking aide performed

assessments; if necessary, responses were translated from Spanish to English. During

pretest, 26 out of the 28 students received the assessment in Spanish. During the posttest,

21 out of 25 students received the assessment in Spanish. The variable "language status"

was utilized to distinguish English Language Learners (ELL) from native English

speakers. For the purposes of this study, those students who took the pretest in Spanish were designated as ELL for both pretest and posttest analysis.

Throughout the year, the researcher taught Second Step lessons to the two experimental condition classrooms. Lessons took place twice per week at approximately the same time lasting approximately 20 minutes.

Emotional Competence

Empathy. Student's empathy was measured by their responses to vignettes (vignettes are identical to vignettes used in Denham et al., 2002; see Appendix A for sample vignettes). Students were read vignettes. They were then asked how they would feel if they were in that situation and what they would do, pretending that the puppet is their friend (see Dereli, 2009). Thus, empathy measured both the ability to perspective take (to understand someone else's feelings) and the ability to provide a caring response (an action). For this measure, a total was taken from the scores in vignette one and the scores in vignette two (for a range from 0-8). This measure had good internal reliability (Cronbach's alpha= .91 for pretest and .94 for posttest.). This measure was selected in particular because it corresponds with Second Step lessons in the empathy and emotion management units.

All responses, both feelings and actions were recorded on a score sheet. A child was given two scores--'empathy' and 'caring response'. To obtain an empathy score, a child received one point for each vignette if s/he was able to accurately state the emotion that accompanied the vignette. Each emotion (happy, sad, angry, and fearful) had two separate vignettes. , Additional qualitative analysis was performed on the responses.

Emotion knowledge. Emotion Knowledge was assessed via two different tasks similar to

work done by Denham and Couchoud (1990; see Appendix B for sample scoring). The first task was an emotion identification task. Children examined four different flashcards containing faces on which the expressions of happy, sad, angry and afraid were drawn. Students were asked to name these four facial expressions (i.e. "What is this face feeling?"). Next, they were required to point at each expression in answer to the question, "Where is the X face".

The four faces were shuffled and laid on the table before each set of questions to ensure randomization. During the pointing task, all four faces were available to prevent process of elimination guessing. Students received one point for correctly naming and one for pointing at the expressions, for a possible total score of 8 (4 for naming and 4 for recognition). This measure had good internal reliability (Cronbach's alpha= .86 for pretest and .80 for posttest).

The second emotion identification task assessed whether students were able to correctly identify situations that would illicit a particular emotion (see Garner, Jones & Miller, 1994; see Appendix C for sample vignettes). Eight vignettes assessed children's knowledge of feeling of being happy, sad, angry, and fearful. Students were read the vignette. After hearing the story, the children were shown facial drawings and were asked to point to the face that showed how the story character felt. This was done to ensure that language development did not inhibit responses, although verbal responses were accepted. Students were given vignettes in random order. Students were given one point for naming the correct emotion for a total of eight on this measure. Cronbach's alpha was strong (ά= .77 for pretest and .66 for posttest).

For this study, situation knowledge and the emotion recognition task were combined and a mean was taken to create a composite variable, emotional competence. Internal consistency was assessed (Cronbach's alpha= .64.) This measure was selected because it corresponds with lessons in the empathy unit of Second Step.

Emotion regulation. Emotion Regulation was assessed via a delay of gratification task (similar to that employed in Dennis & Kelemen, 2009; see Appendix D for sample script). A small snack was placed under a clear plastic cup, and the child was told that they must wait until the experimenter rang a bell to pick up the cup and get the snack. Four trials were utilized, one with no delay and three with an increasingly long delay (starting at 20 seconds up to one minute). If the child did not wait for the bell or ate the snack early, the experimenter would ring the bell after the pause was complete. The experimenter counted the number of times that the children waited for the bell and additionally noted whether or not the child waited quietly or prompted the experimenter (asked if they could have the snack or asked how much longer they would have to wait).

This measured was selected for this study for a number of reasons. First, delay of gratification has been shown to be an accurate measure of emotion regulation, particularly as a marker for inhibitory control (Dennis & Kelemen, 2009). Secondly, delay of gratification taps into a child's ability of attentional persistence—the ability to resist immediate rewards; thus a delay of gratification task is able to tap into the cognitive component of emotion regulation. Behavioral or cognitive distractions are taught in the emotion management section of the Second Step lessons. Finally, this measure was selected for ease in use; it did not require additional observational research. This measure was utilized during pretest for preliminary analysis; however, the measure failed to

provide any significant results, due in part to the fact that the delay was not long enough to create discomfort in students, thus there was very little variability in scores. Therefore, this item was not assessed during posttest or used in any analysis.

Academic Competence

Teachers were given a questionnaire to fill out on each child comparing that child to other children in terms of development in five different areas—social development, school-specific instrumental development, reading and writing, logical thinking and use of numbers, and perceptual development (Meisels, 1996; see Appendix E for sample measure). The teacher judged the child using a 4-point scale ranging from 1, not yet, to 4, proficient, indicating the degree to which the child has accomplished a particular skill or behavior. An additional portion of the questionnaire asks teachers to evaluate the child in terms of their readiness for kindergarten. In pilot work, this scale has shown good internal reliability (alphas .85-.93; Fabes, 2001).

In this study, four particular sections of the assessment were used to create different scales: social development, reading, math, and school readiness. First, for social development, all questions under the social development heading were used. Questions assess the child's ability to do things such as display age-appropriate impulse control, use adults as sources of support and respond appropriately to other's expressed emotions and intentions. These six questions were combined and the mean was taken to create a composite variable, "social development". This scale had good internal consistency (Cronbach's alpha = .90).

Secondly, the reading and writing portion of the assessment was used to create a reading composite. The assessment includes nine questions which gauge the child's

ability to do things which as write letters and numbers, write his/her name, and recognize letters. These nine questions were combined and the mean was taken to create a composite variable "reading" Cronbach's alpha was .65.

Math ability was assessed via the 'logical thinking and use of numbers' portion of the assessment. In particular, five questions were utilized which best reflected a child's math ability. This included questions such as whether the child can count, has one-to-one correspondence and can use concepts such as more, less, etc. These five questions were combined and the mean was taken to create a composite variable "math". This had a Cronbach's alpha of .80.

Lastly, a school readiness composite was taken by utilizing the last items on the assessment. Example questions include how intellectually ready or how socially ready this child was for pre-kindergarten. In this case, teachers rated the child from a scale of 1-5, ranging from "not very reading" to "very ready". These three questions were combined and the mean was taken to create a composite variable, "school readiness". This had a Cronbach's Alpha of .96.

Social Competence, Peer relations

Social competence was assessed via sociometrics on a questionnaire filled out by the teacher (Lemerise & Dodge, 1988; see Appendix F for sample measure). The questionnaire asks teachers to classify how much the child is liked by classmates. Additionally, it asks the teacher to consider whether peers would nominate the child as most and least liked as well as how students perceive other students get along with the teacher. There are five questions, each asking the teacher to indicate an appropriate answer (a-e), with a being "top 15% of nominations" and e being bottom 15% of

nominations. This measure was selected in the study in order to gauge the relationship between social competence and emotional competence variables.

In this study, three questions were utilized—overall likeability, nominations for liked the most, and nominations for gets along with the teacher. These items were recoded so that higher scores would indicate higher social status. These questions were combined and the mean was taken to create a composite variable, 'likeability'. This had a Cronbach's alpha of .96.

In this study, several measures were used. During pretest, all measures were utilized (all emotional competence measures and both teacher reports). Some data reduction was done from pretest to posttest such that likeability and the delay of gratification task were not utilized during assessment. During posttest, analysis was completed using the empathy, emotion identification and situation knowledge task. The teacher questionnaire was utilized for academic and social competence measures.

Plan of Analysis

The described hypotheses will be tested using a variety of statistical procedures.

1. The first hypothesis is that children's emotional competence scores will be positively associated with academic variables and social competence scores. This will be measured with correlations and regressions. The hypothesis will be supported if mean emotional competence scores in the spring are negatively correlated with mean number discipline infractions and positively associated with academic achievement scores and social competence scores. Regression analyses

will allow for the relative impact of the various indicators of emotional competence on outcomes.

2. The second hypothesis is that compared to the control group, the children who received Second Step training will have a greater increase in scores in emotional competence scores from the fall to the spring. This will be measured with a repeated measures ANOVA. The hypothesis will be supported if the mean emotional competence score for the treatment group is higher from the fall to the spring, relative to any change in the control group scores.

3. The third hypothesis is that compared to the control group, the children who received Second Step training will have a greater increase in scores in academic achievement scores from the fall to the spring. This will be measured with a repeated measures ANOVA. This hypothesis will be supported if the mean academic achievement score for the treatment group is higher from the fall to the spring, relative to any change in the control group.

4. The fourth hypothesis is that compared to the control group, children who received the Second Step training will have a greater increase in scores in social competence scores from the fall to the spring. This will be measured with a repeated measures ANOVA. The hypothesis will be supported if the mean social competence score for the treatment group is higher from the fall to the spring, relative to any change in the control group.

CHAPTER IV

FINDINGS

Preliminary Analyses

Descriptive statistics. Preliminary analyses were conducted in order to examine the

characteristics of the data, particularly with respect to differences between experimental

group and differences between ELLs and native English speakers. The pretest and

posttest means and standard deviations for emotional competence variables separated by

experimental condition are presented in Table 2. Independent samples t-tests were

performed to see if there were significant mean differences at pretest; they are also

presented in Table 2 with degrees of freedom in parentheses. No significant differences

were found.

Table 2: Mean Differences by Experimental Condition for Emotional Competence Measures

	Pretest		Posttest		T-Test
	Experimental (N=41)	Control (N=19)	Experimental (N=36)	Control (N=17)	Pretest
Emotion Identification	5.98 (2.35)	4.95 (2.46)	7.15 (1.59)	6.37 (2.31)	1.58 (59)
Situation Knowledge	5.32 (2.29)	4.30 (2.25)	6.66 (1.89)	6.79 (1.72)	1.64 (59)
Empathy	4.34 (3.00)	4.00 (2.80)	5.44 (2.91)	5.26 (2.21)	.42 (56)
Delay of Gratification	.78 (1.39)	.79 (1.52)	N/A		.08 (59)

Note: The range the first three items is 0-8. The range for delay of gratification is 0-12.

T-test values are listed with degrees of freedom in parentheses.

The pretest and posttest means and standard deviations for the outcome variables are presented in Table 3. Group differences were also explored for the experimental and control group with independent sample t-tests. During pretest, group differences were seen for emotional competence, math, reading and school readiness. For emotional competence, the experimental group had significantly higher emotional competence scores than the control group (t (59) =1.89, p< .06.)

42

Table 3 Mean Differences by Experimental Condition for Outcome Variables

	Pretest		Posttest		T-test
	Experimental	Control	Experimental	Control	Pretest
	(N=41)	(N=19	(N=36)	(N=17)	
Emotional Competence	5.60 (1.93)	4.55 (2.12)	6.90 (1.60)	6.58 (1.92)	1.89† (58)
Math	1.24 (.350)	3.20 (.69)	1.03 (.10)	2.65 (.61)	2.77 (56)*
Reading	1.24 (.22)	1.06 (.09)	2.89 (.58)	2.43 (.53)	3.50 (57) **
School Readiness	3.05 (.95)	2.13 (.72)	3.94 (.99)	3.22 (.86)	4.01 (57)**
Social Competence	1.62 (.48)	1.60 (.71)	3.34 (.64)	2.95 (.64)	.50 (57)

Note: The range for emotional competence is 0-8. The range for all other measures is 0-4.

T-test values are listed with degrees of freedom in parentheses.

†p<.10, *p<.05, **p<.001.

The experimental group had significantly higher reading scores than the control group t (59) =3.50, p<.01. School readiness was also significantly higher for the experimental group, t (59), 4.01, p< .001.

Group Differences for ELL students. Table 4 reveals the mean differences between the groups of ELL students and native English speakers. As might be expected, the English Language Learners scored lower on all of the pre-test measures than their native speaking counterparts. Native English speakers and ELLs had significantly different in scores in empathy. Native English speakers had significantly higher empathy scores than ELLs (t (58)=2.21, p< .05). The only significant difference found in academic competence variables was for math. Native English speakers had significantly higher reported math scores than English language learners (*t(59)*=2.19, p<.05).

Table 4: Pretest Mean Differences in Outcome Variables by Language Status

		Empathy	Emotional Competence	Math	Reading	School Readiness	Social Competence
Mean	Native English speakers (N=33)	4.94 (2.70)	5.53 (1.85)	1.24 (.36)	1.22 (.22)	2.77 (.98)	1.64
	ELL (N=25)	3.31 (2.99)	5.03 (2.22)	1.07 (.18)	1.15 (.18)	2.69 (1.02)	1.55
T-Test		2.21* (56)	.94 (58)	2.19* (56)	1.20 (58)	.01 (57)	.57 (57)

Note: T-tests are listed with degrees of freedom in parentheses.

†p<.10, *p<.05, **p<.01.

Group differences were also explored during posttest. However, since the experimental group had been exposed to the intervention, group differences in language status were compared by experimental group. A Repeated Measures ANOVA was run to examine between group differences in terms of both language status and experimental group (see Table 5). The experimental group containing native English speakers maintained the highest mean across measures. However, an interesting trend can be seen—the experimental group, both English Language Learners and native English speakers scored higher on most measures than the control group native English speakers. The only significant interaction was seen for social competence. It was a time by experimental group by language status effect, $F (1, 57)=7.92$, p<.10. The social competence of ELL in the control group saw a greater increase compared to native English speakers in the control group.

Table 5: Posttest Mean Group Differences and ANOVA by Language Status and Experimental Condition

	Means				F Values				
	ELL		Native English speakers		Between Groups Effects		With-in group effects		
	Experimental (N=18)	Control (N=7)	Experimental (N=23)	Control (N=10)	Language	Exp * lang	T	T*L	T*E*L
Empathy	4.94 (3.11)	5.86 (1.58)	5.83 (2.74)	5.20 (2.57)	2.27	.31	5.00*	1.64	.58
Emotional Competence	6.69 (1.94)	6.64 (2.25)	7.07 (1.32)	6.45 (1.92)	.17	.13	17.59**	.05	.15
Math	3.14 (.63)	2.77 (.63)	3.23 (.74)	2.54 (.62)	.06	1.14	344.10**	1.16	.10
Reading	2.91 (.60)	2.54 (.60)	2.88 (.57)	2.36 (.44)	.11	.05	222.15**	1.06	6.99
School Readiness	3.79 (.97)	3.76 (.71)	4.05 (1.02)	2.86 (.85)	.44	1.91	29.13**	1.00	2.72
Social Competence	3.20 (.59)	3.16 (.60)	3.45 (.70)	2.80 (.63)	.22	.01	238.44**	1.30	7.92†

dF for empathy and math is (1, 56). dF for emotional competence is (1, 58). dF for Reading, Social competence and school readiness is (1, 57).

†p<.10, *p<.05, **p<.01.

Zero-Order Correlations

Zero-order correlations were conducted on all variables within the study during pretest (Tables 6 and 7). First, correlations were performed to see how the emotional competence measures were correlated. Emotional knowledge was positively correlated with situation knowledge and empathy. Situation knowledge was positively correlated

with empathy. The delay of gratification task was not significantly correlated with any other emotional competence measures.

Table 6: Zero-Order Correlations among Emotional Competence Variables

	1	2	3	4	5	6	7
Experimental Condition	1						
2-Gender	-.15	1					
3-Language	.04	-.06	1				
4-Emotion Knowledge	-.20	.06	.16	1			
5-Situation Knowledge	-.21	.09	-.05	.47**	1		
6-Delay of Gratification	-.01	.09	.27*	-.10	-.12	1	
7-Empathy	-.06	.14	-.28*	.51**	.62**	-.18	1

Note: In the variable 'experimental condition', the treatment group was coded as one and the control group was coded as two. In the variable gender, males were coded as one and females were coded as two. In the variable language, native English speakers were coded as one and English Language Learners were coded as 2.

* p<.05 **p<.01

Several correlations could be seen with the outcome variables (Table 7). Social development and likeability, both measures of social competence, were positively correlated with several of the academic competence measures. For example, social development was positively correlated with reading, math and school readiness. Likeability and social development were also highly positively correlated.

Table 7: Zero-Order Correlations Among Outcome Variables

	1	2	3	4	5	6	7	8	9	10
1Experimental Condition	1									
2-Gender	-.15	1								
3 Language	.04	-.06	1							
4-Social Development	-.33**	.11	02	1						
5-Reading	-.35**	-.08	-.15	.44**	1					
6- Math	-.34**	.1	-.27*	.33**	.71**	1				
7- School Readiness	-.46	.16	-.37	.60**	.42**	.38**	1			
8-Likeability	-.50**	1.02	.11	.50**	.48**	.34**	.65**	1		
9-Emotional Competence	-.09	.09	.09	.38**	.37**	.23	.33*	.32*	1	
10-Empathy	.49**	.19	-.05	.26*	.27*	.27*	.18	.15	.65**	1

Note: In the variable 'experimental condition', the treatment group was coded as one and the control group was coded as two. In the variable gender, males were coded as one and females were coded as two. In the variable language, native English speakers were coded as one and English Language Learners were coded as 2.

* p<.05 **p<.01

The academic competence measures were also correlated. For example, reading and math were positively correlated quite strongly at .71 (p < .01). School readiness, a measure of academic and social abilities, was correlated with reading and math in the expected direction.

The first hypothesis in the study was that the emotional competence variables would be positively associated with academic and social competence measures. Emotional competence and empathy were both positively correlated with the academic and social competence variables. In terms of social competence variables, emotional competence was positively correlated with social development and likeability. Empathy was positively correlated with social development. Emotional competence was also positively correlated with academic competence variables, including reading and school readiness. Empathy was correlated with reading and math in the expected direction.

Regression Analysis

The first study hypothesis was that emotional competence variables would be correlated with social and academic competence variables. In addition to the correlations, regressions were done to further explore this relationship. Given the high proportion of ELL students, language status was entered into each regression. These are reported in Table 8, with emotion knowledge having a more significant relationship with study variables.

It was found that emotion knowledge significantly predicted school readiness (β=.33, p< .10) and reading (β=.34, p< .05). The effect sizes for both variables was quite small (η<.05).

Table 8. Regression coefficients for the effects of empathy and emotional competence on outcome variables

	Math			Reading			School Readiness			Social Competence		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β
Language	-.134	.082	-.216	-.04	.06	-.10	.05	.26	.03	.03	.15	.03
Empathy	.01	.02	14.	.00	.01	.02	-.01	.06	-.03	.03	.03	.16
Emotional Competence	.02	.03	.12	.04*	.02	.34*	.16†	.09	.33†	.06	.05	.22

†$p<.10$, *$p<.05$, **$p<.01$.

Repeated Measures ANOVA

The second hypothesis stated that compared to the control group, the children in the experimental group will have a greater increase in emotional competence scores from pre test to post test. A repeated-measures ANOVA was conducted to examine the effects of time and experimental condition on emotional competence scores. Table 8 reveals the means, F values and effect sizes for study variables.

Table 9: Group Means and Repeated Measures ANOVA

| Variable	Means				F Values				Eta squared			
	Experimental		Control		G	Time	T*L	G*T	G	T	T*L	G*T
	Pre (N=41)	Post (36)	Pre N=21	Post (N=17)								
Empathy	4.34(3.0)	5.44 (2.9)	4.0 (2.89)	5.44 (2.2)	.09	.09	1.34	.09	.00	.08	.02	.00
Emotional Competence	5.6 (1.93)	6.9 (1.6)	4.55 (2.12)	6.58 (1.92)	3.362†	23.26**	.19	1.28	.06	.29		.03
Math	1.24 (.35)	3.2 (.69)	1.03 (.1)	2.65 (.61)	11.41**	33.33**	1.18	3.21†	.17	.37	.02	.05
Reading					13.29**	366.20**		2.95†	.19	.87		.05
Social Competence	1.62 (.48)	3.34 (.64)	1.60 (.71)	2.95 (.64))	2.32	25.51**	.00	2.98†	.04	.8	.00	.05
School Readiness	3.05 (.95)	3.94 (.99	2.13 (.72)	3.22 (.86)	18.27**	2.258	.20	.296	.25	.04	.00	.01

Note: G=group, l=language t= time.

dF for empathy and math is (1, 56). dF for emotional competence is (1, 58). dF for Reading, Social competence and school readiness is (1, 57).

†p<.10, *p<.05, **p<.01.

Empathy was the first measure of emotional competence. It was expected that there would be an interaction effect for time and group. The main effect for time was not significant ($F(1, 56)=.09, p=ns$). Both groups improved in their empathy scores across time, but it was not statistically significant (see Figure 1). At posttest, the experimental group (*M*=5.44, *SD*=3.0) and the control group (*M*=5.44, *SD*=2.80) were not statistically different, i.e. there was not a main effect for group either (F (1, 56)=.07, p=ns).

Figure 1 : Estimated Marginal Means for Empathy
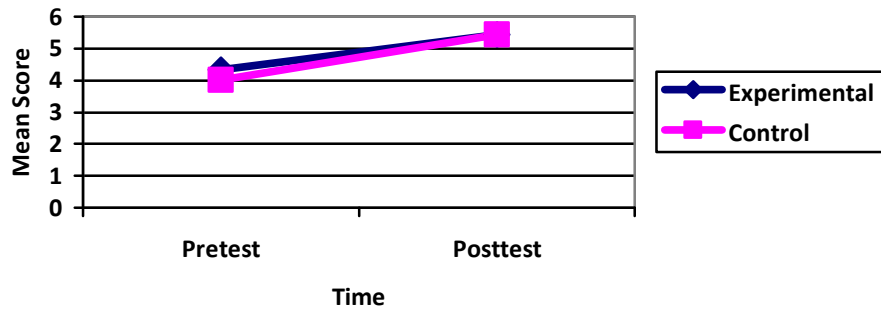
For emotional competence, there was a significant main effect for time. For time, $F (1, 57)=23.26$ ($p < .01$), indicating that both the control and treatment group evidenced statistically significant gains in emotional competence from pretest to posttest.

A main effect for group was found ($F (1, 58)=3.36$, $p=<.10$). The experimental group ($M=6.9$, SD=1.60) had a higher mean posttest score than the control group (M=6.58, SD=1.92). There was also not a significant interaction effect. See Figure 2.

***Figure* 2: Estimated Marginal Means for
Emotional Competence**
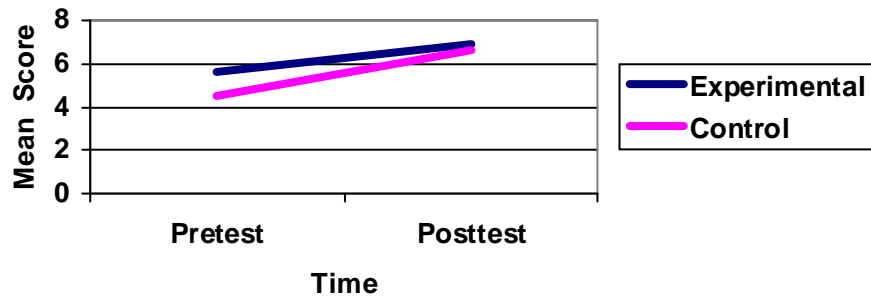
In this study, it was hypothesized that there would be a greater increase in emotional competence (empathy, emotion knowledge) in the experimental group compared to the control group. While the experimental group had significantly higher emotional competence scores, there was no group interaction, indicating that the experimental group did not have a greater increase in scores. The second hypothesis is not supported.

The third hypothesis was that compared to the control group, the children in the experimental group would have a greater increase in academic competence scores from pretest to post test. Math, Reading and School readiness measures were utilized in order to examine this hypothesis. For reading, time had a significant main effect F $(1,57)$ = 34.43, p < .01). The experimental group (M=2.89, SD=.58) and the control group (M=2.43, SD=.53) both improved in their reading scores over time. The effect size was .38 for this measure. There was also a significant main effect for experimental condition, F $(1, 57)$=13.07, p < .01), indicating that the experimental group was significantly higher in reading ability than the control group. Finally, there was an interaction effect F $(1, 57)$=2.95, p< .10). While both groups improved in their reading over time, the

experimental group had a marginally significant greater increase in their reading scores

over time. See Figure 3.

Figure 3: Estimated Marginal Means for Reading
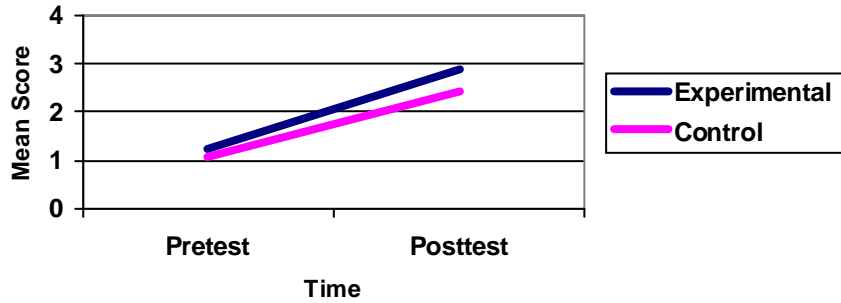
For math, a similar pattern emerged. Time again had a significant main effect,

$F(1,57 =33.33, p < .01)$. The experimental group (M=3.2, SD=.69) and the control group

(M=2.65, SD=.61) improved over time. There was also a significant main effect for

group, $F (1, 57) =11.41, p < .01$; the experimental group had a higher score than the

control group. There was a marginally significant interaction effect for time versus

experimental condition $F (1, 57)=3.21, p < .10$, indicating that the experimental group

had a greater increase in math scores over time compared to the control group. See figure

4.

Figure 4: Estimated Marginal Means for Math
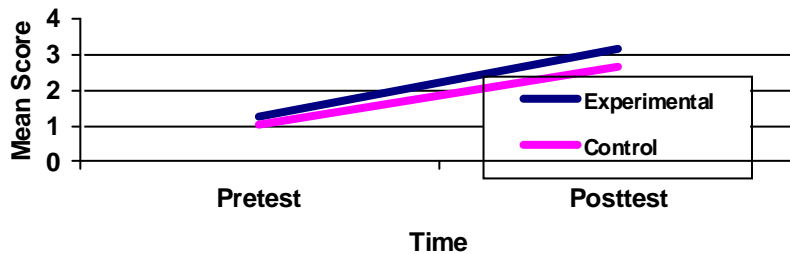
For school readiness, time did not have a significant main effect, $F (1, 57) = 2.25$, p=n.s.). The experimental group (M=3.05, SD=.95) and the control group (M=3.01, SD=.67) did not significantly improve over time. Group did have a significant main effect, $F (1, 57)=18.27$, $p < .01$) indicating that the experimental group had significantly higher school readiness scores than the control group. However, there was not a significant interaction for time and experimental condition, indicating that although the groups improved, that improvement cannot be attributed to the experimental condition. See Figure 5.

*Figure 5* : Estimated Marginal Means for School Readiness
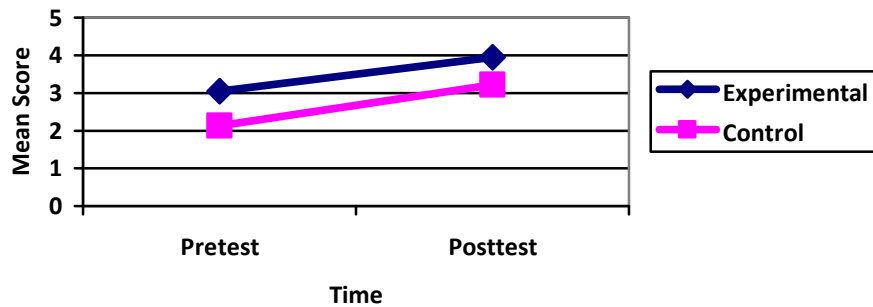
To answer the third hypothesis, reading, math and school readiness all need to be taken into account. Math and reading both have similar results –significant main effects for group and time and a significant interaction effect. School readiness had a significant main effect for group but not for time or an interaction effect. Overall however, the hypothesis is supported. The experimental group had a greater increase in academic competence scores compared to the control group.

The forth hypothesis was that compared to the control group, the children in the experimental group would have higher social competence scores from pretest to post test.

We see a significant main effect for time F $(1, 57)=25.51$, p < .01). See Figure 6. The experimental group ($M=3.34$, $SD=.64$) and the control group ($M=3.01$, $SD=.67$) both improved over time. There was not a significant main effect for experimental condition (F $(1, 57)$ =2.32, p=ns). However, there was a marginally significant interaction effect. F $(1, 57)$ =3.03, p < .10, though the effect size is very small (eta = .04). Given the interaction effect, it can be said that students in the experimental condition improved in social competence scores over time relative to any change in the control group. The fourth hypothesis is supported.

Figure 6: Estimated Marginal Means for Social Development
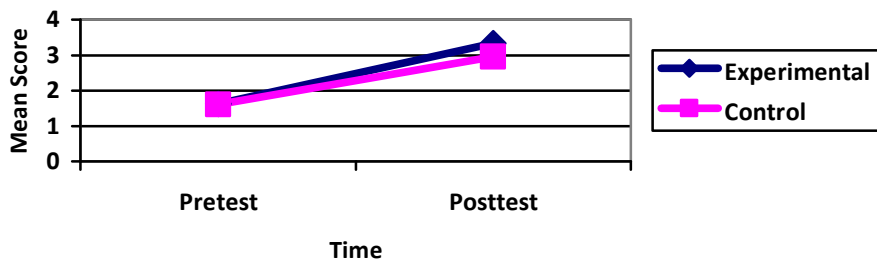
CHAPTER V

CONCLUSION

Discussion

Researchers have pointed to the relationship that exists between emotional competence, social competence and academic competence, but have not definitively said the direction of influence (Eisenberg et al., 2005). Previous research has found that emotional, academic and social competences rely on similar cognitive processes—high functioning in one area can improve functioning in another (Garner & Waajid, 2008). For pre-k students in particular, the link is vital to success in the classroom, as they must (often for the first time) build peer and teacher relationships which will help them learn, develop emotionally and build friendships (Denham et al., 2003).

This study posits that cognitive competences are aided by skills in the emotional realm, particularly knowledge of emotions, knowledge of situations wherein certain emotions prevail, and the ability to perspective take and be empathic. In this study an association was found between different measures of emotional competence. Situation knowledge was positively correlated with emotion knowledge, and empathy was positively correlated with emotion knowledge and situation knowledge. This

study also found evidence of a link between competencies: emotional competence was positively correlated with social competence (both social development and likeability), reading and school readiness, and empathy was positively correlated with social development, reading and math. Also, emotional competence was best able to predict scores in school readiness.

This study is complemented by the work of Eisenberg, Sadovsky, and Spinrad (2005), who expand the theory by positing that children's emotion regulation and academic competence is mediated by their social competence. In their model, children who are more emotionally regulated develop positive peer relationships (are popular and have positive adjustment). Positive peer relationships can help children develop better relationships with teachers, a better attitude about school and more motivation, which contributes overall to academic achievement (Ray & Smith, 2007). Similarly Miller et al. (2005) found that children with greater emotional vocabulary had more positive peer sociometric ratings. In this study, social development was positively correlated with emotional competence variables (both emotional competence and empathy) and academic competence variables (i.e. reading, math, and school readiness). Additionally, likability, a measure of social competence, was highly correlated with reading, math and school readiness, a measure of adjustment.

This study's main purpose was to explore the relationship between these study variables over time, after an intervention. It was proposed that an intervention program, Second Step, would improve the emotional competence of an experimental group. This improved emotional competence would then contribute to academic and social gains in

the classroom. We found evidence to partially support this hypothesis, particularly with respect to social and academic competence.

In terms of emotional competence, participants in the experimental and control group improved in emotional competence over time. Moreover, participants in the experimental group had higher emotional competence and empathy scores compared to the control group. However, empathy and emotional competence increased in both groups over time, and the experimental group did not see a greater increase in these scores compared to the control group. Second Step was not able to improve the emotional competence of program participants. This is contrary to work by Edwards et al. (2005) who found that Second step was able to improve empathy in program participants.

In terms of academic competence, participants in the experimental and control group improved over time. Moreover, participants in the experimental group had higher scores in reading and math. Finally, participants in the experimental group had a greater increase in scores in both reading and math over time compared to the control group. This is a new finding in terms of the Second Step literature. No previous studies have linked Second Step with improved academic functioning.

Lastly, this study looked at how program participants would improve in their social competence. Both the experimental and the control group improved in social competence over time. However, the experimental group did not have significantly higher scores in social competence compared to the control group. This could be partly due to the face that both groups had similar pretest scores. However, there was a greater increase in social competence for participants in the experimental condition. The latter

finding is similar to other studies which have found that Second Step was able to increase the prosocial behavior of program participants (Frey et al., 2000; Taub, 2000).

Overall, this study demonstrated that Second Step was able to improve the academic and social competence of program participants. It is troubling that Second Step was not able to improve the emotional competence of program participants because so many of the lessons are focused on emotional concepts. It was interesting in particular that emotional competence improved for both program participants and those in the control condition. While one might expect academic achievement to improve over time, one wouldn't necessarily expect emotional competence to improve without some sort of explicit teaching. Both groups had very similar posttest scores in both emotional competence measures.

A number of reasons could explain the lack of findings for emotional competence. First, it could be that the assessment did not reliably capture emotional competence. Perhaps more ongoing observational based measures could capture richer development of emotional competence (see Roberts and Strayer, 1996). It could also be that while emotional competence variables are highly correlated with other competencies, it does not (in and of itself) cause increases in social and academic competence. For example, in this study, empathy was correlated with social development, reading and math; however, it was not able to predict scores in these measures. On the other hand, empathy was highly correlated with other emotional competence variables. It could be that children who were empathic were high functioning—greater emotional competence and academic competence overall, such that empathy was related but not able to cause differences in the other competencies. It could also be that something else influences emotional

competence, which ultimately influences social and academic competence. One possible explanation is teacher quality; the teacher in the control group could be attuned to the emotional development of her students, such that she is able to informally introduce emotional concepts to students.

Finally, lack of improvement in emotional competence could be related to program implementation. Some teachers (research included) may find a disconnection between teaching Second Step lessons and managing day to day classroom culture. Taub (2000) believes that the program needs time to become fully implemented as part of the culture of the school. In this study, lessons were taught twice per week with little follow through when lessons were not taught. The result could be that the content of the lessons were compartmentalized for the students; there was no transfer of learning from the lessons to everyday life. This could be improved in two ways. First, Second Step could be more fully implemented on a classroom level with the use of extension activities, particularly those which target ELL students, and more care paid to 'teachable moments' of on the spot emotion regulation. Secondly, Second Step needs to be implemented across the grade level and in multiple grades. These changes could increase learning, increase exposure of program concepts, and contribute to a school wide culture of improved emotional health.

Eisenberg, Sadovsky and Spinard (2005) believe that language plays a critical role in the development of emotional competence and ultimately academic competence. Language is related to emotion regulation; children use language to self-talk or learn about proper ways to manage emotions. Language is also related to emotional competence (Mendez, Fantuzzo & Cicchetti, 2002). Children use language to talk about

their emotional states. One of the unique aspects of this study is in the inclusion of English Language Learners. Downs et al (2007) found that Hispanic children develop similarly as native English speakers in terms of emotional competence measures. This study supports this research—seeing similar trends in growth in the two populations. Downs et al (2007) also found that Hispanic students had lower scores in emotional competence compared to their native speaking counterparts. Similarly, in this study, ELL children had lower mean emotional competence and empathy scores. This study did find significant differences in the two groups in pretest empathy and math scores.

This study had some interesting findings with regards to the posttest results for ELLs and native English speakers. First of all, an effect was seen for time—both ELL and native English speakers improved over time. Of more interest is the interaction effect for language and experimental condition for reading, school readiness, social development, math and emotional competence. In these cases, the ELLs in the experimental and control group were able to have a greater increase in scores compared to the control group of native English speakers. The native speaking control group scored the lowest on the majority of measures. These findings point to the large gains that the ELLs are able to make throughout the year. Oppositely, the control group had small numbers for each group; this could make the mean overly sensitive to outliers.

Study Strengths

This study had numerous strengths. First, this study utilized a control group. Several previous studies on the effectiveness of Second Step have not utilized a control group (see Cook et al., 2007; Edwards et al., 2005, McMahan et al., 2000). These studies

were not able to attribute significant improvements in student behavior solely to participation in Second Step. This study contributes to the literature by exploring emotional competence in a young population. Those studies mentioned previously used older students.

An additional strength of this study is that it was conducted in a low income school with a high percentage of English Language Learners. This diverse group has been understudied, despite an increasing population. While this study mirrored previous studies (Downs et al., 2007) in terms of the emotional competence findings, this study added to the literature by demonstrating that the ELLs in the experimental group were able to make more significant gains in academic competence compared to native English speakers in the control group.

A final strength is that this study contained the dual role of teacher-researcher. Care was taken so that the 'researcher' was not involved in any data collection. A person affiliated with the university but not involved in the study conducted the assessments. A teacher's aide completed teacher questionnaires. Groups were randomly assigned into treatment and control groups. These precautions help ensure that the data is an accurate reflection. As 'the teacher', I was able to utilize my understanding of how children develop emotionally and socially and look for ways to enhance this in the classroom. For example, one of the first lessons in Second Step deals with identifying emotional expressions. As an extension activity, I created a classroom book that contained pictures of the children making different faces. This book became part of the classroom library. Activities like this allow the program to become more fully implemented in the classroom and will be necessary to make true gains in these competencies. Doing this

kind of participatory action research allows me to use my knowledge to best serve my students.

Study Limitations

This study does have some limitations. First, due to logistical constraints, the sample was not a pure random sample. Future studies could utilize a random sample and have more significant results. Similarly, the sample size is small, and there was some attrition. Also, given the high proportion of English Language Learners, one has to wonder whether the program effectiveness was hindered by a language gap; perhaps having Second Step lessons in Spanish could increase the emotional competence of the English Language Learners in particular. This program was selected because of its demonstrated effectiveness in a low-income sample (McManahan et al., 2000). Perhaps selecting a program which has demonstrated effectiveness in a dual language environment could also improve participants' outcomes.

An additional limitation was that data was only collected at two time points that were relatively close (4 months apart). More substantial findings might be present if data was collected over a longer time span(Edwards et al., 2005). Additionally, data should be collected longitudinally. The study could be strengthened if data were collected at additional time points to see if the results hold over time (Taub, 2000). Perhaps data could be collected at the end of the school year as well as at the beginning of the next school year.

Recommendations for future research

This study looked at the relationship between social, academic and emotional competence in a pre-k sample. While the study did add to the literature, there are some recommendations for future research. First, emotion regulation is of particular importance to understanding the relationship between emotional and academic competence. Future studies need to explore this area in more depth, particularly with observation-based measures of how children regulate emotions. More research on how children manage emotions in a day-to-day way could enhance our understanding of how peer relationships develop and ultimately influence academic competence.

This study looked at group differences in ELL and native English speakers. Future research needs to explore how language development impacts social and emotional competence, particularly in the arena of peer play. For example, are children rated as more socially competent when they play with peers who speak the same language? Do peers react similarly to emotion regulation strategies of students speaking different languages?

Additionally, the issue of classroom quality needs to be explored. In this study, two classrooms were combined to create an experimental group. Future studies could look at how teacher characteristics (particularly language use) improve the emotional competence of students. While this has been explored (Ray & Smith, 2010; Stuhlman & Pianta, 2001;Sutton et al., 2009) few studies have explored how these teacher characteristics affect a pre-k classroom of ELL students. Additionally, few studies have

looked at how teacher quality in general impacts the emotional and social competence of students.

Finally, Second Step research points to how the program is able to reduce behavior/aggression problems and increase prosocial behavior (Bear, 1998). Any future research should specifically assess this in order to determine the program's effectiveness.

Lastly, the relationships between teacher, child and parent need to be explored with relation to emotional competence. Bronfenbrenner (1986) discussed how the child is influenced by the family, peers, and classroom teachers. Teachers and parents both utilize similar emotion modeling strategies in teaching emotional competence (Sutton et al., 2009). Future interventions need to target both how these microsystems influence the child and how they can influence each other. Second Step in particular could be enhanced if parents were taught how to reinforce the different emotion management strategies at home.

Implications for Practice

This research has demonstrated above all, the importance of emotional competence to academic and social competence. The research has also demonstrated that Second Step can be successful in improving the social or academic competence of program participants. However, it cannot be taught in isolation. To improve students' emotional competence and to take full advantage of the link between emotional competence and social competence, the Second Step program needs to be utilized in conjunction with focused teacher-student interactions.

I will briefly provide some examples of how teachers can bridge the gap between classroom practice and the program. Students need a basic understanding of different emotions in their peers. Second Step provides useful information in identifying facial features which compose a distinct emotional expression. As a teacher, my role will be linking those emotional expressions with feelings—for example, showing a victim's tearful, hurt face to his aggressor and saying—"you hit him, how do you think it feels?". Secondly, I think my students need a basic understanding of strategies for emotion management. Second Step provides various "calm down" techniques, and as a teacher I will be looking for times to gently remind children to utilize those techniques. I will also provide a space for children to calm down that is away from the hub of the classroom. Lastly, students need to be able to respond with care and concern to their peer's emotions. Second Step has lessons where children list ways to be helpful to parents and ways to comfort friends. These lessons could be reinforced by talking children through conflict between two students. The teacher can help by guiding the conversation to what happened, how peers responded, and what ultimately happened as a result of that response (i.e., student B knocked over student A's block tower. Student A is sad and student B needs to identify ways to make the situation better).

Emotional competence concepts are critical to classroom success. It is important that early childhood teachers are knowledgeable about how to encourage development in emotional competence. It is also important for teachers to identify which students, despite their best teachings, have not made gains in developing emotional competence. These students can then be targeted for more intensive intervention.

Conclusions

Teachers and students in low income schools face particular challenges. Often, students from low income communities come to school with some deficits in emotional understanding (Evans & Rosenbaumm, 2008.) These deficits can contribute to deficits in academic and social competence (Mendez, Fantuzzo, & Cicchetti, 2002). Children who can not accurately discern other's emotional states—for example, frustration from sharing—face challenges in developing relationships with peers and with teachers in the classroom (Denham et al., 2003). Teachers are challenged to improve the emotional competence of their students. Research has found that this can be achieved through modeling, explicit teaching, coaching, and linking feelings to literature (Ashiabi, 2000). This study looked at a specific program to see if any gains could be made in emotional, academic or social competence in students who participated in the program. It found that Second Step improved the social and academic competence of participants. Given the importance of social competence to academic competence, these rewards could be seen immediately and perhaps, years down the road. Moreover, these effects hold for a group of non-English speakers. This study highlights the existence of a relationship between these competencies and as such, highlights the importance of focusing on children's emotional understanding for its own sake, and for the sake of learning.

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Appendix A: Empathy Measure

The empathy portion utilizes the same vignettes as the emotion situation task. The experimenter will read the vignettes utilizing the puppets. Then, the experimenter asks the child how they would respond if they were the puppet's friend. The child's response will be recorded with an audiotape. The child is then given a score of 1 or 0, depending upon whether the response is empathic or not.

Experimenter: (vignettes are read in random order).

Today, I am going to play a game with you. We are going to talk to David/Mary (puppet's gender matches child's gender). I want you to pretend like Mary is your friend. When she tells you a story about what happens to her, you pretend like you are her friend and you are there with her. After the story, I am going to ask you how to feel about what happened to Mary. You tell me how you feel or what you would do with Mary.

Happy

1. It is my birthday. I am going to have a party. There is going to be a pink cake at my party. I am going to have my friends come over to play with me. I am going to get some presents.

    You are at Mary's birthday party. How do you feel? What do you do?

2. I am going to go to the park with my mom after school. My mom said we can go on the swings, slide down the slide. It is going to be fun.

      You are at the park with Mary. How do you feel? What do you do?

Sad

3. Last summer, it was really hot outside. My mom let me get some ice cream from the freezer. I had a chocolate ice cream cone and I was getting ready to eat it. Then, I accidentally dropped the ice cream cone. We didn't have any more ice cream.

You are at Mary's house with her and you saw her drop her ice cream. How do you feel? What do you do?

4. I was playing outside during recess. One of the boys in my class came up behind me and pushed me. I fell down and hurt my knees.

   You are at the playground with Mary. How do you feel? What do you do?
Angry

5. *I was in class. I was working very hard at the blocks center. I was building a big tower. I had worked on it for a long time and it was very tall. Then, Bob came up to my tower. He laughed at my tower and then he pushed all the blocks down. He ruined my tower.*

You are at the blocks center with Mary. How do you feel? What do you do?

6. *I got a new purple ball from the store. It was big and bouncy. I liked it a lot. I liked to play with it by bouncing it on my street. My sister wanted to play with my ball. I let her play with it but she popped the ball. It doesn't bounce any more. She said that she is not going to give me another ball to play with.*

   You are at Mary's house. You watched her sister break the ball. How do you feel? What do you do?

Afraid
1. *I was sleeping last night. I had a nightmare. I was dreaming that a mean monster was coming to get me.*

Mary is telling you about the nightmare that she had. How do you feel? What do you do?

2. *I was walking in the woods. I was by myself. Then, I saw a big bear. He started to chase me.*

Mary is telling you about when she walked in the woods. *How do you feel? What do you do?*

Appendix B: Emotion Identification Task

The child will come to the table. At the table will be a flannel board with four different faces attached to it. First, each child will be asked to point to the face that matches the affective label, i.e., "Where is the "X" face (emotion recognition). Then, each child will be asked to label each face. The order of the faces will be switched randomly.

Scoring: Similar to Denham and Mason(1990), students will receive a total of 8 points. The affective label section has four points possible, one point for each correct recognition. In the label task, the student will get up one point possible for each correct response.

Description of Facial Expressions on puppets:

Happy—smile, checks turned upward
Sad—front, eyes and mouth down-turned
Angry—eyebrows down, eyes squinted, lips pursed
Afraid—eyes wide, mouth gaping

Experimenter:

Hello. Today I am going to ask you to look at these faces. You are going to do two different things with the faces. First, I am going to ask you to point to certain faces that have the emotion that I say. I want you to put your finger on the face that you think is feeling what I tell you. Can you do that?

(order will be randomized for each student)—

Point to the happy face. Point to the sad face. Point to the angry face. Point to the scared face.

Now, I want you to look at all the faces and think about what feelings they are showing. Then, I will point to each one and ask you how you think the face feels. I want you to tell me what you think each face is feeling.
Experimenter points to each face (in random order for each student) and asks "How does she feel?".

Score Sheet for Emotion Identification Task

Emotion	recognition	Label	Total
Happy			/2
Sad			/2
Angry			/2
Afraid			/2
Total	/4	/4	/8

Appendix C: Situation Knowledge Task

Puppets made of cloth will be used to enact vignettes. In each vignette, the puppet will feel the way most people would feel. Each vignette will be accompanied by standardized vocal and visual affective cues emitted by experimenter. The vignettes/puppet will match the gender of the participant. Before beginning the vignettes, the experimenter will correctly rename the faces used in the emotion identification task. After seeing each vignette, the children will be asked , 'how does the puppet feel?' They are then asked to point to the appropriate face.

Scoring. Students could receive one point for each correct identification for a total of 8 points. Vignette and indicator of Emotion shown by puppet and puppeteer

Emotion	Happy	Sad	Angry	Afraid
Vignette Content	1. Birthday party 2. go to park	1. dropped ice cream cone 2. falls down	1. tower knocked down 2. ball is deflated.	1. nightmare 2. dark woods
Puppet's Body Language	Bounces Spreads arms out	Wipes eyes, Head downcast	Clenched	Hands up, Rigid
Puppeteer's Facial Cues	Smiles; checks turned up	Eyes and mouth down turned	Eyebrows down Lips pursed Eyes squinting	Eyes wide, mouth gaping
Puppeteer's Vocal Cues	Relaxed, "pearly" tones	Whiney, crying tones	Gruff, growling, Short tones	High-pitched, Unwavering

Vignette Content:
Experimenter: (order of vignettes will be randomized).

Hello. This is David/Mary (depending upon gender of child). He/She is going to tell you some stories about things that happened to her. Listen to the story and think about how

s/he feels about what has happened to her. Then, I want you to point to which face you think matches David/Mary's emotion. If you think that Mary is happy in the story, point to the happy face. [Experimenter points to happy face]. If she is sad, point to the sad face [experimenter points to sad face]. If she seems angry, point to the angry face [experimenter points to the angry face]. If she seems scared, point to the scared face [experimenter points to the scared face.]

Happy
1. *It is my birthday. I am going to have a party. There is going to be a pink cake at my party. I am going to have my friends come over to play with me. I am going to get some presents.*
2. *I am going to go to the park with my mom after school. My mom said we can go on the swings, slide down the slide. It is going to be fun.*

Sad
1. *Last summer, it was really hot outside. My mom let me get some ice cream from the freezer. I had a chocolate ice cream cone and I was getting ready to eat it. Then, I accidently dropped the ice cream cone. We didn't have any more ice cream, so I didn't get to eat any ice cream that day.*
2. *I was playing outside during recess. I was pretending to be a pony with my friends. We were running around. I tripped over some rocks in the grass. I fell down and hurt my knees.*

Angry
1. *I was in class. I was working very hard at the blocks center. I was building a big tower. I had worked on it for a long time and it was very tall. Then, Bob came up to my tower. He laughed at my tower and then he pushed all the blocks down. He ruined my tower.*
2. *I got a new purple ball from the store. It was big and bouncy. I liked it a lot. I liked to play with it by bouncing it on my street. My sister wanted to play with my ball. I let her play with it but she popped the ball. It doesn't bounce any more. She said that she is not going to give me another ball to play with.*

Afraid
3. *I was sleeping last night. I had a nightmare. I was dreaming that a mean monster was coming to get me.*
4. *I was walking by my house after school. I was all by myself. It started to rain really hard. There was a lot of loud thunder and lightning. It was very dark outside and I couldn't see where I was going.*

Score Sheet for Situation Knowledge Task

Emotion	Vignette 1	Vignette 2	Total
Happy			/2
Sad			/2
Angry			/2
Afraid			/2
Total			/8

Appendix D: Delay of Gratification Task

In this task, the child and the experimenter will be seated at a table. The child selects which snack (fruit or M & Ms) they would like to have. The snack is placed under a plastic cup. The child is instructed to wait until after the experimenter rings a bell to take the snack from the cup and eat it. This task is completed six times, with increasingly long wait times, up to one minute. The experimenter indicates whether the child successfully waited as well as whether the child prompted the experimenter for the snack.

Scoring: This task is reverse scored. The child can receive up to 12 points, two points per trial. The child will receive one point per trial if the child did not wait for the experimenter to ring a bell before taking a snack. The child will receive one point per trial if the child prompts the experimenter (asking if they could have the snack, asking how much longer they need to wait, etc.). Trial order is randomized.

Today we are going to play a game with this food. First, I want you to pick out which food you would like to play the game with—grapes or M&Ms. Now, here is how we are going to play this game. I am going to put an M & M under this plastic cup. Then, I am going to set my timer for a little bit of time. I would like you to wait quietly until the timer goes off. When the timer goes off, I will ring this bell. After you have heard me ring the bell, then you can get the candy out from under the cup. Do not get the candy out before you hear the bell. We will do this several times. Each time that I put new candy under the cup, you need to wait until you hear the bell before you can eat the candy.

The experimenter places the desired snack under the cup and waits the specified amount of time. Then, she rings the bell. If the child has taken the snack before the time has elapsed, the experimenter waits until the elapsed time to ring the bell.

Score Sheet

Trial #	Delay Time	No Delay	Prompt	Total
1	No Delay			
2	10 Seconds			
3	20 Seconds			
4	30 Seconds			
5	40 seconds			
6	1 minute			
Total				

Compared to other children in this child's class, please indicate the appropriate response for each statement by filling in the corresponding circle. Use the following scale to identify your response.

1 = *Not Yet*   2 = *Early Stage*   3 = *Intermediate Stage*   4 = *Proficient*

              Not Yet   *Proficient*

		1	2	3	4
I.	**Social Development**				
1.	Uses appropriate strategies to initiate interactions with peers and uses alternate strategies when initial attempts fail.	○	○	○	○
2.	Responds appropriately to other's expressed emotions and intentions.	○	○	○	○
3.	Overall emotional tone is positive when interacting with peers and adults.	○	○	○	○
4.	Displays age-appropriate impulse control/regulation during challenging situations.	○	○	○	○
5.	Peer relationships are generally positive.	○	○	○	○
6.	Effectively uses adults as sources of support, comfort, and assistance.	○	○	○	○
II.	**School-Specific Instrumental Development**				
7.	Focuses attention during large group teacher-directed activities.	○	○	○	○
8.	Can work independently.	○	○	○	○
9.	Demonstrates willingness to try new things.	○	○	○	○
10.	Generally completes tasks in allotted time.	○	○	○	○
11.	Understands and generally follows playground and classroom rules.	○	○	○	○
12.	Enjoys being in school.	○	○	○	○
13.	Can work effectively in a group.	○	○	○	○
14.	Actively participates in class activities.	○	○	○	○
III.	**Reading and Writing**				
15.	Chooses books and stories during free choice activities.	○	○	○	○
16.	Recognizes most upper and lower case letters and knows most of their sounds.	○	○	○	○
17.	Uses some initial-sound associations to predict meaning.	○	○	○	○
18.	Uses context clues to predict meaning.	○	○	○	○
19.	Recognizes some common words.	○	○	○	○
20.	Draws and paints pictures.	○	○	○	○
21.	Writes name.	○	○	○	○
22.	Writes using upper and lower case letters with few or no reversals.	○	○	○	○
23.	Writes numerals with few or no reversals.	○	○	○	○
IV.	**Logical Thinking and Use of Numbers**				
24.	Actively uses all senses to examine and explore familiar or unfamiliar objects.	○	○	○	○
25.	Shows interest in and understanding of the properties of change.	○	○	○	○
26.	Uses elaborate language to describe objects and events.	○	○	○	○
27.	Uses language to initiate and maintain interactions with adults and peers.	○	○	○	○
28.	Uses language to gather information and solve problems (asks questions).	○	○	○	○
29.	Understands and uses such concepts as many, more, less, etc.	○	○	○	○
30.	Uses appropriate labels ("one, two, etc.") when counting objects.	○	○	○	○
31.	Uses counting reliably to quantify perceptual (< 5) numbers.	○	○	○	○
32.	Uses counting reliably to quantify elementary (5 to 12) numbers.	○	○	○	○
33.	Uses counting to quantify larger number (20+) objects.	○	○	○	○
V.	**Perceptual Development**				
34.	Demonstrates a positive disposition toward movement activities; enjoys and feels confident during physical activities.	○	○	○	○
35.	Demonstrates age-appropriate static and dynamic balance (can stand on one foot, traverse a low walking board or balance beam, etc.).	○	○	○	○
36.	Demonstrates age-appropriate locomotor patterns (walking, running, hopping, jumping, climbing, creeping).	○	○	○	○
37.	Demonstrates age-appropriate fine motor movement differentiation (manages small manipulative toys, cuts efficiently, etc.).	○	○	○	○
38.	Demonstrates age-appropriate eye-hand coordination (drawing strokes are fluid and confident, closes figures when drawing and printing).	○	○	○	○

VI.   Student Profile
For items 1-7 below, indicate whether the statement is True or False for this child.   **TRUE**   **FALSE**

1.   Has problems speaking clearly and efficiently.   ○   ○
2.   Is intellectually gifted and talented.   ○   ○
3.   Is eager to learn new things.   ○   ○
4.   Is often pulled out from the group because of behavioral problems.   ○   ○
5.   May have a learning disability.   ○   ○
6.   Is creative.   ○   ○
7.   This child missed 2 or more weeks of school this year because of health problems. ○   ○
8.   Overall, how would you rate this child's academic skills compared to other children in his or her class?

○   a. Far below average

○   b. Below average

○   c. Average

○   d. Above average

○   e. Far above average

9.   Some children have an easy time adjusting to the demands of kindergarten. In contrast, others have difficulty making this adjustment. Based on your experience, how easy of difficult was this adjustment for this child?

○   a. Very difficult

○   b. Somewhat difficult

○   c. Average

○   d. Somewhat easy

○   e. Very easy
10. Based on your experience, how intellectually ready was this child for kindergarten?

○   a. Not very ready

○   b. Somewhat ready

○   c. Average

○   d. Mostly ready

○   e. Very ready

11. Based on your experience, how socially ready was this child for kindergarten?

○   a. Not very ready

○   b. Somewhat ready

○   c. Average

○   d. Mostly ready

○   e. Very ready

Appendix F: Social and Friendship Status

Since teachers know their classes better than anyone, please give your opinions of how this child's classmates think about him or her. For the following questions, please do your best to give answers that tell us what this child's classmates think of him or her by filling in the corresponding circle.

Overall, how much is this child liked by classmates?
- ○ a. In the top 15% (very liked)
- ○ b. In the top 50% (average to above average liked)
- ○ c. Right in the middle
- ○ d. In the bottom 50% (average to below average liked)
- ○ e. In the bottom 15% (very low liked)

For the following questions, imagine that each child nominates three other classmates who fit the description. Please estimate how many nominations this child would receive from the class. For example, if a child nominates Johnny, Joey, and Jane in response to a question, they each receive one nomination. A child's "nominations" for that question is equal to the total number of kids who select him/her for that question. Also, please consider each question separately. As you will see, some questions deal with favorable behavior and some with unfavorable behavior. Do not let a response to one kind of question influence your response to another kind of question. Sometimes kids will select the same child for both kinds.

Nominations for 'Like the Most'
- ○ a. Top 15% (one of the kids with the most nominations)
- ○ b. Top 50% (more than average)
- ○ c. Right in the middle (average)
- ○ d. Bottom 50% (less than average)
- ○ e. Bottom 15% (fewer nominations than most others would get)

Nominations for 'Like the Least'
- ○ a. Top 15% (one of the kids with the most nominations)
- ○ b. Top 50% (more than average)
- ○ c. Right in the middle (average)
- ○ d. Bottom 50% (less than average)
- ○ e. Bottom 15% (fewer nominations than most others would get)

Nominations for 'Gets along good with the teacher'
- ○ a. Top 15% (one of the kids with the most nominations)
- ○ b. Top 50% (more than average)
- ○ c. Right in the middle (average)
- ○ d. Bottom 50% (less than average)
- ○ e. Bottom 15% (fewer nominations than most others would get)

Nominations for 'Doesn't get along good with the teacher'
- ○ a. Top 15% (one of the kids with the most nominations)
- ○ b. Top 50% (more than average)
- ○ c. Right in the middle (average)
- ○ d. Bottom 50% (less than average)
- ○ e. Bottom 15% (fewer nominations than most others would get)

Oklahoma State University Institutional Review Board

Date: Thursday, September 02, 2010

IRB Application No   HE1059

Proposal Title: Emotional Competence: Links to Social and Academic Success

Reviewed and   Expedited
Processed as:

Status Recommended by Reviewer(s): Approved   Protocol Expires: 9/1/2011

Principal
Investigator(s):

Amber Deisly   Amanda S Morris
403 W. 45th St.   700 N. Greenwood
Sand Springs, OK 74063   Tulsa, OK 741060700

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

87

VITA

Amber Hodges Beisly

Candidate for the Degree of

Master of Sciences

Thesis: EMOTIONAL COMPETENCE IN A PRE-KINDERGARTEN CLASSROOM: LINKS TO SOCIAL AND ACADEMIC COMPETENCE

Major Field: Human Development and Family Science

Biographical:

Education:

Completed the requirements for the Master of Science in Human Development and Family Science at Oklahoma State University, Stillwater, Oklahoma in May, 2011.

Completed the requirements for the Bachelor of Science/Arts in Sociology/Anthropology at Kalamazoo College, Kalamazoo, MI/USA in 2003.

Name: Amber Beisly   Date of Degree: May, 2011

Institution: Oklahoma State University   Location: Stillwater, Oklahoma

Title of Study: EMOTIONAL COMPETENCE IN A PRE-KINDERGARTEN

CLASSROOM: LINKS TO SOCIAL AND ACADEMIC COMPETENCE

Pages in Study: 87   Candidate for the Degree of Master of Science

Major Field: Human Development and Family Science

Scope and Method of Study: This study explores the relationship between emotional, social and academic competence in a low income pre-kindergarten sample. This study used a quasi-experimental design to examine the effectiveness of an intervention program, Second Step. Participants included 62 students, 41 students in the experimental condition and 21 students in the control group. Students were assessed in emotional knowledge via an emotion naming, emotion labeling and situation knowledge task. Students were assessed in emotion regulation via a delay of gratification task and in empathy via a response to vignettes task. Students' social and academic competence was measured via teacher report.

Findings and Conclusions: Positive correlations were seen between study variables. A Repeated Measures ANOVA found that students in the experimental group saw significantly greater increase in scores in social competence, reading and math over the control group from pretest to posttest. The relationship between emotional competence and English Language Learners is also discussed, though no significant differences were found for this population. The importance of early intervention for low income and English Language learners is discussed.

ADVISER'S APPROVAL: Dr. Amanda Morris