DO TEACHER'S OBSERVE THE SAME SOCIAL–EMOTIONAL EXCHANGES IN THE CLASSROOM AS RESEARCHERS?

by

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DEDICATION

This is dedicated to my loving husband David, my supportive parents Debbie and Todd, and my amazing siblings Cory and Kelli.

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ABSTRACT

DO TEACHER'S OBSERVE THE SAME SOCIAL–EMOTIONAL EXCHANGES IN THE CLASSROOM AS RESEARCHERS?

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There is growing interest from researchers, practitioners, and policy-makers in children's social–emotional competence and how to assess those competencies, because social–emotional competence is predictive of academic competence. Preschool-aged children are able to learn about social–emotional competence and classroom norms while attending childcare. The classroom environment is new to many preschoolers and thus, they might behave differently in the classroom than at home. Additionally, teachers are likely to know their students fairly well as they spend a lot of time with them. Therefore, teachers may be good at assessing and reporting a child's social–emotional competence in the classroom. The purpose of the present study was to examine whether teachers reported social–emotional competencies similarly to objective researchers. A secondary purpose was to assess whether or not children's social–emotional competencies are interrelated. Results demonstrated that the researcher-observed and teacher-rated social–emotional behaviors were associated, as predicted. However, when using a combined factor of both researchers' observations and teachers' ratings to predict children's social information processing, no significant results emerged. Furthermore, children's emotion

knowledge was assessed as a moderator of the above relation. Results demonstrated that emotion knowledge was linked with children's social information processing, but that no significant interactions for the created factors and emotion knowledge occurred. These results show that teachers and researchers may observe similar behaviors in the classroom, and therefore, teachers can be considered as resources of insight to children's social–emotional behaviors.

DO TEACHER'S OBSERVE THE SAME SOCIAL–EMOTIONAL EXCHANGES IN THE CLASSROOM AS RESEARCHERS?

Entering preschool for the first time presents new challenges for young children. Children must learn to negotiate the demands of the preschool environment, form working relationships with teachers, and develop friendships. (Shields et al., 2001). In preschool children learn about the norms of their social environment, as interactions with others become more complex (Howes, 1987; Singer, Golinkoff, & Hirsh-Pasek, 2006). In addition, children learn to navigate the challenges of the classroom for the first time, often creating a trajectory for success or failure in later academic context (Campbell & Stauffenberg, 2008; Denham, Bassett, Zinsser, & 2012). When a child is interacting with a peer group and an emotion arises during the interaction, the child must be able to understand the emotion that is expressed and how to regulate their own emotions within the social interaction, so that they are better able to minimize harmful effects of their negative emotions and share positive emotions with their peers (Denham, 1997). However, if the child struggles emotionally, particularly with expressing poorly regulated negative emotions, the child is more likely to be rejected by their peers, seen by their teachers as are more aggressive, and at risk for later school difficulties (Fabes et al., 1999; Ladd, Birch, & Buhs, 1999; Denham et al., 2012) Thus, acquiring social–emotional competence and avoiding social *in*competence is essential for preschoolers' functioning, so that they can successfully engage in interpersonal exchanges and form relationships (Halberstadt, Denham, & Dunsmore, 2001).

Thus, preschool is an opportune time to not only nurture preschoolers' cognitive development, but also nurture their social–emotional development. Therefore, it is important to assess preschoolers' social–emotional competence and incompetence during early childhood to help identify their strengths and weakness (Denham, 2006). An important factor to consider when assessing preschoolers' social–emotional development is the methodology. Current methodologies include direct assessment of the preschoolers' skills, observations of preschoolers' behaviors, and parent and teacher questionnaires (Bracken, 2004; Denham, 2006; McKown, 2015). Observation and direct assessment both can be very useful; to fully understand children's development, for researchers can spend time in the classroom gathering data (Denham, 2006). Researchers are able to observe classroom processes and children's behaviors, as well as directly assess children's social–emotional competence (Denham, 2006).

Though researcher observations and assessments can provide a wealth of information about children's development, it is logistically challenging to capture a complete profile of each individual child. That is, there are often time and data collection constraints that limit how much information researchers can gather for any one child. Thus, teachers have also been cited as useful reporters of children's social–emotional development. Teachers spend hours each day with the children in their classrooms and are able to provide missing pieces of information to which researchers may not have access. However, teachers may not always look for the same things that are of concern to researchers, or may have different conceptualizations of behaviors that are of interest. With more preschool curricula focusing on social–emotional development, it is important that teachers and researchers are in sync. Although the assessments from each perspective can be used separately, the best strategy is a multidimensional battery of assessments. That is, to evaluate preschoolers' social–emotional competence comprehensively, it may be most effect to

obtain different types of measurement with multiple methods, via multiple sources, over a variety of settings, and over multiple occasions (Denham, 2006). Accordingly, the purpose of this investigation is to examine teacher-reported and researcher-reported social–emotional behaviors in the classroom, and to see whether there is a behavioral measurement model that incorporates teachers' and researchers' perspectives. The secondary goal is to see whether the observed behaviors that teachers and researchers are reporting in the classroom are similar to how children respond to hypothetical peer-provocations, and whether this relation is moderated by their emotion knowledge.

Social–Emotional Competence

Emotional Competence. Social–emotional competence refers to a broad range of skills that children acquire and can be broken into separate components of social and emotional competence. Emotional competence is a precursor to social competence, in part because social interactions, especially at younger age, are often emotionally charged (Denham et al., 2003). Emotional competence is conceptualized as three separate competencies, including emotion: experience and expression, regulation, and knowledge (Denham et al., 2012). These components help to ensure effective and successful social competencies that are built upon specific skills, including listening, co-operating, seeking help appropriately, engaging in a small group or engaging in play with an individual, and negotiating with others (Denham, 2006). For example, children's ability to interact with their peers successfully depends on their comprehension of emotions during an emotional situation, and their ability to react appropriately to the emotion. Further, not only is emotional competence important in and of itself and for its contributions to social competence, but it is also important for supporting cognitive development, pre-academic

achievement, school-readiness, and school adjustment (Birch & Ladd, 1997; Blair, 2002; Herndon, Bailey, Shewark, Denham, & Bassett, 2013).

Expression and experience of emotions are important aspects of emotional competence that both observers and teachers can take note of during children's social interactions. Competency in emotion expression refers to the general experience and expression of positive emotions over negative emotions (Denham et al., 2011). Children who are emotionally competent are more emotionally positive, have more appropriate reactions to emotional situations, and are often perceived as more socially competent by teachers and peers (Denham et al., 2003; Denham, McKinley, Couchoud & Holt, 1990; Shin et al., 2011). Emotionally incompetent children are angrier and often seen as less socially competent.

Emotion regulation is the ability to evaluate, monitor, and modify an emotional experience (Denham et al., 2012), and becomes necessary when a child is experiencing an emotionally arousing situation. Emotion regulation involves regulating both positive and negative emotions, and becomes necessary for preschoolers as they experience more emotions in their interactions (Denham et al., 2003; Denham et al., 2011). Emotionally competent children will be able to regulate using more positive strategies, such as distraction, self-soothing, and seeking comfort from others (Denham et al., 2011). For instance, a child may choose to find a toy to play with while a thunderstorm occurs, distracting them from the loud scary thunder, and thus regulating their fear. Alternatively, children who are emotionally incompetent may use strategies such as venting and aggression, also known as emotion dysregualtion (Herndon et al., 2013).

Emotion knowledge is a particularly important emotional competence factor in preschoolers' success in the classroom environment; it consists of accurately perceiving and understanding expression of emotions, emotional cues, and functions of emotions (Izard et al.,

2001). There are two major aspects of emotion knowledge, situational knowledge and expressive knowledge (Bassett, Denham, Mincic, & Graling, 2012). Situational knowledge occurs when a child understands how a person might feel in an emotion-provoking situation. Expressive knowledge is knowledge about emotional cues, such as facial expression. When preschoolers first enter the classroom they have a better understanding of happy situations compared to situations that evoke negative emotions (Denham & Couchoud, 1990). However, throughout the preschool years, children's emotion knowledge develops rapidly as they acquire the skills to understand the facets of expression and emotion-eliciting situations. They begin to recognize and distinguish between their own and others' negative emotions, use emotion language, identify their peers' emotions even if they differ from their own, and comprehend complex dimensions of emotional experiences (Denham, 2006). When preschoolers have an understanding of the emotions that are being expressed around them, they are more prosocially responsive to their peers, are seen by their teachers as more socially competent, are liked more by their peers, and have shown great academic success (Denham, et al., 1990; Shields et al., 2001).

In comparison, preschoolers with deficiencies in emotion knowledge may struggle with understanding the emotions that surround them in the classroom, causing them to isolate themselves from or be in conflict with peers and teachers, consequently impeding imperative opportunities for educational exchanges and potentially reducing young children's motivation to learn (Denham, et al., 2002; Izard et al., 2001). Whether the lack of emotion knowledge leads to the isolation or conflict, or whether the isolation or conflict constrain the development of emotion knowledge, the interaction between the limited or negative social experiences and lack of emotion knowledge can lead to increased behavioral problems and decreased academic competence (Izard et al., 2008; Saarni, 1999).

Thus, as preschoolers are starting to recognize, label, and understand emotions in others, this knowledge aids in maintaining social relationships (Denham, et al., 2003; Izard et al., 2001). For example, when a child displays lowered brows and narrowed eyes he is sending an emotional message to alert his peer to the possibility of forthcoming aggressive words and actions. Children with age-appropriate emotion knowledge should be able to view the child displaying the furrowed brow and narrow eyes, and be able to not only understand the angry feelings, but also understand that the angry child may have aggressive intentions. In short, emotional competence, perhaps particularly emotion knowledge, sets children on a trajectory for successful interactions with others.

Social Competence. Social competence is defined as children's ability to start and sustain successful interaction with others (Rose-Krasnor, 1997). To have successful social interactions, children must demonstrate a variety of skills across different domains, including not only social, but also emotional and cognitive skills (Halberstadt et al., 2001; Rose-Krasnor, 1997). Children's social behavioral responses can be demonstrated through prosocial behaviors or aggressive behaviors, evidence of competence or incompetence. Prosocial behaviors are characterized as being kind and helpful. These types of behaviors show others that one is friendly and inviting (Baillargeon et al., 2011). In contrast, aggressive behaviors, or behaviors that are conducted with the intent to harm, are less inviting (Ladd & Profilet, 1996). Children who are more socially-emotionally competent tend to be well-liked by their peers and teachers (Denham, 2006); those with deficits in this area tend to be less accepted overall.

Furthermore, social competence also includes social problem solving, where children have to make informed decisions about how to behave socially based on others' social–emotional cues (Crick & Dodge, 1994; Halberstadt et al., 2001). Social problem solving occurs when a child

has the ability to analyze social situations and identify problems, set prosocial goals, and determine effective ways to solve differences that arise between them and peers (Denham, Brown & Domitrovich, 2010). For example, when a child is interacting with their peers and one behaves in a provocative manner, such as knocking down the block creation she had just finished, she must understand what happened, interpret it as "mean on purpose" or not, consider different responses that fit her goal (to make the construction? To remain friends?), and pick a behavior to enact that facilitates the goal.

Emotion Knowledge Supporting Social Problem Solving. Because emotional competence leads to social competence (Denham et al., 2003), having knowledge about emotions is important in the facilitation of social problem solving, which then leads to later academic success and social competence (Denham et al., 2003; Denham et al., 2014; Mostow, Izard, Fine & Trentacosta, 2002). For example, understanding that the child who destroyed the block creation is very could lead to different response choices than correctly perceiving him as calmly and deliberately spoiling it. Although other aspects of children's social–emotional competence, such as their tendency towards positive emotions, cooperation with others, and positive emotion regulation will likely be linked to children's social problem solving, emotion knowledge is particularly important, because it can help facilitate thinking about balancing one's own desires with others, prompting a specific response (Denham et al., 2003; Denham et al., 2014). As another example, a child with low emotion knowledge will not be able to understand how she feels when a toy is taken from her. Thus, when in that situation, she may have trouble articulating to her peer that she is upset. In this instance, she may use dysregulation to get what she wants, and may not learn from the situation. Alternatively, a child with high emotion knowledge may have the same situation occur, but might be able to use other strategies to achieve her goal of getting the toy

back, because she can recognize and articulate her upset. One of those strategies may be to share the toy because it benefits both parties.

Furthermore, emotion knowledge plays a key role in other social-emotional competencies, such as ability to regulate emotion (Denham, Bassett, Zinsser, & Wyatt, 2014) and could be considered to moderate the relation between social behaviors and emotional competencies and children's social problem solving. For example, children with low emotion knowledge may still express and regulate emotions, and demonstrate social behaviors, competently, but will likely have difficulty in interpreting the emotional cues from others, making social problem solving less adaptive. If they show social-emotional *in*competence in combination with low emotion knowledge, their social problem solving is likely to be even less adaptive. Those who show both higher emotion knowledge and competence in other areas of social and emotional competence, however, can be expected to show the most adaptive social problem solving. Conversely, children who have greater emotion knowledge, but who are incompetent in other social–emotional areas, may show more adaptive social problem solving patterns than those with low emotion knowledge, because they can understand how they might feel in a given situation and balance those feelings with others'.

Assessing Social–Emotional Competence

It is important to note that children's social–emotional competence contributes to their academic success. Not only are socially-emotionally competent children favored more by teachers and peers (Denham, 2006; Denham et al., 2003), but they are rated higher for school readiness (Fantuzzo et al., 2007), have better attitudes towards school (Shields et al., 2001), and have higher academic competence in later grades (Raver, 2002; Raver & Knitzer, 2002). The

benefits of understanding individual children's social–emotional competence via accurate and thorough assessment will allow others to help promote these skills.

However, children's social–emotional competence can be context-specific, making it harder for researchers to capture behaviors at a given time. For example, a child may express anger in the classroom, but if the researcher is not specifically observing that child, they cannot record those behaviors. According to Denham, Wyatt, Bassett, Echeverria, and Knox (2014) having multi-method, multi-informant methodology is important conceptually and psychometrically and should be the standard in developmental research.

Previous literature demonstrates that cross-informants, or the information taken from multiple sources, do not always have high correlations, especially between parents and teachers (Denham et al., 2014). These low correlations actually are informative; multiple informants can be important because they demonstrate that each informant brings an important perspective. Achenbach, McConaughy, and Howell (1987) discuss that instead of viewing low correlations between informants as unreliability, to consider that the different informants provide unique information. The authors found that informants who play similar roles, such as mothers and fathers, demonstrated higher levels of agreement than those who were in different roles. This finding specifically indicates that multiple reporters provide more information about the participant, especially given that expectations are different in various settings (Achenbach et al., 1987; see also Renk & Phares, 2004). However, Achenbach and colleagues, as well as others (e.g., Renk & Phares, 2004; Renk, 2006) note the difficulties of using multiple informants and suggest that the informants be selected carefully, especially given that some informants may have biases that affect their rankings (Denham et al., 2014). Therefore in the context of the classroom,

it is important to have individuals who know the children the most, their teachers, as well as more objective assessors (e.g., researchers), capture social–emotional competence.

The Present Study

The goal of the current investigation was to examine whether teachers reported social–emotional competencies and incompetencies similarly to objective researchers. Although a multidimensional battery of assessments assists in limitations that are associated with any given single assessment, less is known about whether the multiple sources (i.e., teachers and researchers) would categorize aspects of social-emotional competence or incompetence similarly; as noted above, the constructs are clear but informants may not always see the same phenomenon in exactly the same way. For example, if a researcher is using an observational tool to observe children in their classroom and a problem situation erupts between two peers and instead of the peers screaming or hitting each other, the children talk through the problem, researchers would observe this situation and categorize it as a positive reaction to frustration. However, less is known about whether teachers would observe this same interaction and categorize it the same way. Differences with objectively trained researchers potentially could be problematic when teachers try to help children with social–emotional deficiencies, or when they try to implement curricula that not only focuses on teaching about social–emotional competence, but also focuses on teaching children as situations in the classroom come up.

Research Question 1. Thus, I first examine the correlation between teacher-reported behaviors on the Social Competence and Behavioral Evaluation-short form (SCBE-30; LaFreniere & Dumas, 1996) and researcher-observed behaviors on the Minnesota Preschool Affect Checklist-Revised/Shortened (MPAC-R/S; Denham et al., 2012), to see whether teachers and researchers are observing the same social–emotional behaviors in the classroom. It was

hypothesized that the positive social–emotional behaviors from the MPAC-R/S would correlate with the cooperative/sensitive subscale on the SCBE-30. Furthermore, it was hypothesized that the negative social–emotional behaviors from the MPAC-R/S would correlate with the angry/aggressive and anxious/withdrawn subscales on the SCBE-30.

Research Question2. A sufficient way of gathering data on preschoolers' social–emotional competence is through a variety of methods. As mentioned earlier, teacher questionnaires and direct observations are two methods that can be used to capture social–emotional behavior in the classroom. Researchers will typically collect data from multiple sources, aggregate meaningful subscales from each method of measurement, and then compare the subscales from the different measures. Although you still get meaningful results from using this method, I want to examine the collected data differently. My second research question is whether a measurement model that incorporates both measurement techniques can be created. It is expected that two created factors of social-emotional competence and social-emotional incompetence that incorporates both MPAC-R/S and SCBE-30 will fit the data well and will have significant factor loadings.

Research Question 3. My third research question addresses whether the created factors from research question 2 (i.e., social–emotional competence and social–emotional incompetence), are predictive of key aspects of the Challenging Situations Task (CST; Denham et al., 2014). In other words, are social–emotional behaviors that teachers and researchers are observing and reporting in the classroom related to what children are reporting that they would do in an emotionally arousing social situation? It was hypothesized that the social–emotional competence factor will predict children's choice of more socially competent emotions and behaviors in challenging situations. In contrast, the social–emotional incompetence factor will predict children

who choose less socially-emotionally competent emotions and behaviors in challenging situations.

Research Question 4. My last goal was to test the association between a child's social–emotional competence and a child's choice of more socially competent emotional and behavioral responses in hypothetical challenging situations and the contribution of a child's emotion knowledge. It was expected that children who have greater emotion knowledge would likely choose more socially competent behavioral and emotional responses in hypothetical challenging situations. Additionally, it was expected emotion knowledge would enhance the relation between observed and rated socially–emotionally competence and choice of more socially competent behavioral and emotional responses in the hypothetical challenging situations, and buffer the relation between social-emotional incompetence and less adaptive behavioral and emotional responses. Furthermore, it was expected that the positive relation between children's observed and rated social–emotional incompetence in other areas and less socially competent behavioral and emotional choices would be ameliorated by having emotion knowledge, and vice versa.

Methods

Procedure

Before going out into the field, observers experienced several days of training during which they watched several videos that captured the different scales of MPAC-R/S. Before the start of data collection, the trained researchers spent time in their assigned classrooms in order to form informal relationships with the children and the teachers.

Data collection occurred at two time points, once in the fall and once in the spring. During an appropriate time, typically a time when the class was not in transition,

children's behavior was observed in differing play and interaction contexts, and coded for 5-minute intervals across four separate days. Observations occurred during less structured periods that gave children the flexibility to play and interact with their peers (i.e., center time, meals, group time, and free-play/outside) instead of during a teacher-led instructional time. To assess social problem solving and emotion knowledge, direct assessments were conducted. Researchers escorted child participants into a quieter location so that the child would not be distracted, and would complete the assessment that was assigned for that day. Direct assessments took approximately 10 minutes to complete, and children would be given a sticker and small prize for their participation. To capture participating child's social and emotional behavior in the classroom, teachers completed child questionnaires in the spring. Thus, only data collected during the spring for child participants was examined in the current study.

Participants

The participants in this study included 337 three-and four-year old children (54% male) and their teachers (n=83). 283 child participants had their teacher data complete. Participants were recruited from Head Start programs and Private childcare centers located in the Northern Virginia area. Before the recruitment of participants, directors from the surrounding Northern Virginia area were contacted to see whether their center would be interested in participating in a federally funded study. After receiving the approval from center directors, the next step was to recruit three- and four- year old teachers. Teachers from participating centers were contacted to set up meetings to discuss the research goals of the study and what their participation in the study would entail. If the teacher consented to participate in the study, the children in that classroom were then recruited. Children were recruited through fliers sent home to parents, as well as researchers talking to parents during pick-up time. All of the participants were informed of the

risk and benefits of their participation and signed a consent form. Teacher and child participants were recruited as part of a large federally funded study, focused on teachers' socialization of social emotional learning. Although the participants completed multiple tasks, only the tasks pertaining to the present study will be discussed in detail below.

Minnesota Preschool Affect Checklist-Revised/Shortened (MPAC-R/S)

To capture children's social–emotional behavior in a natural setting the observational tool MPAC-R/S was utilized (Denham et al., 2012). The MPAC-R/S consists of 19 items, which are compiled of nine scales: positive affect (3 items: e.g., child displays positive emotion in any manner), negative affect (2 items: e.g., child displays negative emotion in any manner), productive involvement (2 items: e.g., focused use of personal energy), unproductive involvement (2 items: e.g., unfocused use of personal energy), positive reactions to frustration (2 items: e.g., child promptly verbally expresses feelings arising from a problem situation, then moves on to the same or new activity), social skills (4 items: e.g., sharing, joining taking turns, cooperating with peers), aggressive behaviors (3 items: e.g., child vents frustration towards a person or object), and no interaction for 3 consecutive minutes (1 item). Items from each of the scales were summed together for each time point, and then the item scores were aggregated across the four time points, resulting in a total score for each scale, per child.

Across multiple occasions researchers trained and practiced coding children's behaviors in practice videos. After training was completed, each researcher watched and coded 22 five-minute reliability videos; their coding was then compared to that of a master coder. Because observations occurred over time, there was a possibility of more than one observer for each child. Thus, observer reliability was assessed using intraclass correlations that ranged from .74

(negative affect scale) to .98 (emotion regulation scale), which shows good to excellent inter-observer reliability.

Principal components analyses were conducted to reduce the number of variables. Four principal components emerged and included an emotionally negative/aggressive factor, an emotionally positive/socially skilled factor, a productive/unproductive involvement factor, and an emotionally regulated factor. Results from the principal components analysis can be viewed in Table 1. Then aggregates were calculated by taking the mean of items that had high loadings on each factor. Internal consistency was assessed using inter-item correlation because of the small number of items in the MPAC scales. As such, Cronbach's alpha would not be meaningful (Spiliotopoulou, 2009). Clark and Watson (1995) suggested that a mean inter-item correlation above .14 is considered to be acceptable. The negative/aggressive factor had an inter-item correlation of .25, the positive/socially skilled factor had an inter-item correlation of .23, the productive/unproductive involvement factor had an inter-item correlation of .16, and the emotionally regulated factor had an inter-item correlation of .71. Thus, all factors were deemed acceptable for reliability. Validity has been demonstrated in Denham et al. (2012) and Herndon et al. (2013).

Challenging Situation Task (CST)

Social information processing was captured using a valid and reliable direct assessment, CST (e.g., Denham, Bouril, & Belouad, 1994; Denham et al., 2014; Zahn-Waxler et al., 1994). The CST is a pictorial forced-choice measure, where peer provoked challenging situations are presented to children and they respond to how they would feel and react to the challenging situation. Researchers presented a total of six peer provocation short stories, which had illustrated pictures that went along with each story. Following each scenario, children were asked how they

would feel about the situation and were given four emotion choices (i.e., happy, sad, angry, and just okay), which were accompanied by a pictorial representation on the emotion being verbally presented. Next, children were asked what they would do and were given four behavior choices (i.e., socially competent, aggressive, passive, and crying), which were also accompanied by pictorial representation. Each of the four emotional responses and the four behavioral responses were summed across the scenarios. For the present study, children's response of an angry emotion and aggressive action were summed as an angry/aggressive response, and a sad emotional response and a socially competent action were summed as a sad/socially competent response. Inter-item correlations were used for internal consistency of the CST. The socially competent response aggregate has an inter-item correlation of .22 and the aggressive response aggregate had an inter-item correlation of .27 demonstrating acceptable reliability. Furthermore, the CST has demonstrated construct validity with teacher ratings of classroom social behavior (e.g., Zahn-Waxler et al., 1994; Denham, et al., 2014) as well as predictive validity in relation to children's academic abilities (e.g., Denham et al., 2014).

Affective Knowledge Test (AKT)

The AKT was utilized to test children, individually, to see whether they are knowledgeable about basic emotions and situations that evoke these emotions (AKT; Denham, 1986; Denham, Bassett, Brown, Way, & Steed, 2015). The AKT has demonstrated reliability and validity, and has shown to be useful in the assessment of emotion knowledge (e.g., Denham et al., 2003; Denham & Couchoud, 1990; Miller et al., 2006; Shields et al. 2001). Children's expressive and receptive recognition of emotions were tested, as well as, their understanding of stereotypical and nonstereotypical situations. For the labeling section of the AKT researchers placed detachable faces in front of the participants and asked them to identify happy, sad, angry, and

afraid by naming the emotional expressions (expressive knowledge), and then were asked to point to the emotions (receptive knowledge). For the situation knowledge section (which was shortened from the original AKT in the larger project), the researchers through a puppet show acted out 9 vignettes. Three of the vignettes capture children's stereotypical knowledge by having the puppet depict the same emotion that most people would feel. The remaining 6 vignettes captured children's nonstereotypical knowledge by having the puppets depict different emotions from what each child's mother reported, in a questionnaire, that their child would feel.

During the assessment, researchers gave children two points for identifying the emotion correctly and one point for identifying the correct valence but not the correct emotion (i.e., child says afraid for sad). The raw scores of all three types of emotion knowledge were averaged to create one total score of emotion knowledge. Children randomly received one of the two parallel versions of the AKT during the time of assessment. Internal consistency for the AKT, reported in terms of Cronbach's alpha is α=0.74 for Version A and α=0.75 for Version B.

Social Competence and behavior Evaluation (SCBE-30)

Teachers completed the 30-item version of the SCBE for each participating child. The SCBE-30 (LaFreniere & Dumas, 1996) measures social behavior from a child's ability or inability to regulate emotions in the classroom. Using a 5-point Likert-type scale teachers rated behaviors that best described the child from "Not much like this child" to "Very much like this child." From teachers ratings on specific items three subscales were computed: Angry/ Aggressive ("Gets into conflicts with other children"), Cooperative ("Negotiates solutions to conflicts"), and Anxious/ Withdrawn ("Remains apart, isolated from the group"). High internal consistency has been reported of items in each of the subscales ranging between α=. 80-.92 and

validity was shown with cross-cultural samples (Denham et al., 2003; LaFreniere and Dumas, 1996).

Results

Research Question 1: Pearson's Correlation Analysis

To examine teacher-reported social–emotional behaviors and to determine if there was a relation with researcher-reported social–emotional behaviors, Pearson's correlations were conducted as the initial method of analyses. A correlation of each of the MPAC-R/S created factors and the SCBE-30 subscales was conducted. Correlation results are presented in Table 2.

The angry/aggressive aggregated scale from the MPAC-R/S was positively correlated with the angry/aggressive subscale and negatively correlated with the cooperative subscale from the SCBE-30. Thus, researchers' observations of children's negative affect, aggression, and negative responses to aggression are appropriately associated with teachers' ratings of children's angry and aggressive behaviors and social competence in the classroom. Similarly, the positive/socially skilled aggregated scale from the MPAC-R/S was positively associated with the cooperative subscale from the SCBE-30 and negatively associated with the angry/aggressive and anxious/withdrawn subscales from the SCBE-30. Therefore, this result supports the notion that researchers' observations of children's positive affect and social skills are suitably associated with teachers' ratings of children's cooperative behavior in the classroom. The productive/unproductive and emotionally regulated aggregates were not correlated with any subscales from the SCBE-30.

Research Question 2: Confirmatory Factor Analysis

To address whether a measurement model can be created that incorporates both measurement techniques of the MPAC-R/S and SCBE-30, a two-factor Confirmatory Factor Analysis was conducted using MPLUS software. By default, MPLUS identifies measurement models by constraining the first indicator to 1. To free the constraints an asterisk was added after the first observed variable in order to obtain comparable factor loadings for all the variables included in the factor. Additionally, to counteract effects of freeing the constraints, the latent variables were standardized. Model fit statistics were analyzed and it was determined that the model fit the well, χ^2 (df=4)=7.06, p=.13, CFI=.98, TLI=.94, RMSEA=.05). However, global model fit is not the only indication of whether the model fit the data. Thus, the factor loadings were examined, and results demonstrated that the SCBE-30 manifest variables loaded onto their respective factors much more highly than the manifest variables from the MPAC-R/S. The low factor loadings for the MPAC-R/S mean that those manifest variables are weakly correlated with the respective factors. Initially, the productive/ unproductive involvement and emotionally regulated aggregates from the MPAC-R/S had been included in the factor analysis, but the loadings were nonsignificant and caused poor model fit. Thus, those two aggregated were removed from the analyses. Final factor loadings from the CFA can be found in Figure 1.

From the CFA, factor scores for social–emotional competence and social–emotional incompetence were output and used to conduct subsequent analyses. It is important to note that the two factors were very highly negatively correlated and are thus multicollinear. Therefore, the subsequent results should be interpreted cautiously.

Research Question 3: Regression Analyses

To examine whether the created factors of social–emotional competence and social–emotional incompetence are predictive of key aspects of the Challenging Situations Task (i.e.,

socially competence and angry/aggressive) four simple regressions were conducted. Results were all non-significant for all 4 regressions (see Table 3). These results show that the social–emotional competence factor does not predict children choosing sad/socially competent behavioral and emotional responses to hypothetical challenging situations. Furthermore, results showed that the social–emotional incompetence factor is not predictive of children who choose angry/aggressive behavioral and emotional responses to hypothetical challenging situations.

Research Question 4: Multiple Regression Analyses

Last, to examine whether emotion knowledge moderates the relation between the created social–emotional competence factor and sad/socially competent behavioral and emotional responses in hypothetical challenging situations, as well as between the social–emotional incompetence factor and the angry/aggressive behavioral and emotional responses, a hierarchical regressions were conducted. To account for multicollinearity, independent variables were centered where appropriate and then interaction terms were made. The social-emotional competence factor and the AKT were entered, and then the interaction between the two was entered for the CST sad/socially competent outcome. Next, in a second equation the social–emotional incompetent factor and the AKT were entered, and then the interaction between those two was entered for the CST angry/aggressive outcome. A significant main effect was found for emotion knowledge. Specifically, increases in emotion knowledge were associated with increases in CST sad/socially competent behavioral and emotional responses. However, the interaction term was non-significant (see Table 7). As for the CST angry/aggressive behavior responses, a significant main effect emerged for emotion knowledge as well. Specifically, emotion knowledge was negatively associated with CST angry/aggressive responses. These two findings confirm hypotheses that children with more emotion knowledge are more likely to choose sad/socially

competent versus angry/aggressive responses in hypothetical peer provoked situation. Furthermore, a significant two-way interaction was found for social–emotional incompetence. As seen in Figure 2, post hoc probing indicated that for a child having low emotion knowledge, the more negative/aggressive behaviors seen by teachers and observers, the more children pick angry/aggressive behavioral and emotional responses to hypothetical peer situations (Preacher, Curran, & Bauer, 2006). For a child with high emotion knowledge, the more negative/aggressive behaviors seen by teachers and observers, the less children tend to choose angry/aggressive behavioral and emotional responses in the hypothetical peer situations.

Discussion

The aim of the present study was to examine whether teachers reported social–emotional competencies similarly to objective researchers, whether a measurement model that incorporates both measurement techniques could be created and then used to predict key aspects of the Challenging Situations Task. Additionally, it was examined whether children's emotion knowledge moderated the association between children's social–emotional competence/incompetence and children's behavioral and emotional responses in hypothetical challenging situations.

It was expected that children's positive social–emotional behaviors observed by researchers in the classroom would be associated with teachers' ratings of children's positive social–emotional behaviors. Results showed that there was an association between children's positive affect and socially skilled peer interactions observed by researchers and teachers ratings of children's social–competence in the classroom. These findings present evidence that both researchers and teachers are noticing similar socially–emotionally competent behaviors of the students.

Furthermore, it was expected that children's negative social–emotional behaviors observed in the classroom by researchers would be associated with teachers' ratings of children's negative social–emotional behavior in the classroom. Results demonstrated that there was a significant relation between researchers' observation of negative affect, unprovoked aggression, and negative reactions to frustrating situations, and teacher's ratings of children's aggression. These findings present evidence that both researchers and teachers are noticing similar socially–emotionally incompetent behaviors of the students.

Although the direction of the correlational results were expected, the correlations themselves are relatively weak (ranging from r=.12 - .24). These results are consistent with other literature on multiple informants (e.g. Achenbach et al., 1987; Renk, 2005). However, these findings do not necessarily mean that teachers are not reliable reporters, but perhaps that they, along with researchers, provide a holistic social–emotional profile of the students. Another study, conducted by Humphries, Keenan, and Wakschalag (2012) examined whether observed emotional competence was associated with children's teacher rated emotional competence. They found that children's observed active engagement was the only significant predictor of children's teacher-rated emotional competence, which could be interpreted as teachers having a difficult time conceptualizing what it means to be emotionally competent within the context of the classroom.

The poor factor loadings from the confirmatory factor analysis revealed that the two-factor measurement model utilizing both perspectives may not be the best model for the data. The SCBE-30 is a validated questionnaire whereas the MPAC-R/S is an observational tool that can be used to reliably and validly assess social–emotional competence. Although both tools can be used to assess social–emotional competence, the nature of how the data is being collected is different.

The two measures are on two different scales, which could be why the factor loadings were so low for the MPAC. Renk (2005) warned about the statistical utility of multiple informants, as data can be difficult when using multiple informants who may not have the same grasp of the constructs. This explanation of the current results is also consistent with conclusions made from Humphries and colleagues (2012). Despite these results, the two perspectives can still provide useful information about children's social–emotional competence. Perhaps, different measurement techniques or analysis techniques may yield results that are more useful to the understanding of children's social–emotional competencies. For instance, it may be interesting to train teachers to objectively observe the children first, and then compare results between the observations of teachers and researchers.

The non-significant results for the social–emotional competence/incompetence factors on the socially competent and aggressive outcomes for the CST were surprising. This finding is inconsistent with validation studies of the CST that show that responses from the CST are indicative of school adjustment, including those that used the SCBE to validate the CST (e.g. Denham et al., 2013a; Denham et al., 2013b;) Thus, in our sample, results demonstrated that children might respond differently to hypothetical situations than what teachers and researchers actually observe in the classroom. However, given that the factors had each had a low loading and were multicollinear, these results should be interpreted cautiously.

However, one finding that was consistent with the literature was the significant main effect of children's emotion knowledge on children's responses to hypothetically arousing situations (Denham et al., 2014). Specifically, these findings were consistent with research indicating that emotion knowledge plays a large role in social information processing (e.g. Denham et al., 2013). However, the fact that results showed no main effects of the other social–

emotional competencies on children's social information processing is inconsistent with the same literature (e.g. Denham et al., 2013). This set of findings could be explained by the idea that children who are more knowledgeable about emotions may know the correct social responses when given a hypothetical situation, but may choose to behave differently in the classroom, or may have a more difficult time when they are actually emotionally aroused. There are many situations in the classroom where children choose to be aggressive to achieve their own desires but the existing literature demonstrates that emotion knowledge can form a foundation for better emotion regulation and social competence in the future (Denham et al., 2013).

Results from the moderation indicated that if a child has low emotion knowledge, the more negative/aggressive behavior seen by the teacher and researchers, the more children select angry/aggressive emotional and behavior responses to hypothetical peer provoked situations, supporting the hypothesis. However, if a child has high emotion knowledge it works as a buffer for children with high social–emotional incompetence for less negative social cognition. In other words, children cognitively understand what they should not do in a hypothetical situation but when the child becomes emotionally aroused during an actual interaction their emotion knowledge does not help and the child acts in a negatively/aggressive way.

Implications and Future Directions

The purpose of this study was to examine the extent that teachers are able to accurately report children's social–emotional behaviors, in terms of associations with the views of objectively trained observers. There is a need to understand how teachers balance pedagogy and learning with the promotion of social–emotional competence inside the classroom. Having a better idea of what is going on inside the classroom will assist researchers and practitioners to support classroom practices that promote social–emotional competence in preschoolers'. These

results indicate that teacher-reports could be used in concert with researchers' observations and direct assessments of children's social–emotional competence, albeit with caution. However, to ensure that teachers are correctly identifying behaviors associated with these competencies, professional development and training is necessary.

The results from this study show that teachers are recognizing some similarities as researchers, but although teachers may have this recognition, they may not know strategies to assist the children in need. Thus, teacher trainings could emphasize these strategies. Many preschool curricula programs exist already to help children achieve social–emotional competence (i.e. Al's Pals; Wingspan, LLC, 1999; and Preschool Promoting Alternative Thinking Strategies (PATHS); Domitrovich, Greenberg, Kusche, &; Cortes, 2004). These programs incorporate teacher trainings to effectively implement the curricula, and could additionally train teachers in the observational methods and provide strategies for them to provide positive feedback for children who use these competencies in the classroom and to assist children who have deficits in these competencies. In fact, in the Preschool PATHS program, in addition to the lessons, teachers are asked to integrate the curricula into other activities and in Al's Pals, teachers are encouraged to look towards other classroom practices to integrate the curricula even further. These integrative components of these programs could make it easier for teachers to learn how to interpret the behaviors of the children. Additionally, these types of programs teach children to be more knowledgeable about emotions. Given the results found here and elsewhere on emotion knowledge, this is very important to help facilitate other social–emotional competencies.

Future research should consider both perspectives on children's behaviors. Even through such training as mentioned above, teachers are still subjective reporters. Although they spend

more time with the children than researchers and are able to provide a wealth of information that researchers cannot capture, teachers may have biases that affect the way they observe the children (Denham et al., 2014). Thus, objective perspectives from researchers are still necessary when trying to further understanding about children's development. It might also be useful to include parent reports of what occurs at home because the home and school environments are different. Additionally, it would be interesting to see how assistant teachers also rate children to see if it is consistent with what lead teachers and researchers observe in the classroom, or even to compare morning lead teachers and afternoon lead teachers. Finally, additional research should consider the use of other measurement models and tools to explore different ways that teacher and researcher-reports on children can provide useful information to both researchers, practitioners, and policy-makers.

Limitations

This research is not without limitations. First, the two factors from the CFA exhibited being highly negatively correlated with each other, which suggests multicollinearity. Additionally, the poor factor loadings from the MPAC-R/S are concerning. However, the factor scores were outputted and used in later analyses. Thus, results from the current study should be interpreted with caution.

One possible reason for the low factor loadings for the MPAC-R/S is the fact that researchers were only able to capture 20 minutes of observations on each child and used a checklist limits the study. Within the five minutes of observing for each session, children could have exhibited multiple instances of negative affect, which could not be captured using the MPAC-R/S. Although checklists can give lots of information, they also leave out a lot of information. A child who gets upset consistently multiple times for every observation is different

from a child who gets a little upset once every observation, but unfortunately, a 1/0 observational checklist does not view these children as different. Thus, for the purpose of this specific study the MPAC-R/S alone may not have been the best way to capture the constructs, as children may exhibit the competencies (or incompetencies) more than others, so that a measure that obtained frequencies in a purer form would be preferable. Therefore, future research may want to consider using multiple methods of researcher-reports and multiple methods of teacher-reports on children's social–emotional competencies. Additionally, other teachers, and perhaps even peers, should evaluate the children as well, in order to provide a comprehensive profile for each child.

Conclusion

In conclusion, this study contributes to the growing literature of the importance of social–emotional competence and incompetence in early childhood and highlights teachers' ability to capture children's social-emotional behaviors. Results show that emotion knowledge is a really useful skill, especially in children's social information processing. Although, results demonstrated that teacher-rated and research-observed social-emotional behaviors were associated with each other, the two-factor measurement model was not an optimal fit for the data. However, these results do not mean that teachers are not important and reliable reporters of children's social-emotional behaviors. Given the significant associations, it is plausible to suppose that teachers and researchers are viewing social-emotional behaviors in the classroom similarly. Future research should consider more perspectives and training teachers as observers. Furthermore, professional development programs and preschool curricula that focus on social-emotional development should emphasize to teachers how to recognize social-emotional competencies and deficiencies.

Factor	Subscale	Loading	Eigenvalue	%Variance
MPAC Angry/Aggressive	Negative Affect	0.52	2.13	21.32%
	Negative Reactions to Frustration	0.73		
	Unprovoked Aggression	0.81		
MPAC Positive/Socially Skilled	Positive Affect	0.62	1.77	17.66%
	Peer Skills	0.74		
	Empathy	0.71		
	No interaction for 3 minutes	-0.42		
MPAC Productive/Unproductive	Productive Involvement	0.85	1.14	11.38%
	Unproductive Involvement	-0.80		
MPAC Emotionally Regulated	Positive Reactions to Frustrations	0.89	1.03	10.26%

Table 2 *Descriptive Statistics and Correlations for All Variables*

Variable	1	2	3	4	5	6	7	8	9	10
M	1.11	1.60	0.51	0.99	2.00	3.74	1.76	-0.01	0.39	0.17
SD	1.15	0.53	0.67	0.58	0.97	0.78	0.68	0.46	0.28	0.23
Minimum	0.00	-0.50	0.00	-1.00	1.00	1.20	1.00	-2.78	0.00	0.00
Maximum	5.75	2.83	3.00	2.00	5.00	5.00	4.50	0.38	1.00	1.00
1. MPAC Angry/Aggressive	-									
2. MPAC Positive/Socially Skilled	-0.01	-								
3. MPAC Emotionally Regulated	**0.35****	0.04	-							
4. MPAC Productive/Unproductive	0.07	**0.24****	**0.11**+	-						
5. SCBE Angry/Aggressive	**0.13***	**-0.14***	0.06	0.06	-					
6. SCBE Cooperative	**-0.12***	**0.16****	0.02	-0.01	**-0.50****	-				
7. SCBE Anxious/Withdrawn	-0.02	**-0.24****	**0.10**+	-0.04	**0.26****	**-0.38****	-			
8. AKT Emotion Knowledge	**-0.23****	0.02	0.03	0.03	-0.04	**0.16****	0.06	-		
9. CST Sad/Socially Competent	-0.05	0.08	-0.07	-0.01	-0.01	0.07	-0.03	**0.14***	-	
10. CST Angry/Aggressive	0.07	-0.02	0.04	0.06	-0.06	-0.06	-0.05	**-0.22****	**-0.52****	-

***Note:* +$p \leq 0.10$ *$p \leq 0.05$ **$p \leq 0.01$**

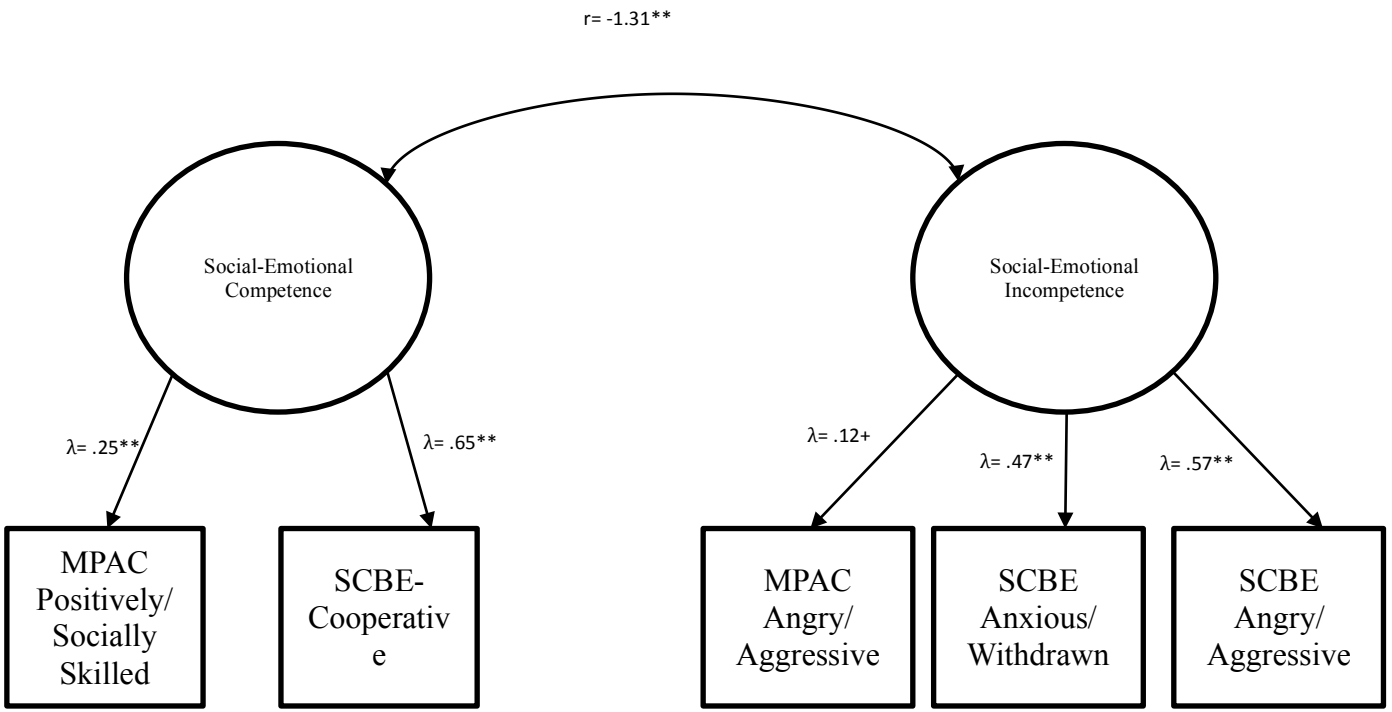

Figure 1: Confirmatory Factor Analysis Results
*Note: **p ≤ 0.01; *p ≤ 0.05; +p ≤ 0.10*

Table 3:
Regression Estimates for CST Outcomes

CST Angry/Aggressive	Beta	S.E.	t-score
Eq. 1Social–Emotional Competence	.00	.02	.151
Eq. 2Social-Emotional Incompetence	.01	.02	.426
CST Sad/ Socially Competent			
Social–Emotional Competence	0.02	.02	1.21
Social–Emotional Incompetence	-.02	.02	-1.19

Table 4: *AKT Moderation between Social-Emotional Competence and CST Sad/Socially Competent Responses* (SeComp)

Step1	Beta	S.E.	t-score
Social–Emotional Competence	.02	.02	.89
AKT	.07	.03	**2.10***
Step 2			
Social–Emotional Competence	.02	.02	.33
AKT	.07	.04	**.08+**
SEComp x AKT	-.03	.05	.63

***Note:* +$p \leq 0.10$ *$p \leq 0.05$**

Table 5: *AKT Moderation Between Social-Emotional Competence and CST Angry/Aggressive Responses* (SeNeg)

Step1	Beta	S.E.	t-score
Social–Emotional Incompetence	-.00	.02	-.247
AKT	-.11	.03	**-3.77****
Step 2			
Social–Emotional Incompetence	.00	0.02	.04
AKT	-.07	0.03	**-2.26***
SENeg x AKT	-.07	.04	**-2.03***

***Note:* +$p \leq 0.10$ *$p \leq 0.05$ **$p \leq 0.01$**

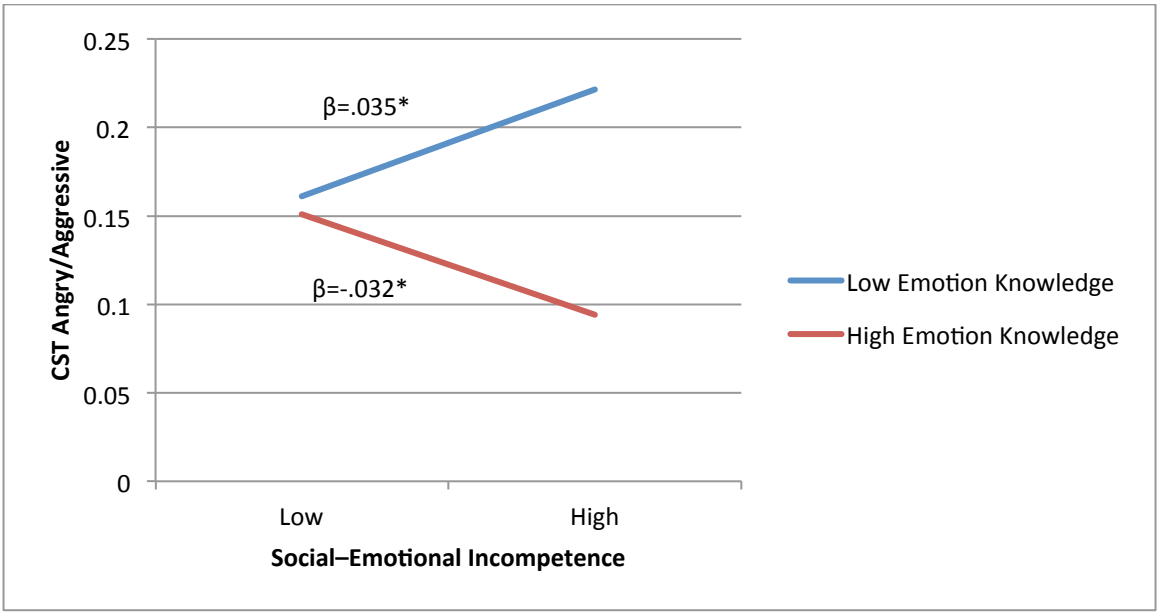

Figure 2: Emotion knowledge moderating the association between children's social–emotional incompetence and their angry/aggressive behavior choices on the CST.

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Kristina J. Liverette received her Bachelor of Sciences from George Mason University in 2011. She went to receive her Master of Arts in Applied Psychology at George Mason University in 2013, concentrating in Applied Development. She has been employed as a researcher for Susanne Denham's child development lab and an instructor for undergraduate psychology courses, while working on her Doctor of Philosophy in Psychology at George Mason University.