Early childhood teachers' socialization of children's emotional competence

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Abstract

Purpose – Emotional competence supports preschoolers' social relationships and school success. Parents' emotions and reactions to preschoolers' emotions can help them become emotionally competent, but scant research corroborates this role for preschool teachers. Expected outcomes included: teachers' emotion socialization behaviors functioning most often like parents' in contributing to emotional competence, with potential moderation by socioeconomic risk. This paper aims to discuss this issue.

Design/methodology/approach – Participants included 80 teachers and 312 preschoolers experiencing either little economic difficulty or socioeconomic risk. Children's emotionally negative/dysregulated, emotionally regulated/productive and emotionally positive/prosocial behaviors were observed, and their emotion knowledge was assessed in Fall and Spring. Teachers' emotions and supportive, nonsupportive and positively emotionally responsive reactions to children's emotions were observed during Winter. Hierarchical linear models used teacher emotions or teacher reactions, risk and their interactions as predictors, controlling for child age, gender and premeasures.

Findings – Some results resembled those parents': positive emotional environments supported children's emotion knowledge; lack of nonsupportive reactions facilitated positivity/prosociality. Others were unique to preschool classroom environments (e.g. teachers' anger contributed to children's emotion regulation/ productive involvement; nonsupportiveness predicted less emotional negativity/dysregulation). Finally, several were specific to children experiencing socioeconomic risk: supportive and nonsupportive reactions, as well as tender emotions, had unique, but culturally/contextually explainable, meanings in their classrooms.

Research limitations/implications – Applications to teacher professional development, and both limitations and suggestions for future research are considered.

Originality/value – This study is among the first to examine how teachers contribute to the development of preschoolers' emotional competence, a crucial set of skills for life success.

Keywords Early childhood education, Cultural issues, Emotional competence, Socialization of emotion

Paper type Research paper

Emotional competencies are identified as among the most important abilities supporting early school success and the growth of academic competence during elementary school (Denham, Bassett, Thayer, Mincic, Sirotkin and Zinsser, 2012; Nix *et al.*, 2013). Children who understand and regulate emotions and are more emotionally positive at school entry are more likely to develop positive and supportive relationships with peers and teachers, participate more and achieve at higher levels throughout their early schooling (Blankson *et al.*, 2017; Denham, Bassett, Thayer, Mincic, Sirotkin and Zinsser, 2012; Diaz *et al.*, 2017; Di Maggio *et al.*, 2016; Hernández *et al.*, 2016). Conversely, children who enter school with fewer emotional competence skills are more often rejected by peers, develop less supportive relationships with teachers, participate in and enjoy school less, achieve at lower levels and are at risk for later behavior problems and school difficulties

(Denham, Bassett, Way, Mincic, Zinsser and Graling, 2012; Diaz *et al.*, 2017; Di Maggio *et al.*, 2016; Herndon *et al.*, 2013).

Thus, emotional competence greases the cogs of a successful early school experience; its effects may be long lasting. In fact, kindergarten prosocial behavior (including understanding and regulating emotion) was associated with young adult success in domains of education, employment, mental health and avoidance of crime and substance use, independent of important child, family and contextual factors (Jones *et al.*, 2015).

Fueled by these facts, there is increasing focus on emotional competence as crucial for preschoolers' concurrent and later social competence, mental health and school success (Bridgeland *et al.*, 2013). Educators and parents are becoming ever more aware of the need to address social–emotional development in early childhood educational settings and training (Buettner, Hur, Jeon and Andrews, 2016; Schonert-Reichl *et al.*, 2017; Zinsser *et al.*, 2014). Furthermore, more and more states in the USA have standards for social–emotional competence starting at early childhood (Dusenbury *et al.*, 2015). National legislation also has been introduced in the USA, authorizing allocation of funds for technical assistance, training and programming in this area (O'Connor *et al.*, 2017). To support these initiatives, more research is warranted on the promotion of emotional competence in early educational contexts.

Socialization of emotional competence

Thus, given its importance, how is such emotional competence fostered? The emotion socialization perspective states that a socializer's emotion-related behaviors have a significant impact on such development: Their contingent reactions to specific emotions and expressed emotions help young children acquire culturally appropriate emotional competence skills (Denham, Bassett and Wyatt, 2014). Though we know much about parent socialization, there is far less clarity on how early childhood educators promote or hinder such development (Denham, Bassett and Zinsser, 2012). Accordingly, examining teachers' contributions is sorely needed.

All people with whom children interact exhibit a variety of emotions, which children observe. Thus, modeling includes specific emotions observed by children along with the overall emotional expressiveness (and its valence) to which children are exposed. In general, positive emotion in the family is associated with children's own positive emotions, with the converse true for negative emotion or lack of emotion (Davis *et al.*, 2015; Denham, Bassett and Wyatt, 2014; Fields-Olivieri *et al.*, 2017). Appropriate expressiveness also facilitates preschoolers' emotion regulation (Eisenberg *et al.*, 2003), but parental negativity may overarouse young children who cannot yet regulate their own emotions well, an emotionally hostile template for dysregulation (Luebbe *et al.*, 2011; Newland and Crnic, 2011; Silk *et al.*, 2011). Family positive expressiveness also promotes emotion knowledge, perhaps because positive feelings render children more open to learning and problem solving (Denham, 1998).

Children's emotions often elicit, even require, contingent reactions from social partners. Adults respond to children's experience and expression of emotions in ways that have been construed as supportive (e.g. accepting, comforting), or nonsupportive (e.g. ignoring, minimizing, punishing). These reactions convey important messages about emotions, bearing on toddlers' and preschoolers' emotional competence (Denham, Bassett and Wyatt, 2014; Meyer *et al.*, 2014). Mother's supportive reactions contribute to preschoolers' positive expressiveness, emotion regulation and emotion knowledge (Fabes *et al.*, 2002; Spinrad *et al.*, 2004). In contrast, parents' unsupportive reactions are related to children's greater sadness and fearfulness and diminished emotion regulation (Berlin and Cassidy, 2003; Luebbe *et al.*, 2011).

Teachers' role

During early childhood, contexts outside the family become important. Young children learn about emotions through rich daily interactions with teachers and peers. In addition, even

when children are not directly involved in an interaction, they can learn about classroom emotional norms, and acquire emotional competence, through observing social–emotional behaviors of peers and teachers. Thus, preschool teachers are pivotal facilitators of the development of children's emotional competence (Denham, Bassett and Zinsser, 2012).

A preponderance of study focuses on teachers' abilities to provide an emotionally supportive environment in the classroom, without examining their discrete emotion socialization behaviors. However, given the literature on parents' roles in socialization of emotion, as well as similar roles that parents and teachers have as socializers and increasing time preschoolers are spending in group settings, early childhood teachers' emotions and reactions to children's emotions are likely to send socialization messages to children, just as they do at home, with similar outcomes (Denham, Bassett and Zinsser, 2012). At the same time, contextual differences point to potentially different or unique contributions of teacher socialization of emotion – the higher adult/child ratio in the classroom, for example, may dictate teachers' greater need to promote emotion regulation. Surprisingly, however, these assumptions rarely have been tested.

The scant research on the topic corroborates the potential importance of teacher socialization of preschoolers' emotional competence. Regarding modeling, teachers' negative expressiveness was negatively related to older preschoolers' positivity (Morris *et al.*, 2013). Concerning contingent reactions, early childhood teachers both encourage and discourage young children's emotional expression via a variety of behaviors, such as comforting, distraction, problem solving, punishment or minimization (Ahn, 2005; Ahn and Stifter, 2006); however, they infrequently validate children's emotions (e.g. "it is okay to feel sad"). Building on this description, Bassett *et al.* (2017) found that teachers' reactions to preschoolers' emotions contribute to children's growing emotional competence, particularly for those with certain temperaments. Morris *et al.* (2013) also showed that teachers' dismissing reactions were negatively related to older preschoolers' positive expressivity and emotion knowledge.

These initial research efforts require extension. By examining micro-levels of teachers' emotion socialization behaviors in the classroom in this study (i.e. emotions and reactions to children's emotions), we further understanding of socialization of emotion in preschool classrooms. Knowing how preschool teachers' discrete emotion socialization behaviors are related to children's development of emotional competence could be very useful for detailed practice recommendations, and lead to suggestions for professional development.

Socioeconomic risk

Thus, understanding teacher socialization of emotion is an important goal. However, other contextual issues can be extremely important in the development of preschoolers' emotional competence. For example, preschoolers living in poverty have demonstrated profiles of compromised emotional competence, including deficits in emotion knowledge, positive expressiveness and emotion regulation (Denham, Bassett, Mincic, Kalb, Way, Wyatt and Segal, 2012); these profiles predicted concurrent social competence and school adjustment, as well as later school adjustment and preacademic success (see also Denham, Bassett, Zinsser and Wyatt, 2014). Raver *et al.* (2015) went further, investigating effects of poverty, household chaos, and interparental aggression on aspects of young children's emotional competence: four-year-olds living under such circumstances had difficulties with emotion regulation, mediated by deficits in identifying emotions. The authors noted that environmental adversities hamper children's ability to detect and appraise stimuli signaling safety or threat (see also Erhart *et al.*, 2019), and to regulate emotions elicited by such stimuli.

Socioeconomic risk also can be related to differences in socialization of emotional competence in the family; adults are not immune to the effects hypothesized by Raver *et al.* (2015). For example, Shaffer *et al.* (2012) found that mothers living in

poverty tended to show more unsupportive reactions to their children's emotions. Similarly, Davis *et al.* (2015) have shown that, even controlling for maternal depression, mothers living in poverty showed less frequent positive emotion. Furthermore, given that in the USA over three times as many African–American children live in poverty compared to European–American children (Mishel *et al.*, 2012), it is important to consider issues of ethnicity and culture as they relate to socialization of emotion and its outcomes for children living in poverty.

If it can be difficult for families living in poverty to demonstrate socialization behaviors often identified as promoting preschoolers' emotional competence, could early experiences with teachers offset these potentially deleterious effects? After all, although important questions remain about the impact of early childhood education for low-income children, their emotional competence may be especially sensitive to environmental inputs embedded within quality programming (Duncan and Magnuson, 2013; Melhuish *et al.*, 2015), particularly if it specifically targets this domain (Fishbein *et al.*, 2016; Nix *et al.*, 2013).

Nevertheless, specific teacher practices and contributions to low-income children's development of emotional competence have not been well specified. Having a positive relationship with the teacher promotes low-income children's emotional competence (specifically lessened negativity and lability; Shields *et al.*, 2001). Thus, teacher socialization could be especially important for emotional competence of children living in poverty.

The current study
Building from these considerations, the overarching goal of the present study focused on the contribution of teachers' emotion socialization behaviors to children's emotional competence in the preschool context. We expect that positive and negative emotional expressiveness, along with supportive, unsupportive and positively emotionally responsive reactions to children's emotions, will function in a manner often similar to parents' in their contribution to children's growth in emotional competence. However, given little extant research and important contextual differences in classrooms vs families (e.g. dealing with multiple rather than individual children), we cannot rule out unique teacher contributions differing from parents' socialization of emotional competence. Furthermore, contributions of teacher socialization may be especially important to developing emotional competence for children living in poverty. Such contributions to emotional competence for children living in poverty also may be influenced racial/cultural norms and practices, because many children living in poverty are African–American or Latina/o.

Thus, our first research question is as follows:

RQ1. How does observed teacher socialization of emotion behavior contribute to young children's emotional competence at the end of the preschool year, even given their emotional competence at the beginning of the preschool year?

Furthermore, our second research question is:

RQ2. How do contributions of teacher socialization vary by the socioeconomic risk status of the children in their classrooms?

Method
Participants
Participants included 80 teachers and 312 children aged two and one-half to five years (54 percent boys). Children attended private and university child care ($n_{centers} = 22$; $n_{teachers} = 60$; $n_{children} = 228$) ("low socioeconomic risk") and government- or church-related centers serving children living in families experiencing socioeconomic risk ($n_{centers} = 2$; $n_{teachers} = 20$; $n_{children} = 84$) ("high socioeconomic risk"). In total, 61 percent of teachers had

attained a BA degree or better, 48 percent had taught for less than 10 years, and half were less than 35 years old. In terms of ethnicity and race, 59 percent of teachers were Caucasian, 19 percent African–American and 6 percent Asian, with 10 percent identifying as Latina.

Given our second problem question, we examined correlates of classroom economic risk status. Teachers of children living at socioeconomic risk tended to be: more highly educated, $\chi^2(1) = 2.61$, $p < 0.10$; better remunerated, $\chi^2(4) = 33.78$, $p < 0.001$; more likely to be African–American, not Caucasian, $\chi^2(2) = 4.86$, $p < 0.10$. The total group of children for whom demographic data were available was 72.6 percent Caucasian, 13.7 percent African–American, 6.4 percent Asian and 7.3 percent other, as well as 9 percent Latino/a. Children in classrooms where students were predominantly at socioeconomic risk were more likely to be African–American and less likely to be Caucasian or Asian, $\chi^2(3) = 52.85$, $p < 0.001$; they were also more likely to be Latino/a, $\chi^2(1) = 7.23$, $p < 0.01$.

Procedure
Participants were recruited near the beginning of the school year; after meeting with each center's director, we obtained consent from participating teachers. Then, children and families in these teachers' classrooms were recruited at recruitment events, information sessions held at the facilities, and/or through the help of facility personnel.

Child data were collected in the first half of the school year, after children had become acclimated to the classroom (T1) and near the end of the school year (T2). In each data collection period, we observed children's behaviors during peer interactions and performed direct assessments of their emotion knowledge. Teachers' emotions and reactions to children's emotions were observed in the classrooms across different days in the Winter of the school year.

Measures
Observation of teachers' and children's emotions and reactions to each other's emotions.
Using an observational system (FOCAL-T; Denham and Bassett, 2013), we observed teachers interacting with children in their classroom during regular activities for four 10-minsessions over a period of approximately three to four weeks, predominantly during circle time, center time and lunch. FOCAL-T is designed to capture preschool teachers' emotion socialization behaviors: expression of discrete emotions and reactions to children's emotions. Teachers were observed in their classroom setting by coders using tablet computers and software developed by Roberts (2011). Each teacher was observed for four 5-min trials with teacher as focal person, counting her expressed emotions and children's reactions, alternating with four 5-min trials with children as focal person(s) counting children's emotions toward the teacher and the teacher's reactions to their emotions. Because our focus was teachers' overall emotion socialization behaviors in the classroom, specific teacher–child dyadic observations were not captured.

Focal emotions included happy, sad, angry, tense, tender, pain, other and neutral. Two types of reactions to focal persons were coded: behavioral and emotional reactions. Behavioral reactions included punitive reactions (e.g. threaten child for showing emotion), problem-focused reactions (e.g. help child solve an emotion eliciting problem), emotion-focused reactions (e.g. try to make child feel better), validating reactions (e.g. acknowledge child's emotion) and minimizing reactions (e.g. tease child for expressing emotion), and emotional reactions included, distress reactions (e.g. show frustration to child emotion) and matching positive reactions (e.g. smile back to smiling child). Intensive training was required to become a reliable FOCAL-T coder. Inter-observer reliability for video adult–child interactions was kappa = 0.85 for emotions and 0.67 for reactions. Finally, reliability trials in which paired observers live-coded teachers' and children's emotions and reactions yielded kappas = 0.74 for emotions and 0.85 for reactions.

After data collection, we created scores to be utilized in subsequent analyses. First, proportions across all sessions of each observed teacher emotion and reaction were calculated. Teachers' affective balance score (i.e. difference between their standard scores for proportion happiness minus proportion anger), along with proportion of total emotions shown for sad and tender emotions, were subsequently used as indicators of emotions expressed.

Reaction proportion aggregates were created based on a principal components analysis: nonsupportive behavioral reactions (punitive reactions + minimizing reactions), supportive behavioral reactions (problem-focused reactions + emotion-focused reactions + validating reactions). We also created the positive emotional responsiveness aggregative (positive emotional reactions – distressed reactions).

Criteria: observation of children's emotional behaviors. The Minnesota Preschool Affect Checklist-Revised/Shortened (MPAC-R/S: Denham, Bassett, Thayer, Mincic, Sirotkin and Zinsser, 2012; Denham, Bassett, Thayer, Mincic, Sirotkin and Zinsser, 2012) is an 18-item observational measure assessing children's social–emotional behaviors (i.e. emotional expression, emotion regulation and social skills) during interaction with peers. In using MPAC-R/S, children's predefined behaviors are observed in differing play and interaction contexts (as opposed to teacher-led instructional time), and coded for presence ("1") or absence ("0") during two 5-min intervals across two different days. The items in MPAC-R/S are organized into scales for positive (three items: showing positive affect in any manner – facial, vocal, and/or behavioral) and negative affect (two items: showing negative affect in any manner), productive (two items: e.g. engrossed in ongoing activity) and unproductive (two items: e.g. being listless) involvement in age-appropriate activities, positive reactions to frustration (two items: e.g. when facing with conflicts, verbally expressing frustration in a positive or neutral manner), prosocial behaviors (two items: cooperating with peers, taking turns), peer skills (two items: leading and joining) and dysregulated behaviors (three items: venting frustration at people or objects). Thus, behaviors sampled via the MPAC-R/S yield rich information about children's emotional behaviors across four short periods. Scale scores represented item means summed across visits.

After intensive observer training, good to excellent inter-observer reliability was indicated by intra-class correlations ranging from 0.74 (negative affect scale) to 0.98 (emotion regulation scale), p's < 0.001. Principal component analyses yielded three aggregates: emotionally negative/dysregulated (negative affect, dysregulated behaviors), emotionally positive/prosocial (positive affect, prosocial behavior, peer skills) and emotionally regulated/productive (positive reactions to frustration, productive involvement in play). Scores to be used in analyses were created by taking the mean of scales loading highly on each component.

Emotion knowledge: the Affect Knowledge Test-Shortened (AKT-S; Denham, Bassett, Brown, Way and Steed, 2015). AKT-S assessed preschoolers' understanding of emotion using puppets with detachable faces that depict happy, sad, angry and afraid expressions. For labeling (six items), children were asked to identify sad, angry and afraid facial expressions by verbally naming them (expressive knowledge), and then by nonverbally pointing to them (receptive knowledge). For situation knowledge, nine vignettes were enacted using puppets, accompanied by vocal and visual affective cues emitted by the puppet/experimenter. For three children's stereotypical emotion knowledge vignettes, the puppet depicted the emotion most people would feel (e.g. fear during a nightmare). In the remaining six nonstereotypical vignettes, the puppet depicted emotions different from each teacher's reports of her child's likely feelings. Among nonstereotypical situations, three vignettes pitted positive vs negative emotion (e.g. happy or sad to come to preschool); the rest pitted negative vs negative emotion (e.g. angry at or afraid of a peer's aggression). Children affixed a flannel face to report the puppet's emotion.

Children received two points for correct identification of emotion on all items, one point for identifying correct valence but not correct emotion (e.g. sad for afraid). The score used in

subsequent analyses was the mean of standard scores for all subtests' items. Internal consistency reliability α was 0.77. The AKT-S has demonstrated reliability and validity (Denham and Bassett, 2013).

Analytic plan. We conducted 2-Level Hierarchical Linear Modeling (HLM; Raudenbush and Bryk, 2002) analyses, partitioning variance in the outcomes into two components: child level (Level 1) and classroom level (Level 2) variance. Unconditional models for all outcomes were examined before the full multi-level models. All variables were centered prior to analyses. Intra-class correlations coefficient (ICCs) were calculated for each outcome, estimating the amount of variance at the classroom level and thus appropriateness of HLM. After examining unconditional models, full models were created for observed teacher emotions, and observed teacher reactions to children's emotions, as predictors of T2 outcomes at Level 2 (along with classroom socioeconomic risk), controlling for age, gender and the T1 premeasure of the outcome variable at Level 1. Moderated associations were explored between teacher emotion socialization predictors and risk. Given that only two to seven participants' data were missing depending on measure, data were handled with listwise deletion, resulting in 305–310 children with T2 scores.

Results

Unconditional multi-level models

The variance at Level 1 and ICCs for each outcome's unconditional model are shown in Tables I through III. ICCs in unconditional models showed that class membership accounted for a significant amount of variance, though still less than the amount of variance explained at the child level, suggesting that HLM is appropriate. Classroom membership was an important factor in predicting children's outcomes.

Full models

For child i in classroom j, each outcome is equal to its classroom average, β_0, plus effects for levels of teacher predictor γ_{01}, plus error, μ_0. The Level-2 equation models between classroom variance using each teacher behavior predictor as a grand mean centered predictor, with classroom socioeconomic risk noncentered.

Tables I through III show results for full models. In Table I, younger children and those with higher T1 emotionally negative/dysregulated scores had higher T2 scores, as did children in high-risk classrooms. For emotionally regulated/productive scores, again children in high-risk classrooms, as well as in classes where the teachers showed lower affective balance (i.e. more anger), showed greater T2 scores. There also were interactions between classroom socioeconomic risk and teacher emotions for two of the three emotional competence behavior outcomes (Figure 1): When teachers of high-risk classroom were more tender and more affectively balanced (i.e. happier), but those serving low-risk classrooms were angrier (lower affective balance) and sadder, children showed higher T2 emotionally regulated/productive behavior. In contrast, when teachers of high-risk classrooms were more tender, children showed more emotionally negative/dysregulated behavior. Finally, only the T1 measure predicted T2 emotionally positive/prosocial scores in analyses involving teacher emotions. Random effects analyses suggested that contributions of teacher emotions differed across teachers for emotionally negative/dysregulated and emotionally positive/prosocial outcomes.

In Table II, new findings include teachers' nonsupportive behavioral reactions (as well as the T1 measure) predicting less emotionally positive/prosocial and emotionally negative/dysregulated behavior (borderline effect) at T2. Furthermore, an interaction of supportive behavioral reactions and risk suggested that for children in high-risk classrooms, teachers' supportive behavioral reactions were related to greater emotionally negative/dysregulated scores at T2 (Figure 2). Finally, emotion knowledge at T2 was predicted by being older, a

	Emotionally negative/dysregulated	Emotionally regulated/productive	Emotionally positive/prosocial
ICC/Level 1 proportion variance	0.19***/0.48	0.06****/0.65	0.13***/0.36
Fixed effects, Level 2			
Intercept	0.55***	0.33**	1.38***
Risk	0.31**	0.38**	0.03
Teacher affective balance[a]	0.01	−0.06*	−0.02
Proportion sadness[a]	0.03	0.02	0.04
Proportion tenderness[a]	0.01	0.01	−0.05
Affective balance × Risk[a]	0.06	0.09*	−0.02
Sadness × Risk[a]	−0.10	−0.16****	−0.02
Tenderness × Risk[a]	0.16****	0.28*	0.02
Fixed effects, Level 1			
Sex (1 = female)	−0.07	0.05	0.04
Age in months[a]	−0.01*	0.00	0.00
Premeasure[a]	0.23***	0.02	0.21***
Random effects			
Intercept	0.04***	0.01	0.02**
Level-1 effects	0.22	0.43	0.13
% Variability between classrooms	17% Δ at classroom level***	2% Δ at classroom level	13% Δ at classroom level**

Notes: [a]Variable was centered for analysis. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; ****$p \leqslant 0.07$

Table I.
HLM analyses examining the contribution of teacher emotions, socioeconomic risk and their interactions to children's observed emotional competence
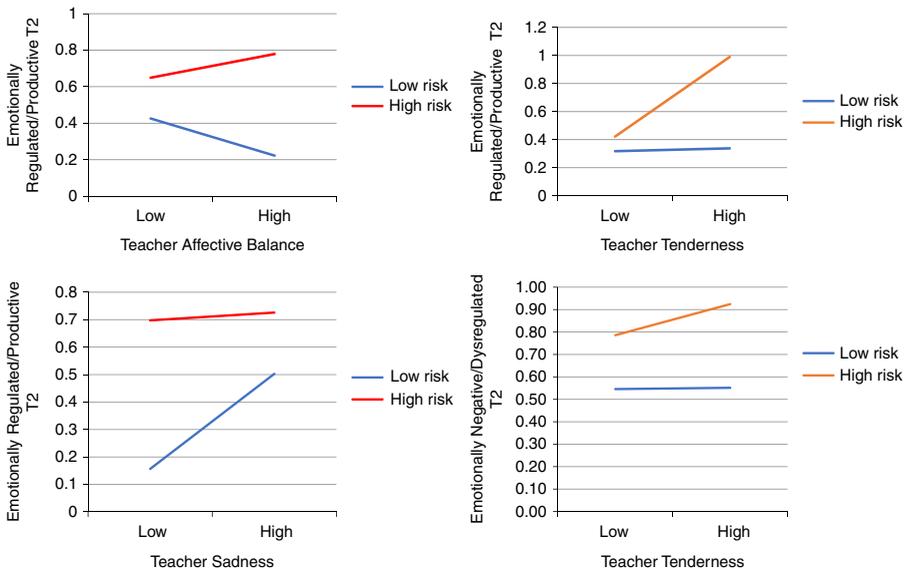
Figure 1.
Interactions of teacher emotions and socioeconomic risk in contributing to children's observed emotional competence

girl, having higher T1 scores, trends toward less teacher sadness (this effect was significant for situation knowledge, −0.14, $p < 0.02$) and more teacher affective balance (i.e. more happiness), as well as more nonsupportive behavioral reactions and more positive emotional responsiveness for children in high-risk classrooms (see Table III and Figure 3).

	Emotionally negative /dysregulated	Emotionally regulated/ productive	Emotionally positive/prosocial
ICC/Level 1 proportion variance	0.19***/0.48	0.06****/0.65	0.13***/0.36
Fixed effects, Level 2			
Intercept	0.60***	0.40**	1.36***
Risk	0.17*	0.25*	0.08
Positive Emotional responsiveness[a]	−0.01	−0.03	−0.02
Nonsupportive behavioral reactions[a]	−0.03****	−0.02	−0.04*
Supportive behavioral reactions[a]	0.02	−0.01	0.08
Positive emotional × Risk[a]	−0.01	0.11	−0.04
Nonsupportive behavioral × Risk[a]	0.00	0.15	0.00
Supportive behavioral × Risk[a]	0.09*	0.06	−0.03
Fixed effects, Level 1			
Sex (1 = female)	−0.08	0.02	0.00
Age in months[a]	−0.01	−0.01	0.04
Premeasure[a]	0.22***	0.02	0.22***
Random effects			
Intercept	0.04***	0.02	0.02**
Level-1 effects	0.22	0.43	0.13
% Variability between classrooms	15% Δ at classroom level***	5% Δ at classroom level	13% Δ at classroom level**

Notes: [a]Variable was centered for analysis. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; ****$p \leqslant 0.07$

Table II.
HLM analyses examining the contribution of teacher reactions to children's emotions, socioeconomic risk and their interactions to children's observed emotional competence
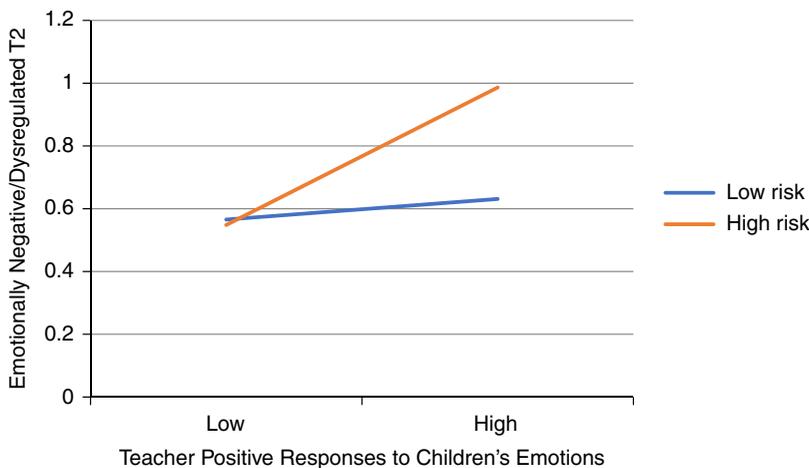
Figure 2.
Interactions of teacher reactions to children's emotions and socioeconomic risk in contributing to children's observed emotional competence

Discussion

These findings shed light on how teacher socialization of emotion predicts preschoolers' developing emotional competence. Both child and teacher predictors (or their interactions with socioeconomic risk) reached significance for both emotional competence behaviors and emotion knowledge. Conclusions regarding teacher predictors and their interactions with risk are independent of Level-1 variables, including premeasures of children's emotional competence.

	Criterion: total emotion knowledge		Criterion: total emotion knowledge
ICC/Level 1 proportion variance	0.32**/0.34	ICC/Level 1 Proportion Variance	0.32**/0.34
Fixed effects, Level 2		*Fixed effects, Level 2*	
Intercept	−0.13*	Intercept	−0.10****
Risk	−0.03	Risk	−0.08****
Teacher affective balance[a]	0.02****	Positive emotional responsiveness[a]	−0.03
Proportion sadness[a]	−0.08****	Nonsupportive behavioral reactions[a]	−0.01
Proportion tenderness[a]	0.00	Supportive behavioral reactions[a]	0.00
Affective balance × Risk[a]	0.00	Positive emotional × Risk[a]	0.09**
Sadness × Risk[a]	0.00	Nonsupportive behavioral × Risk[a]	0.12**
Tenderness × Risk[a]	0.03	Supportive behavioral × Risk[a]	0.02
Fixed effects, Level 1		*Fixed effects, Level 1*	
Sex (1 = female)	0.09**	Sex (1 = female)	0.09*
Age in months[a]	0.01*	Age in Months[a]	0.01*
Premeasure[a]	0.43***	Premeasure[a]	0.43***
Random effects		*Random effects*	
Intercept	0.01	Intercept	0.01
Level-1 effects	0.11	Level-1 effects	0.11
Variability between classrooms	7% Δ at classroom level****	% Variability between classrooms	6% Δ at classroom level

Notes: [a]Variable was centered for analysis. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; ****$p \leqslant 0.07$

Table III.
HLM analyses examining the contribution of teacher emotions and reactions to children's emotions, socioeconomic risk and their interactions to children's emotion knowledge

Problem Question 1: main effect contributions of teacher socialization of emotion
The pattern of teacher predictors did show some similarities with parental socialization findings. First, as is true for families (Denham, 1998), a generally positive emotional environment supported children's learning about emotion, and lack of nonsupportive reactions (e.g. minimizing or punishing children's emotions) facilitated development of children's emotional positivity and prosociality (Berlin and Cassidy, 2003; Luebbe *et al.*, 2011).

However, several findings ran counter to those generally found with parents and may be unique to the classroom context. For example, children displayed greater emotion regulation and involvement in play when teachers were less affectively balanced (i.e. angrier and sadder, particularly in low-risk classrooms); these findings contrast with those with parents, where maternal positivity is related to preschoolers' emotion regulation (Are and Shaffer, 2016; Cho and Lee, 2015). Moreover, teachers' nonsupportive reactions to children's emotions were related to less emotionally negative/dysregulated behavior; in general, however, the opposite pattern is found for maternal nonsupportiveness (Berlin and Cassidy, 2003).

Why might these findings obtain? For emotionally negative/dysregulated and emotionally regulated/productive scores, coding originates with a frustrated, often angry child; in the case of the emotionally regulated/productive factor, children are distressed but calmly use words to feel better. Teachers in classrooms where children show such negative emotional behavior may show their own negative emotion in response, and use nonsupportive reactions to quell these emotional outbursts. Dealing with multiple emotional preschoolers at any one time – over weeks – is not easy. Young children, when faced with a somewhat frequently sad or angry teacher who punishes or belittles their emotions, might feel "on their own" in emotional situations, and also become motivated to marshal personal resources to express fewer negative emotions and use words to
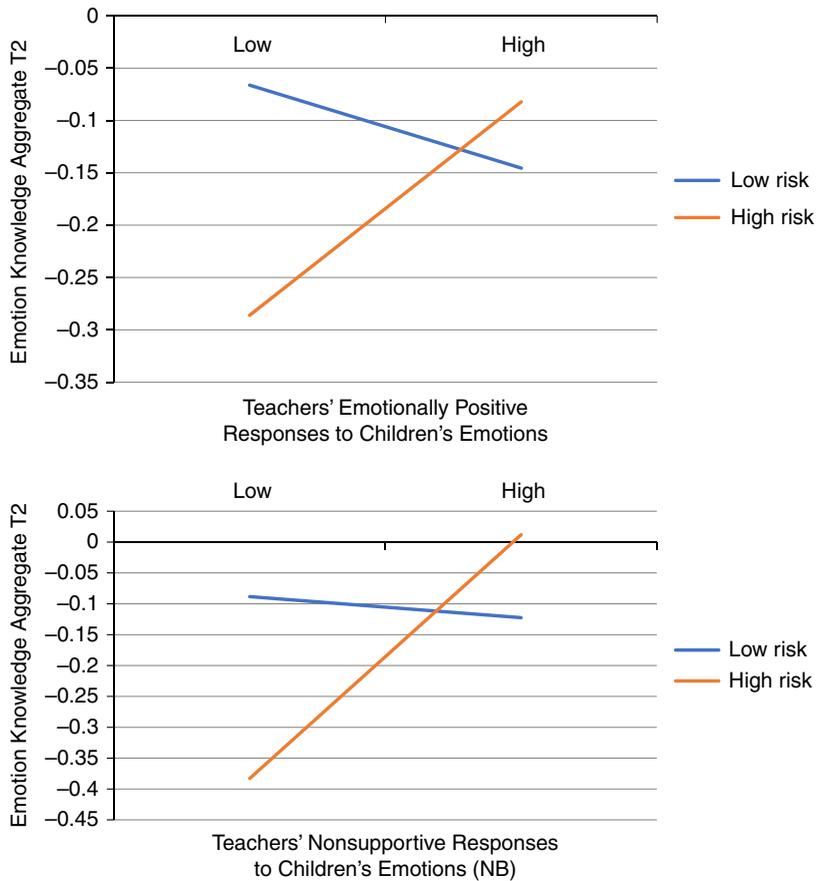
Figure 3.
Interactions of teacher
reactions to children's
emotions and
socioeconomic risk in
contributing to
children's emotion
knowledge

modulate those they do express. Whether these contributions of aspects of socialization of emotion, so often considered nonoptimal in the family literature, continue to have salutary effects would require longer-term longitudinal investigation.

Problem Question 2: interactive contributions of teacher socialization of emotion

Teachers' emotional contributions to children's increased emotionally regulated/productive behavior aligned well with the parenting literature (e.g. Cho and Lee, 2015). However, teachers' tender emotional expressiveness also was related to children's emotionally negative/ dysregulated behavior in high-risk classrooms. Tenderness here seemed to serve a dual function – creating a comforting milieu, but perhaps in the cultural context of these high-risk classrooms, too comforting. This interpretation is supported by the counterintuitive finding that, for high-risk classrooms only, teachers' supportive behavior reactions to children's emotions were predictive of their emotionally negative/dysregulated behavior. Similarly, emotion knowledge was predicted by positive emotional responsiveness of teachers in high-risk classrooms, and also nonsupportive behavioral reactions to the children's emotions (similar to Bondy and Ross' 2008 concept of teacher as "warm demander").

Considering that children and teachers in high-risk classrooms are more likely to be African–American than in the low-risk classrooms, an examination of these findings from

the perspective of ethnicity and culture is warranted. It has been noted that African–American teachers may be especially open to emotions, putting their socialization at the forefront of an implicit classroom agenda (Parker *et al.*, 2012). At the same time, as noted by Labella (2018; see also Morelen and Thomassin, 2013), this focus on emotions may translate to a more nuanced view, in which "celebration and restriction of children's emotion coexist closely […], perhaps reflecting the joint influences of traditional Afro-cultural values and the historical context of slavery and discrimination" (p. 1). For example, some research has found African–American parents' supportiveness to act adaptively in young children's lives (e.g. Bocknek *et al.*, 2009; Garner, 2006). However, African–American mothers, especially for sons, emphasize negative social consequences of showing negative emotions; they report more "nonsupportive" and less "supportive" attitudes toward the emotionality of their children than do European–American mothers (Nelson *et al.*, 2012; see also Parker *et al.*, 2012). These authors suggest that African–American mothers are emotionally stricter to keep their children safe, reflective of their care and concern that their children thrive in a discriminatory society. Nelson *et al.* (2013) also found that African–American mothers' lack of encouragement of emotions (e.g. not endorsing "it is OK to cry when you feel unhappy") predicted kindergarten children's academic and social competence; our results echo these in the area of teacher contribution to emotional competence.

Given these more fine-grained considerations, considering a unified model of ethnic and emotion socialization is warranted in future research (Dunbar *et al.*, 2017). As we have found, adaptive emotion socialization may include both "supportive" and "nonsupportive" behaviors, such that children not only learn emotional competence skills (as we see here for emotionally positive/prosocial behavior and emotion knowledge), but also when not to show negative emotions (as seen here particularly for emotionally negative/dysregulated behavior and emotionally regulated/productive behavior). Thus, "supportiveness" and "nonsupportiveness" can be considered ethnically bound terms; current categorizations of adaptive and maladaptive emotion socialization practices may not be applicable universally to individuals from different ethnic backgrounds. It behooves researchers of socialization of emotion to consider carefully their terminology and the logic models underlying their predictions; along with early childhood educators, we, too, must become culturally competent.

Limitations and future research

There are, as with any research, methodological and analytical limitations that bear on conclusions from our findings. First, we were enjoined from asking questions about family income, rendering our classroom proxy of socioeconomic risk the only possible marker to use. This injunction is not unusual; perhaps, however, knowing fuller socioeconomic information on actual income, chaos level in the home and material hardship could add to our understanding in future research. Furthermore, we did not add race/ethnicity of teacher or child in equations because classroom risk status also formed a reasonable proxy marker for this attribute, but future research could more specifically pinpoint this information, especially given the important moderation by socioeconomic risk found here.

Further consideration of the mechanisms behind these findings is also appropriate. Designs with more detail about each teacher–child emotional transaction (e.g. learning context, verbalizations involved, specific children's responses) could be useful toward this goal. Mixed-method designs also could be useful, especially regarding views on socialization of emotion techniques in nonEuropean–American teachers, triangulating qualitative information on teachers' reasoning, values and beliefs about their emotions and reactions to children's emotions with quantitative information like that reported here; our moderation analyses bear further elucidation.

Potential applications
Even given the preliminary status of our findings, some suggestions can be made for optimizing preschool teacher training and practice. Many early childhood teachers are intuitively aware of the importance of their own as well as children's emotions to learning and well-being, and closely attend to these issues in the classroom, but this is not always the case, and there are, as found here, differences in teachers' enactment of adaptive practices (Zembylas, 2007; Zinsser *et al.*, 2014, 2015). Thus, teachers and their supportive administrators, as well as pre-service teachers, could profit from attention to and training in these issues (Garner, 2010; Waajid *et al.*, 2013).

First, ways in which teachers deal with their own emotional lives – perceiving emotions of self and others, using emotions to facilitate cognition and action, understanding emotions and managing them – undoubtedly contribute to their socialization of children's emotional competence. For example, preschool teachers' emotional competence is related to their reactions to children's emotions; lack of emotional awareness has been associated especially with nonoptimal socialization of emotion techniques (Ersay, 2007, 2015).

Jennings and Greenberg (2009) have suggested ways to promote teacher emotional competence, including: mindfulness training to maintain positivity and calm (Jennings, 2015; Kemeny *et al.*, 2012); reflective supervision to gain access to and understand their own emotions (Gilkerson, 2004); stress reduction to aid in reacting optimally to children's emotions (Buettner, Jeon, Hur and Garcia, 2016) and direct training. Regarding direct training, Kremenitzer (2005) and Kremenitzer and Miller (2008) give excellent, concrete suggestions on how teachers can become aware of their own emotional competence and its effects on children, especially via "emotional intelligence journaling."

Second, to promote children's emotional competence more specifically, teacher training could focus on increasing teachers' willingness to show emotions, as well as their abilities to remain emotionally positive in the classroom despite challenges and modulate understandable negative emotions (Kremenitzer and Miller, 2008; Shewark *et al.*, 2018; Zinsser *et al.*, 2014, 2015). Teachers could be assisted in valuing their supportive role concerning children's emotions, and given specific strategies to use in reacting to children's more difficult emotions (e.g. anger, fear, sadness, even over-excitement). Sensitivity to the issue that "supportive" and "nonsupportive" techniques are culturally/ethnically bound would be absolutely necessary.

Conclusion
Our research is among the first to examine teacher socialization behaviors in their contribution to young children's emotional competence. As noted by Jones and Bouffard (2012), these contributions constitute everyday strategies based on kernels of evidence, "essential ingredients" compared to the "brands" of curricula. Continued pinpointing of these behaviors can benefit both teachers and children in the crucial promotion of emotional competence for both.

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Further reading

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