

The Contribution of Emotion Knowledge, Language Ability and Maternal Emotion
Socialization Style to Explaining Toddlers' Emotion Regulation

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Acknowledgments

This research was funded by a grant from the University of Milano-Bicocca assigned to the first author in 2016. We would like to thank all the pupils and teachers who took part in the study, as well as the parents who authorized their children's participation and completed the questionnaires. We are grateful to Anna Di Massa, Cristina Ghelfi, Nicole Moller, and Valentina Vergata for helping us with the data collection. Our special thanks also go to Clare O'Sullivan for the linguistic editing of the article.

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Abstract

In this study, we set out to advance understanding of the association between emotion knowledge (EK) and emotion regulation (ER) in toddlerhood, by innovatively examining a model that simultaneously takes into account both individual factors, such as age, gender, and language ability, and contextual factors, such as maternal emotion socialization styles (coaching vs dismissing). Participants were 242 toddlers (141 girls; $M_{\text{age}} = 28.79$ months, $SD = 3.48$) and their mothers ($M_{\text{age}} = 35.60$ years; $SD = 4.95$). We evaluated children's language ability and ER via parent-report questionnaires, assessing their EK via a direct measure individually administered at the nursery. The mothers also completed a questionnaire on their own emotion socialization style. Children's EK was positively correlated with their ER skills as reported by their parents. Structural equation modelling showed that emotion-dismissing maternal behaviors were significantly negatively associated with toddlers' emotional competencies, whereas maternal emotion-coaching styles were significantly positively associated with higher levels of these competences. Finally, language ability was positively associated with ER. We discuss the theoretical and educational implications of these outcomes, as well as potential new lines of inquiry.

Keywords: emotion regulation; emotion knowledge; toddlers; language; maternal coaching style; maternal dismissing style

The contribution of emotion knowledge, language ability, and maternal emotion socialization style to explaining toddlers' emotion regulation

Introduction

The present paper falls within the flourishing area of research that investigates the development of children's emotional competence in relation to both individual factors (e.g., age, gender, language skills, and temperament), and contextual factors (e.g., family characteristics, parental emotion socialization practices, cultural differences, parents' beliefs) during the toddlerhood and preschool years (Denham, 1998; Eisenberg, Sadovsky, & Spinrad, 2005; Halberstadt & Lozada, 2011; Morris, Silk, Steinberg, Myers, & Robinson, 2007; Thompson & Meyer, 2007; Wong, McElwain, & Halberstadt, 2009). Emotional competence is defined as the capacity to express emotions, understand one's own and others' emotions, and regulate and make appropriate use of emotions in one's cognitive processes and social exchanges (Denham, 1998; Halberstadt, Denham, Dunsmore, 2001). This form of competence is valuable both in its own right and as a major contributor to social competence, mental health, and school success (e.g., Denham, 2007). Therefore, it is clearly of great interest to understand the individual and contextual factors that either help or hinder the development of emotional skills, so that risk factors may be identified, and timely preventive action undertaken.

While there is an abundance of literature on the expression of emotions in infancy and toddlerhood (for a review, see for example Camras & Shutter, 2010), there has been far less research on emotion knowledge, emotion regulation and how they may be interrelated in young children (Castro, Halberstadt, & Garrett-Peters, 2016). Hence, the current work investigates the association, in toddlerhood, between emotion knowledge and emotion regulation, including them in a uniquely comprehensive model with children's language ability and mothers' emotion socialization practices (coaching or dismissing).

Emotion Knowledge and Emotion Regulation in Infancy

Emotion knowledge (EK) and emotion regulation (ER) are core dimensions of emotional competence. EK is a multicomponent construct that includes the following elements (Denham, 1998): mastery of the emotional lexicon required to correctly identify and name facial expressions communicating the basic emotions (*expressive emotion knowledge*), the ability to understand emotional language and therefore to recognize emotions by their verbal labels (*receptive emotion knowledge*), the ability to understand both stereotypical (*stereotypical situation knowledge*) and non-stereotypical emotions (*non-stereotypical situation knowledge*) arising from given situational antecedents, and the ability to identify the causes of basic emotions in oneself and others (*causal emotion knowledge*).

In the period spanning toddlerhood and the preschool years, children learn to name the basic emotions and recognize the expression of them, identify common emotion-eliciting situations, and appreciate conflicting expressive and situational cues of emotions. Such EK skills also include the understanding that emotions may be controlled and managed in keeping with display rules and the cultural context (Denham, 2007). Children's ability to react to and use others' facial emotion expressions suggests that EK begins to develop very early in life (Stenberg & Campos, 1990) and continues to be consolidated throughout childhood, at preschool age and beyond (Pons, Harris, & de Rosnay, 2004).

Emotion regulation is defined as the capacity to productively modulate, inhibit, and enhance emotional experiences and expressions, and to manage them in a way that is appropriate to the social context (Eisenberg & Spinrad, 2004; Gross, 2002; 2007). ER includes both internal processes, such as emotional cognitions, attention shifting, and the management of physiological responses, and external factors, such as support from parents or other adults in managing emotional experience. ER develops rapidly during the early years, middle childhood, and adolescence (e.g., Thompson & Meyer, 2007).

Indeed, already in the first months of life, infants display primitive ER mechanisms such as sucking, averting their gaze from a source of stress, or becoming distracted. At around one year, infants become much more active and social in their attempts to control emotion arousal (Kopp, 1982), recognizing caregivers and others as potential assistants in the regulation of their affective states. In the course of the second year of life, they transition from caregiver-directed ER to active emotion self-regulation. Indeed, during toddlerhood, children already display the ability to deploy specific strategies for managing different emotions in different situations. This achievement is underpinned by the development of executive functions, representational abilities, and language skills (Gross, 2007). Across the toddlerhood and preschool years, children learn to rely progressively less on their parents' support, becoming increasingly capable of adopting efficacious individual strategies for regulating emotion, such as distraction or cognitive reappraisal of frustrating situations (e.g., Kalpidou, Power, Cherry, & Gottfried, 2004). Given that children with advanced EK and ER skills demonstrate greater social competence, enhanced capacity to internalize rules, better peer relations and higher levels of school readiness than those with poor emotional self-regulation (e.g., Blair, Berry, & Friedman, 2012; Eisenberg, Valiente, & Eggum, 2010), it is of great value to study the variables that may influence children's ER abilities from the early years.

Both theoretical contributions (Castro, Cheng, Halberstadt, & Grühn, 2016; Halberstadt et al., 2001) and empirical studies show that EK and ER are significantly related to one other. In fact, the ability to recognize and differentiate among different emotions, label them correctly and appreciate their causes and consequences, appears to help children successfully regulate their emotions (e.g., Barrett, Gross, Christensen, & Benvenuto, 2001; Denham & Burton, 2003). As demonstrated by Izard et al. (2011), advanced EK empowers ER, even at a very early age and for children living in conditions of poverty. The ability to

recognize and understand the emotions of others enables children to have some appreciation of another person's feelings and intentions relative to a social interaction and thus to anticipate how that person may intervene in the interaction. This capacity helps to maintain positive interaction and decrease negative interaction in everyday social encounters.

Furthermore, Eisenberg and colleagues presented and discussed a heuristic model showing that children's ER is related to their EK as well as their language skills, and that all these competences together impact on children's social and academic success (Eisenberg et al., 2005). More recently, Di Maggio, Zappulla, and Pace (2016) found that preschoolers' EK and ER are strongly related to one another, while ER mediates the relation between EK and social adjustment.

Parents' Emotion Socialization Patterns and Children's Development of EK and ER

Children's development of emotional skills has been widely associated with emotion-related parenting practices. Children who, in the home, have experienced positive emotional expressivity, discourse about emotions, and positive acceptance of emotional displays, exhibit higher levels of emotional competence than children whose parents avoid reacting to emotion experiences (Morris et al., 2007). Studies of parents' meta-emotion philosophy, which consists of an organized set of individual beliefs and feelings about their own and their children's emotions (e.g., Gottman, Katz, & Hooven, 1997), suggest that it shapes parents' reactions to their children's emotion expressions and influences how they socialize their children's emotional experiences.

Two main parental emotion socialization styles have been theorized: namely, the *emotion coaching* (EC) and the *emotion dismissing* (ED) approaches to interaction (Gottman et al., 1997). Parents with an EC style are aware of their own and their children's emotions, discuss emotion and feelings with their children, view their children's negative emotions as opportunities to boost their emotional competence, and use emotional situations

constructively. Conversely, an ED style is typical of parents with a lack of awareness of their own and their children's emotions. Such parents respond negatively to displays of emotion, especially negative ones, by ignoring, minimizing, or disapproving of them (e.g., Lunkenheimer, Shields, & Cortina, 2007).

These styles have been found to impact on preschoolers' socio-emotional development (Dunsmore & Karn, 2004; Morris et al., 2007). Children with emotion-coaching parents display advanced EK and ER skills, higher self-esteem, better social adjustment, better academic success, and more positive peer relations than children with emotion-dismissing parents (e.g., Gottman et al., 1997; Legacé-Séguin & Coplan, 2005).

The positive association between emotion-coaching styles in mothers and children's emotion skills has been investigated in relation to identifying protective factors for toddlers from low-income families (Brophy-Herb et al., 2011) and preventing the development of behavior disorders in childhood and preadolescents (Dunsmore, Booker, & Ollendick, 2012). On the contrary, dismissing and unsupportive parental reactions to toddlers and preschoolers' emotions represent a risk factor for the development of negativity and dysregulation in children (Lagacé-Séguin & Coplan, 2005; Shewark & Blandon, 2015). Lunkenheimer, Shields, and Cortina (2007) recently investigated the effects of parents' EC and ED practices on children's ER and behavioral problems as assessed via parental and teacher reports, finding that ED practices contributed to poorer ER and more frequent externalizing problems in middle childhood.

Interestingly, results from intervention studies show that it is possible to significantly enhance parents' coaching responses, obtaining a positive impact on both preschoolers' (Havighurst, Wilson, Harley, Prior, & Kehoe, 2010) and toddlers' (Law, Havighurst, Wilson, & Harley, 2014) socio-emotional development. Specifically, programs fostering emotion-coaching parenting led parents to engage in a higher proportion of EC behaviors according to

both self-report and observation measures, and to use more emotion-state talk when interacting with their children. Researchers also observed significant decreases in parental dismissing practices and externalizing behaviors in children.

Language Ability and the Other Study Variables

Language abilities play a prominent role in the development of children's emotional competence. In fact, language gives the child the possibility to label emotions, making them explicit and communicable (Barrett, Lindquist, & Gendron, 2007; Cole, Dennis, Smith-Simon, & Cohen, 2009). Numerous intervention studies have shown that encouraging preschoolers and school-age children to use emotional-state terms while discussing their own and others' emotional experiences results in more advanced levels of EK (Ornaghi, Grazzani, Cherubin, Conte, & Piralli, 2015; Tenenbaum, Alfieri, Brooks, & Dunne, 2008).

Conversational activity about emotions leads to better understanding of one's own and others' emotional experiences, even at a very early age, as recently demonstrated by Ornaghi, Brazzelli, Grazzani, Agliati, and Lucarelli (2017).

Other lines of research have shown that advanced expressive language is associated to higher levels of ER (e.g., Cole, Armstrong, & Pemberton, 2010), including longitudinal studies on the impact of early language competence on later regulation skills. For example, Vallotton and Ayoub (2011) showed that the language abilities, especially vocabulary, of very young children positively predicted their levels of self-regulation later in toddlerhood.

Further evidence of the role played by language in the development of emotional competence comes from studies involving children with language impairments or language delays. Specifically, children's delays in the development of language skills have been found to be associated with emotion understanding and ER difficulties, as well as externalizing behavior problems (e.g., Nelson, Welsh, Vance Trup, & Greenberg, 2011). Children with language deficits performed more poorly on emotion recognition tasks than normally

developing children, confirming the key contribution of language to the development of emotional competence (e.g., Rieffe & Wiefferink, 2017).

As borne out by the multiple strands of research just reviewed, there is a significant association between children's language skills and their development of emotional competences. This relation may be fostered and enhanced by adults' responses to children's emotion displays. A coaching or emotionally supportive caregiving style can positively influence children's propensity to verbalize emotions. Parents who prompt children to pay attention to and talk about their own feelings help them to use language for coping with emotional distress and better regulating their emotions (Cole et al., 2009). In other words, when adults initiate or encourage discourse about feelings, this leads to gains not only in children's language ability but also in their knowledge and understanding of emotion (Nelson, 2007), thereby enhancing their repertoire of regulation strategies, and in turn their overall social and emotional competence (e.g., Denham & Kochanoff, 2002). In conclusion, given the association between linguistic skills and key variables in our study, we chose to include language ability as a background variable, so as to explore its associations both with maternal emotion socialization styles and toddlers' EK and ER.

The Present Study

To the best of our knowledge, no existing studies have investigated, within a single comprehensive model, the association between maternal emotion socialization style and toddlers' EK, ER and language, while also taking into account the associations between these outcome variables and children's age and gender. To this end, the present study evaluated the cumulative network of the associations among all of these variables within an integrated structural model to investigate whether and to what extent maternal coaching and dismissing emotional styles were associated with ER after taking into account the role of language ability. Numerous studies (Barrett et al., 2001; Cole et al., 2010; Morris et al., 2007) have

suggested that these variables are correlated, however the directions and relative strengths of the relations among them remain to be evaluated in a full model.

In line with the literature showing ER to be predicted by EK skills, we expected that EK would be related to ER, such that higher levels of EK would be associated with more advanced ER, even after taking into account associations with language ability, which is known to play a role in the development of emotional competence. In light of the studies reviewed above, we also hypothesized that maternal emotion strategies (as reflected in coaching versus dismissing behaviors) would be directly associated with both EK (in terms of expressive, receptive, and situational EK) and ER (in terms of positive regulation and lability/negativity). Specifically, we expected that dismissing and coaching emotional styles would display different dynamics, with the former negatively and significantly associated with both EK and ER and the latter, on the contrary, positively and significantly associated with toddlers' knowledge and regulation of emotion. Finally, and most importantly for the purposes of this paper, we hypothesized that the network of relations between maternal emotion socialization styles, EK, ER and language ability could be meaningfully represented by a comprehensive structural model.

Method

Participants

Participants were 242 toddlers (114 girls) with a mean age of 28.79 months ($SD = 3.49$; range: 21-36 months), and their mothers ($M_{age} = 35.60$ years; $SD = 4.95$; range = 22-47 years). The children were all native Italian speakers whose linguistic and cognitive development fell within the standards for their age group; they attended 34 different infant-toddler centers located in urban areas of Northern Italy. All toddlers came from middle-class socioeconomic backgrounds. The majority of their parents held a high school diploma or university degree (89.4% of mothers and 86% of fathers) and were either in white-collar

employment or self-employed professionals (78.4% of mothers and 69.9% of fathers). Other parents were manual workers (18.6% of mothers and 28.2% of fathers), while the remainder were unemployed (3.0% of mothers and 1.9% of fathers). In addition, 38.9% of participants were only children, 46.6% had one sibling, 10.9% had two siblings, and the remaining 3.6% three or more siblings.

Instruments and Procedure

The study received the approval of the Ethics Committee of the University of xxx. The researchers held a meeting with the parents to inform them about the aims of the study and all parents provided consent for their children to participate. The mothers completed three questionnaires, presented in counterbalanced order, assessing their children's verbal and emotional competences and their own emotional socialization style, respectively. They were also asked to supply demographic and socio-economic information about themselves, including their age, level of education, occupation, and number of children. Children's EK abilities were individually evaluated at nursery by four testers who had received ad hoc training in the administration and coding of the EK task from a member of the research group. Before collecting the data, the testers spent a week in the nursery getting to know the children. They administered the task in a quiet, specially laid-out area of the infant-toddler center.

Measures completed by mothers

McArthur-Bates-CDI (Fenson, Pethick, Renda, & Cox, 2000). Mothers completed the short Italian version of the questionnaire (PVB, *Primo Vocabolario del Bambino*; Caselli, Pasqualetti, & Stefanini, 2007), a standardized and validated instrument assessing language abilities based on maternal ratings of children between 18 and 36 months of age. The instrument evaluates the child's word production (vocabulary), ability to formulate phrases of several words (complexity), and pragmatic abilities, including pointing, making gestures,

pretending (pragmatics). In the current study, mothers were asked to complete the vocabulary section only for ease of administration and to avoid respondent fatigue. The standard scoring procedures from the PVB Manual were applied. Participants' scores for the vocabulary section ranged from 0 to 100. The internal consistency coefficient computed for this scale was Guttman's $\lambda_4 = .78$.

The Emotion Regulation Checklist (ERC; Molina et al., 2014). This is an other-report scale assessing the dimensions of positive emotion regulation and negativity. We administered the Italian validated version of the instrument, consisting of 24 items describing aspects of children's emotionality and regulation, such as affective lability, intensity, valence, flexibility, and situational appropriateness. The mothers were asked to evaluate the frequency of these behaviors on a 4-point Likert scale, from 1 (almost never) to 4 (almost always). Children received a separate score for each of two subscales: Emotion Regulation (ER, 8 items; range score: 8-32; sample item: "Displays appropriate negative emotions - anger, fear, frustration, distress - in response to hostile, aggressive and intrusive acts by peers") and Lability/Negativity (LN, 16 items; range score: 16-64; sample item: "Responds angrily to limit-setting by adults"). Higher scores on the ER scale indicate a greater capacity to manage and modulate one's own emotional arousal, whereas higher scores in the LN scale indicate dysregulation, inflexibility, negative affect, and excessive emotional reactions. Internal consistency coefficients for the ER and LN scales were $\alpha = .72$ and $\alpha = .65$, respectively.

The Maternal Emotional Style Questionnaire (MESQ, Legacé-Séguin, & Coplan, 2005). This instrument assesses the maternal emotional behaviors produced in response to children's emotion displays. Mothers are asked to express their level of agreement with each of the 14 items on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). In the present study, we used the Italian version of the MESQ (Ciucci & Menesini, 2008). Each mother received two scores, one reflecting her Emotion-Coaching behaviors

(EC, 7 items, score range: 7-35; sample item: “When my child is angry, I take some time to experience this feeling with him/her”) and one her Emotion-Dismissing behaviors (ED, 7 items, score range: 7-35; sample item: “When my child is angry, my goal is to make him/her stop”). Reliability coefficients for the EC and ED scales were $\alpha = .70$ and $\alpha = .77$, respectively.

Measure administered to the children

The Affective Knowledge Task (AKT, Denham, 1986). We used the Italian validated version (Camodeca & Coppola, 2010) of the instrument to evaluate toddlers' EK. The materials are two puppets with blank faces and four felt discs, each depicting a facial expression corresponding to a distinct basic emotion. Given the young age of participants, we only administered three subtasks from the battery: the expressive task, the receptive task, and the affective perspective-taking task. Respectively, these examined the ability to label emotions (four items), recognize them (four items), and deploy EK in stereotypical situations (eight items). Participants received a score of 2 for a correct response, 1 for an incorrect response of the appropriate affective valence, and 0 for a completely inappropriate response. Each child received a total score ranging from 0 to 32, and three sub-scores relative to the three administered sections of the test (expressive task: max. 8; receptive task: max. 8; affective perspective-taking task: max. 16). The internal consistency coefficient for the three scales taken together was $\alpha = .60$. While this value was below the recommended threshold (although rejection of the dataset is not mandatory even in this case; see Schmitt 1996), analysis of the composite reliability coefficient (CR; Raykov, 1997) prompts a different conclusion: The actual CR value (.76) supported acceptance of the AKT scores. Plausibly, the discrepancy between the two indicators may have been due to violation of the assumption of tau-equivalence (i.e., the assumption that all factor loadings are the same; Graham, 2006; Pepe, Addimando, & Veronese, 2017). Furthermore, a congeneric model with no error co-

variances can under-estimate internal reliability (Novick & Lewis, 1967), even at the population level. Internal consistency coefficients for the individual sub-sections of the instrument were: $\alpha = .81$ for the expressive task, $\alpha = .64$ for the receptive task, and $\alpha = .66$ for the affective perspective-taking task.

Results

Analytic strategy

We conducted Structural Equation Modeling (SEM) using SPSS AMOS 21 (Arbuckle, 2014) to evaluate the cumulative network of hypothesized paths between toddlers' EK, ER, language ability and maternal emotion socialization style. EK, language ability and ER scores were taken to be endogenous variables, while maternal emotion socialization style was viewed as an exogenous factor. The direct effects of the maternal emotion socialization styles included in the research design (i.e., ED versus EC styles) were evaluated within a single structural model with gender and age as external controlling variables.

In order to identify and skip any multivariate outliers, we computed Mahalanobis' distance ($p < .001$) for all variables. There were no multivariate extreme values. Next, we assessed the normality of the data. Given that none of the variables under study had kurtosis or skewness values falling outside the recommended thresholds of +1 and -1 (see Table 1), it was appropriate to use the maximum likelihood method (Kline, 2011) to estimate the parameters for the structural models.

The conceptual structure of the model is shown in Figure 1.

Finally, we adopted two classes of criteria to assess model fit: absolute fit and relative fit measures. The former included χ^2 and normed- χ^2 (NC), where a non-statistically-significant χ^2 value and NC values of under 2.0 indicate good fit (Hair, Black, Babin, & Anderson, 2010). The latter comprised the root mean square error of approximation (RMSEA), normed fit index (NFI), non-normed fit index (NNFI), and comparative fit index

(CFI). Thresholds for good model fit were: RMSEA < .07 (Schermelleh-Engel, Moosbrugger, & Muller, 2003), NFI > .95, NNFI > .95 (Marsh & Hau, 2014), CFI > .95 (Hu & Bentler, 1999). In keeping with the current literature (e.g., MacKinnon, Lochwood, & Williams, 2004), we estimated confidence limits using both Monte Carlo simulation and bootstrapping methods with a set of random samples ($k = 500$). We calculated given indirect effects for each of the k samples and the mean value for the selected pool of samples.

Descriptive Statistics and Correlations

The main statistical descriptives for all measures are presented in Table 1, and the zero-order correlations among variables are summarized in Table 2. In general, the correlation analysis revealed a relatively consistent and stable pattern of associations among the variables. Toddlers' EK was found to be positively correlated with their ER competence, especially with regard to the ability to correctly label emotions, $r = .17, p < .01$, and the ability to associate emotions with stereotypical situations, $r = .13, p < .05$.

Statistically significant and moderate correlations were found between language ability and both EK and ER. More specifically, scores on the language measure were positively correlated with scores on the emotion labelling, $r = .34, p < .001$, and emotion recognition tasks, $r = .22, p < .01$, as well as with positive ER scores, $r = .42, p < .001$.

Maternal emotion-dismissing style was moderately negatively correlated with EK, $r = -.19, p < .001$, positive ER, $r = -.28, p < .001$, and language ability, $r = -.28, p < .001$, and positively correlated with the lability/negativity dimension of emotion regulation, $r = .17, p < .001$. In contrast, maternal emotion-coaching style was not correlated with toddlers' age, gender, or outcome variables. In addition, and for the most part, boys and girls did not obtain statistically significant different scores for the variables under study. The only exception concerned lability/negativity [$t(204) = 2.23, p = .027, d = 0.38$], for which boys received higher scores, $M = 29.50, SD = 5.11$, than girls, $M = 27.51, SD = 4.99$. With regard to age,

correlational analysis revealed associations with EK, $r = .15, p < .05$, and language ability, $r = .38, p < .01$ (see Table 2 for further details). As a results, we chose to estimate the direct effects of age and gender.

The Structural Equation Model

The structural equation model analysis allowed us to evaluate the magnitude, and test hypotheses concerning the direction of, effects between toddlers' EK, language, and ER abilities as well as their mothers' emotional styles (emotion-coaching and emotion-dismissing), while taking into account the effects of children's age and gender. The outcomes of the structural equation model are illustrated in Figure 2.

Analysis of both absolute and relative indexes indicated that the model provided a good fit for the empirical data, $\chi^2(23) = 25.48, p = .32; NC = 1.10$. Analysis of the relative indexes also supported the practical significance of the model, RMSEA = .021, CI 90% [.001; .059], NFI = .904, NNFI = .978, CFI = .989, confirming that the effects among the variables under study were both conceptually and statistically robust. The components of the model were evaluated by examining the total standardized effects yielded by each, and then breaking down these total effects to obtain direct and indirect effects (standardized values are reported in Figure 2). Furthermore, when we estimated an alternative model with reversed paths between ER and EK, the goodness of fit indexes indicated poorer fit [$\chi^2(19) = 47.1, p < .001; NC = 2.47, RMSEA = .078, 95\% CI = .050 - .107, NFI = .812, NNFI = .751, CFI = .869$]. This outcome may be viewed as "cross-validating" the plausibility of the model tested in this study.

Dismissing strategies were found to have a direct negative effect on EK, $B = -.071, p = .026, 95\% CI [-.130; -.010]$ and ER, $B = -.088, p = .012, 95\% CI [-.171; -.015]$. However, the indirect effects (via language) of dismissing strategies were not statistically significant for either ER $B = .028, p = .116, 95\% CI [-.036; .060]$ or EK, $B = .012, p = .181, 95\% CI [-.006;$

.192]. In addition, dismissing strategies had an indirect negative effect on vocabulary (via EK), $B = -1.46$, $p = .020$, 95% CI [-1.94; -1.02].

In contrast, emotion-coaching practices did not have statistically significant direct effects on EK, $B = .003$, $p = .986$, 95% CI [-.089; .072] or ER, $B = .071$, $p = .331$, 95% CI [-.022; .140]. The indirect effect of emotion coaching strategies on ER (via EK) was not statistically significant, $B = .001$, $p = .960$, 95% CI [-.021; .073]; and nor was the indirect effect of coaching strategies on ER (via vocabulary), $B = .001$, $p = .960$, 95% CI [-.021; .073]. Interestingly, results showed a significant direct effect of maternal coaching strategies on children's vocabulary, $B = 1.03$, $p = .027$, 95% CI [.293; 1.82]. Finally, EK wielded a direct effect on ER, $B = .251$, $p = .036$, 95% CI [.011; 1.42]. In sum, the total effect of dismissing strategies on ER was negative, medium in size ($\beta = -.30$) and statistically significant ($p = .020$), whereas the total effect of coaching strategies on ER was negligible. Both maternal strategies had a statistically significant effect on language ability, with coaching scores positively associated, and dismissing scores negatively associated, with children's levels of vocabulary.

Language ability had a statistically significant positive direct effect on ER, $B = .028$, $p = .037$, 95% CI [.010; .048], and significantly co-varied with EK scores, $B = 12.68$, $p = .026$, 95% CI [3.30; 20.3]. Finally, age was found to be associated with vocabulary and EK (see Table 2).

Discussion

In the present study, we set out to assess the network of relations among the study variables as represented in an integrated structural model, with a view to shedding light on the role of maternal emotion socialization styles and toddlers' own EK in explaining their ER, while also controlling for gender and age. We obtained three main findings. First, EK and ER were positively correlated and EK made a moderate direct contribution to explaining

toddlers' ER; second, language ability (vocabulary) played a role in explaining children's ER; third, both maternal emotion socialization styles displayed significant associations with the investigated competences, but these associations were strongly negative in the case of maternal emotion-dismissing style, and weakly positive in the case of maternal emotion-coaching style.

The Relation Between EK and ER

As expected, toddlers' EK and ER were positively correlated and EK made a significant contribution to explaining variance in ER scores. Even at this age, as previously found in studies with kindergarten and school-age children (e.g., Denham & Burton, 2003; Di Maggio et al., 2016), EK appears to play a key role in explaining differences in children's ER performance. Plausibly, this may be because ER skills require good levels of EK, in terms of emotion recognition, understanding of one's own and others' feelings, and knowledge of content-appropriate emotions (Hudson & Jacques, 2014).

In the period spanning toddlerhood and the preschool years, children learn to name the basic emotions and recognize the expression of them, identify common emotion-eliciting situations, and appreciate conflicting expressive and situational cues of emotions. Such EK skills also include the awareness that emotions may be controlled and managed according to culturally-informed display rules (Denham, 2007). This knowledge allows the child to develop increasingly sophisticated and independent ER abilities. Indeed, as observed by Eisenberg et al. (2005), children with advanced EK are expected to know when to display or when to mask their emotions as a function of the social context.

Language Ability and Toddlers' ER

Participants' language ability (vocabulary score) was found to be significantly positively associated with ER. This is in line with previous studies investigating the impact of early language abilities on later ER. In fact, both toddlers' and preschoolers' language skills

have been found to predict later levels of self-regulation (e.g., Vallotton & Ayoub, 2011). More specifically, a broader and richer vocabulary, more so than other language skills (such as talkativeness), is a crucial factor in explaining differences in children's regulation abilities.

The association between language skills and ER provides evidence for the Vygotskian view of words as mental tools that children use to regulate and control their thoughts, feelings, and behavior, even at a very early age. For example, children may use language to engage in self-managing talk, communicate with others about their internal states, or learn appropriate ways of controlling their emotions. Children who have a broader lexicon available to them may learn to regulate their emotions more effectively because they are able to verbalize their needs without having to express them nonverbally (Cole et al., 2010).

Language ability, as suggested above, offers children a valuable tool with which to participate in social interactions, conversational exchanges, pretend play, story-telling and other activities that foster their perspective taking, or the ability to link their own and others' manifest actions with mental states (Grazzani, Ornaghi, Agliati, & Brazzelli, 2016). Thus, language represents a crucial ability that helps children to make explicit and share their own and others' inner states, such as feelings, thoughts and needs.

Furthermore, the role of language in children's development of ER is borne out by evidence from studies with children whose development is atypical and who present delays in language production and language skills. These children often display corresponding delays in emotional competence (e.g., Nelson et al., 2011). When there is no language available to share one's emotional state by verbally labelling it, thereby turning something implicit into something explicit and communicable, this negatively impacts the development of emotional skills. Thus, language helps children to become aware of their implicit knowledge of

emotional and affective states, name these states, communicate with others about them and, consequently, learn to manage them more effectively.

Clearly, as we will explore more fully in the next section, the adult plays a crucial role in fostering language, and hence emotion competence. The more parents speak to their children about internal emotional and affective states, for example during shared-book reading or in response to the children's emotional displays, the greater the children's gains in linguistic, social and emotional competence (Tompkins, Bengochea, Nicol, & Justice, 2017; Aram, Fine, & Ziv, 2013). Both parents and teachers may encourage children to express emotions verbally rather than through physical actions, thereby helping them to deal more effectively with their emotions. Indeed, recent studies have shown that encouraging children as young as two years, both at home and in early childhood education settings, to speak about inner experience during adult-led conversation leads to advances in linguistic, emotional, and social competence (e.g., Ornaghi et al., 2017).

The Role of Dismissing vs Coaching Maternal Emotion Socialization Styles

With regard to the different patterns of association found between the two maternal emotional styles (dismissing vs coaching) and toddlers' EK and ER, while controlling for gender and age, we found that emotion-dismissing maternal behaviors were related to lower scores for the outcome variables, while the positive association between emotion-coaching style and emotional competence was not equally large. Most of the literature on this topic suggests that a maternal emotion-coaching style is a positive factor that facilitates and favors the development of social and emotional competence (Dunsmore et al., 2012; Morris et al., 2007). The positive attitude to emotions implicit in emotion-coaching behaviors prompts mothers to respond to their children's emotional displays in an accepting manner, paying due attention to them, and turning them into an opportunity for learning and growth on the part of the children. However, studies that have compared the relative impact of coaching and

dismissing styles, indicate that the latter does more to inhibit emotional competences than the former to foster their development. Lunkenheimer et al. (2007), for example, found that parental emotion-dismissing styles represented a direct risk factor for school-aged children's emotional and behavioral outcomes, whereas emotion-coaching behaviors did not yield comparable direct benefits but interacted with the dismissing style to mitigate its potentially negative effects.

When parents' responses to children's emotions are unsupportive and avoidant, for example when they minimize, ignore, or even punish feelings, this may communicate to the children that emotions are something negative (especially, if they are of negative valence, such as anger, fear, or sadness) from which they need to protect themselves. In this way, parents can hinder the development of their children's emotional competence, especially their ER abilities. These effects, which may first be observed during toddlerhood, predict later internalizing difficulties (Luebbe, Kiel, & Buss, 2011).

Furthermore, parents with dismissing styles may display little inclination to speak to or converse with their children about emotions and this slows down the development of children's emotion representations. A significant body of both longitudinal and training studies bear out the crucial role of parent-child conversations in the development of children's emotion understanding, emotional-perspective taking, and positive social skills (e.g., Ornaghi et al., 2017; Thompson & Lagattuta, 2006).

Thus, the results of this study advance our knowledge of how emotion socialization practices affect the development of emotional competence in children, from the earliest years of life. They also prompt interesting theoretical reflections on the two emotion socialization styles (coaching vs dismissing). As is well known, when constructs are 'dichotomized' in the literature with a view to profiling subjects, this inevitably risks being reductive and failing to capture the full complexity of real-life phenomena. Therefore, our own view is that the

distinction between emotion socialization styles should not be framed in terms of 'all' or 'nothing', or 'good' or 'bad'. Dismissing and coaching styles should rather be seen as two different dynamic patterns that can vary as a function of a range of factors including adults' own personal beliefs, cultural backgrounds, social-emotional competences, and sense of self-efficacy as emotion socializers (e.g., Ciucci, Baroncelli, & Toselli, 2015; Halberstadt & Lozada, 2011), and the characteristics of the child, such as temperament (e.g., Chang & Li, 2017). Nonetheless, categorizing phenomena helps to identify and describe types of behavior, thereby making adults more aware of them, and especially of the effects that different behaviors can potentially have on the development of children's skills.

Limitations, Educational Implications, and Future Research Directions

The study is not without its limitations. First, given the very young age of the participating children, we adopted parent-report measures to assess the competences under study, except for EK, which was assessed by individually administering a task to the participating toddlers. Furthermore, with regard to the measure of ER, we are aware that the questionnaire administered in this study does not assess the full theoretical construct, but only two of its component dimensions. It would thus have been of great interest to directly measure the children's ER skills via observational methods, and to also collect teacher ratings so as to build up a more complete picture of the participants' competences as observed both in the home and at nursery.

A second limitation is that the present study was neither longitudinal nor experimental and, consequently, the results should be not interpreted in terms of causation. Numerical assessment of the model suggests a chain of associations, such that maternal styles (especially dismissing) are associated with emotion knowledge and regulation. Although the results of structural models have often been discussed in terms of causality (Bollen & Pearl, 2013), we agree with the "conservative" position advanced by Pearl (2012) whereby causal effects in

observational studies “can only be substantiated from a combination of data and untested theoretical assumptions, not from the data alone” (p. 2) and causation cannot be claimed in the absence of manipulation. This was a cross-sectional study and the variables were assessed at only one time point (T1). At present, we are re-collecting the data (T2) in order to longitudinally test the directionality of associations among the variables and examine the potential predictive effect of maternal emotion socialization styles on children's linguistic and emotional skills, as well as a potential mutual influence of the study variables.

Third, in this study, we only investigated the expressive component of language ability via a parent-report vocabulary checklist. In the future, as already showed by Roben, Cole, & Armstrong (2013), it would be interesting to investigate the associations between language ability with the other variables in greater depth by using a more extensive measure of language competence (including, for example, expressive and receptive vocabulary, syntax comprehension and production). Furthermore, it should be pointed out here that the large ($\beta = .64$) standardized beta weight of the pathway between language and measure of ER might also be interpreted as an artifact of common method variance (CMV; that is to say, attributable to the measurement method rather than to the constructs themselves, Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In this regard, we attempted to offset CMV bias (especially common rater and common scale anchor effects) by adopting both a direct measure administered to children and indirect self-reported measures administered to parents. However, other sources of CMV biases (e.g., response bias or the effects of shared participant characteristics) are likely to have been present and, consequently, may have contributed to the large association found between the two constructs. Finally, when interpreting the relative magnitude of the different effect sizes, it should be borne in mind that no formal statistical comparisons have been conducted.

Despite these limitations, the study outcomes bear interesting educational implications, and suggest potential future lines of research. Given that a dismissing parental style has been associated with negative effects on the development of children's emotion competence (e.g., Luebbe et al., 2011; Lunkenheimer et al., 2007), it seems crucial to implement educational programs for both parents and teachers. Such programs, as well as training adults in increasing their level of coaching practices (e.g., Havighurst et al., 2012; Law et al., 2014), should encourage them to reflect on their dismissing behaviors, for example by increasing their awareness of the possible effects of avoidant and unsupportive adult behavior on children's emotional skills. In future, it will be of interest to assess the efficacy of programs designed to help adults, whether parents or early childhood teachers, to revisit their emotion-dismissing responses. A related direction for future research would be to expand the focus of inquiry to investigate the factors (e.g., beliefs, personal traits, cultural background, etc.) underpinning adults' non-supportive reactions to children's emotions (e.g., Wong et al., 2009; Halberstadt & Lozada, 2011), with a view to designing preventive interventions in both family and educational settings.

Finally, one of the strong points of the current study is the fact that it investigates within a single model the associations of both internal factors (EK, language ability) and environmental variables (maternal emotional style) with toddlers' ER. Future longitudinal studies should assess the statistical invariance of the model as a function of age (i.e., with different cohorts of older children).

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Table 1

Descriptives for the study variables

	<i>M</i>	<i>SD</i>	Range	Skewness	Kurtosis
Age in months	28.79	3.49	21-36	-.080	-.839
Language ability	56.93	26.50	7-100	-.115	-.990
AKT_total score	14.60	6.04	1-31	.267	-.433
AKT_1	2.25	2.50	0-8	.728	-.784
AKT_2	5.42	2.31	0-8	-.625	-.382
AKT_3	6.94	3.55	0-16	.154	-.361
Positive Regulation	25.44	2.52	19-32	-.112	-.147
Lability/Negativity	28.57	5.10	18-43	.473	-.023
Emotion Coaching	27.84	3.73	15-35	-.407	.160
Emotion Dismissing	22.18	5.49	8-34	-.168	-.332

Note: AKT_1, AKT_2, and AKT_3 refer to the three sub-tasks of the Affective Knowledge Task evaluating emotion labelling, emotion recognition and affective perspective taking, respectively.

Table 2

Correlations among study variables

	Demographics		Language ability	Affective Knowledge Task			Emotion regulation		Mother emotion socialization		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Children											
(1) Age in months	-										
(2) Gender	-.073	-									
(3) <i>Language ability</i>	.376***	.104	-								
(4) AKT_total	.147*	.113	.280***	-							
(5) AKT_1	.176**	.065	.339***	.653***	-						
(6) AKT_2	.158*	.102	.217**	.713***	.358***	-					
(7) AKT_3	.024	.115	.095	.777***	.173**	.309	-				
(8) <i>Positive Regulation</i>	.070	-.006	.411***	.190**	.166**	.113	.132*	-			
(9) <i>Lability/Negativity</i>	.034	-.142*	-.072	-.113	-.104	-.123	-.039	-.067	-		
Mothers											
(10) <i>Emotion Coaching</i>	-.040	-.006	.063	.110	.001	.059	.149*	.075	-.027	-	
(11) <i>Emotion Dismissing</i>	-.011	-.006	-.277***	-.192**	-.139*	-.111	-.155*	-.272***	.167**	.118	-

Note: AKT = Affective Knowledge Task. Gender was entered as a dummy variable (0 = male; 1 = female). Measures completed by mothers are reported in Italics. * $p < .05$, ** $p < .01$. *** $p < .001$

Table 3

Summary of direct effect of participants' demographic characteristics on study variables

	Age			Gender		
	<i>B</i>	<i>p</i>	95% CI	<i>B</i>	<i>p</i>	95% CI
Vocabulary	2.95	.045	[.190, 3.54]	6.97	.021	[2.91, 13.22]
Emotion Knowledge	.128	.019	[-.019, .199]	.549	.040	[-.199, 1.23]
Emotion Regulation	.072	.131	[-.022, 1.81]	-.171	.733	[-.748, .581]

Note. CI = confidence interval.

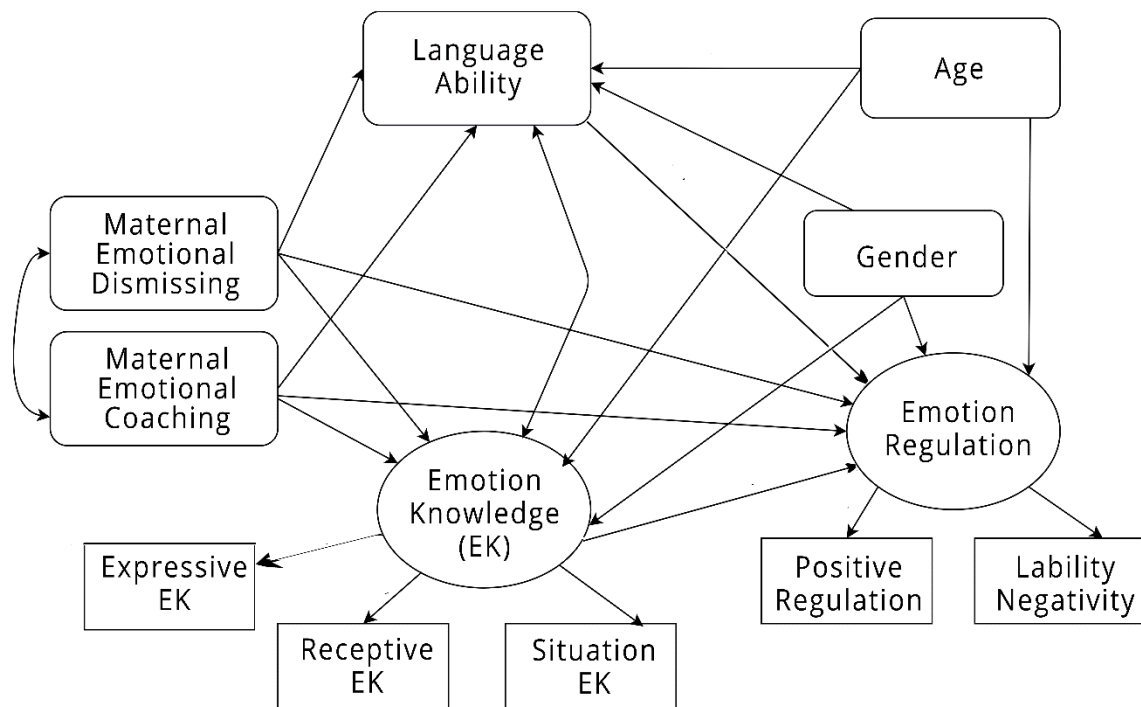


Figure 1. Conceptual model of maternal emotional style, emotion knowledge, language ability and emotion regulation in toddlers.

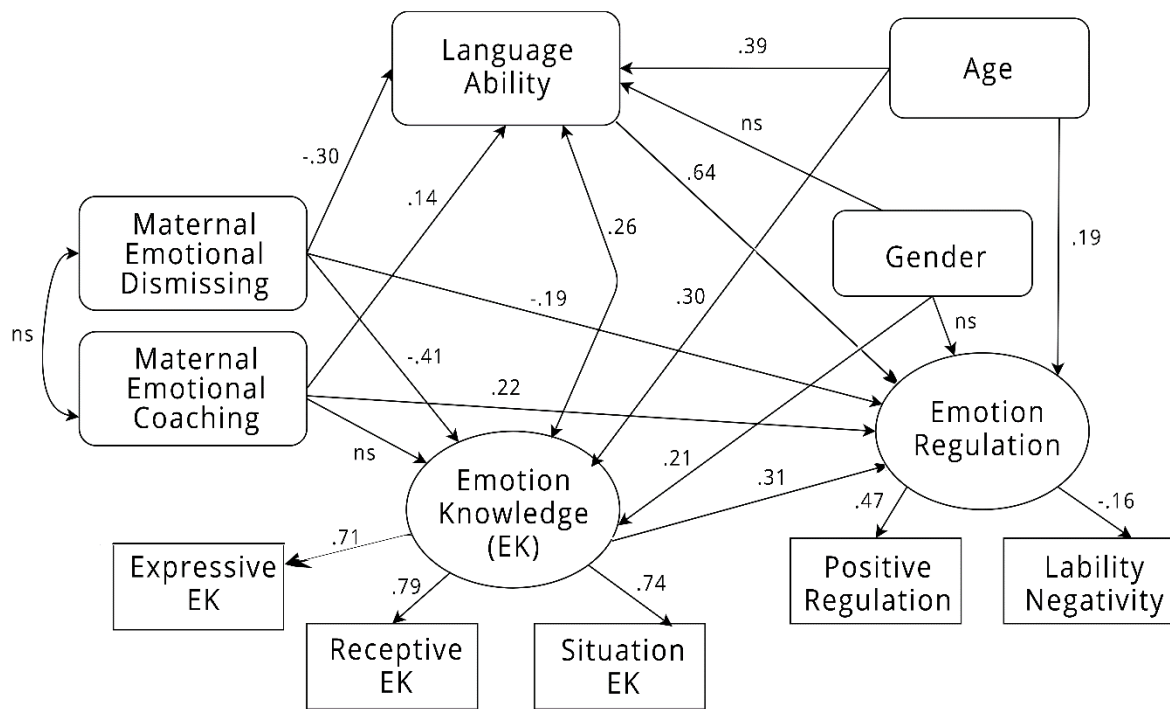


Figure 2. Results of standardized direct effects estimated by the structural equation model.