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Development and Aging

Pathways to behavior problems in Norwegian kindergarten children: The role of parent emotion socialization and child emotion understanding

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More than two decades of research have shown that parental emotion-related socialization behaviors (ERSBs) significantly predict child emotion understanding and externalizing behavior problems. This study aimed to replicate these findings in a sample of 40 Norwegian preschool children and to test whether the effect of parental ERSBs on externalizing child behavior problems was mediated through child emotion understanding. Parental report on ERSBs was obtained using the Coping with Children's Negative Emotions Scale (CCNES) questionnaire. Child emotion understanding was assessed directly using the Test of Emotion Comprehension (TEC). The results showed that parental distress reactions and externalizing child behavior problems were significantly correlated and that parental expressive encouragement was significantly correlated with child emotion understanding. Estimation of indirect effects was conducted using process analysis and showed that parental expressive encouragement was indirectly related to externalizing child behavior problems ($b = -0.17$) via child emotion understanding. The results suggest that better child emotion understanding, and lower parental distress are related to lower levels of behavior problems in preschool children. These findings provide support for the Parental Meta-Emotion Philosophy (PMEP) model, where the effect of parental emotion socialization on externalizing child behavior problems is mediated through emotion understanding.

Key words: Emotion understanding, externalizing behavior problems, Parental emotion socialization, preschool children.

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INTRODUCTION

Emotion socialization denotes the processes by which children achieve emotional competence through social and emotional interactions with others (Grusec, 2011). During the past two decades, numerous studies have examined the association between parental emotion socialization and externalizing child behavior problems (Eisenberg, Cumberland & Spinrad, 1998; Gottman, Katz & Hooven, 1997; Johnson, Hawes, Eisenberg, Kohlhoff & Dudeney, 2017; Morris, Silk, Steinberg, Myers & Robinson, 2007), but no studies have replicated these findings in a Norwegian sample.

Emotion understanding is typically described as an ability to understand one's own and other's emotions (Eisenberg *et al*., 1998), and is related to both externalizing and internalizing problems in children (Bender, Pons, Harris, Esbjørn & Reinholdt-Dunne, 2015; Southam-Gerow & Kendall, 2000, 2002; Trentacosta & Fine, 2010). It includes children's labeling of emotions, an understanding of how emotions relate to intentions, desires and beliefs, and that emotions can be regulated, concealed or mixed, and affected by moral judgement (Harris, Johnson, Hutton, Andrews & Cooke, 1989; Pons, Harris & de Rosnay, 2004). Emotion understanding has been suggested as a mediator of the relationship between parental emotion-related socialization behaviors (also known as ERSBs; see Eisenberg *et al*., 1998) and externalizing child behavior problems (Cunningham, Kliewer & Garner, 2009; Gottman, Katz & Hooven, 1996; Katz, Maliken & Stettler, 2012). Only a few studies have tested this empirically, and none in a Norwegian sample. The present study aims to investigate the effect of parental ERSBs on child emotion understanding and externalizing behavior problems in a sample of Norwegian parents of preschool children. Specifically, we aimed to investigate an indirect association between parental ERSBs and externalizing child behavior problems via child emotion understanding. In the following sections, current research findings on the relationship between parental ERSBs, emotion understanding, and externalizing child behavior problems are presented, and study aims are specified.

PARENTAL EMOTION-RELATED SOCIALIZATION BEHAVIORS (ERSBs)

Parental ERSBs include parents': (1) reactions to children's emotions, (2) discussion of emotion; and (3) expression of emotion within the family (Eisenberg *et al*., 1998). These behaviors are typically operationalized as either supportive or non-supportive. Supportive ERSBs include parental discussion of emotions, parental encouragement for children to express emotions, and parental problem- and emotion-focused reactions in response to children's emotions. In contrast, non-supportive ERSBs include parental minimization, punitive reactions and distress reactions in response to children's emotions (Fabes, Poulin, Eisenberg & Madden-Derdich, 2002).

A parental meta-emotion philosophy (PMEP) framework

Katz *et al*. (2012) proposed a theoretical model (see Fig. 1) capturing the relationship between parental emotion socialization, child emotional competence and child outcomes. Parental emotion socialization is conceptualized as parental meta-emotion philosophy (PMEP) which is defined as an organized set of attitudes, thoughts and feelings about one's own and their child's

emotions, including parents' awareness, acceptance and coaching of emotions (Gottman *et al*., 1996, 1997; Katz *et al*., 2012). According to the PMEP model, parental emotion coaching attitudes and behaviors in response to children's negative emotions leads to increased child emotional competence and better outcomes. Parents with an emotion coaching philosophy view all emotions as acceptable and view children's negative emotions as an opportunity for intimacy or teaching about emotions, and help the child by labeling and validating emotions. On the other hand, parents with a dismissive meta-emotion philosophy tend to avoid and ignore emotions, want negative emotions to go away quickly, and convey to their children that emotions are unimportant. Emotion coaching and dismissiveness thus consists of a cognitive component (i.e., parental attitudes towards emotions), an emotional component (i.e., empathy and validation), and a behavioral component (i.e., parental reactions to children's emotions). In the present study we investigate the relationship between parent-reported reactions (i.e., behavior) to children's negative emotions, direct assessment of child emotion understanding, and parent-reported child externalizing behavior. The present study does not include measures of parental awareness, acceptance and attitudes towards emotions (i.e., meta-emotion philosophy), but investigates coaching and dismissive emotion-related socialization behaviors using the Coping with Children's Negative Emotions Scale (CCNES; Fabes, Eisenberg & Bernzweig, 1990).

The CCNES is a widely used self-report questionnaire assessing parent's supportive and non-supportive reactions to children's negative emotions (see, 2002; Johnson *et al*., 2017). In the emotion socialization literature, emotion coaching is often described as a supportive parental ESB (see for example Johnson *et al*., 2017), but not all supportive ERSBs are emotion coaching. Emotion coaching involves staying with negative emotions without trying to change the emotion or to distract the child's attention away from feelings of distress (Gottman *et al*., 1997; Havighurst & Harley, 2007). The Expressive Encouragement CCNES scale involves staying with the emotion and encouraging the child to express feelings of anger, sadness and frustration without changing the emotion (Fabes *et al*., 1990). This closely resembles the concept of emotion coaching. The Problem Solving and Emotion-Focused responses CCNES scales does however involve changing the emotion (e.g., solving a problem or talking about happy things when the child is sad). Although supportive, in Gottman *et al.*'s (1996) terminology, these parental responses are dismissive because they convey a message to the child that negative emotions are not important and needs to be changed into positive emotions as quickly as possible. When Fabes *et al*. (2002) investigated the psychometric properties of the CCNES, they found that the Expressive Encouragement scale was uncorrelated with the other scales, although the problem- and emotion-focused scales were correlated, and the non-supportive subscales (distraction, minimization and punitive reactions) were correlated. This suggest that the Expressive Encouragement scale measures other parental behaviors (i.e., coaching) than do the Problem- and Emotion-Focused scales (Fabes *et al*., 2002). Thus, in the current study we chose to focus on supportive emotion coaching responses (namely Expressive Encouragement) as an index of parent-reported emotion coaching.

Parental ERSBs in relation to child emotion understanding

Research suggests a positive relationship between supportive parental ERSBs and child emotion understanding (Denham, Bassett & Wyatt, 2015). In a study of preschool children (n = 47, M = 3.42 years) using observations of maternal coaching and a puppet task developed by Denham (1986) to assess emotion understanding, parental responsiveness to child emotions predicted child emotion understanding, controlling for child age, cognitive and language abilities (Denham, Zoller & Couchoud, 1994). Similarly, in a study of 36 preschoolers (M = 4.8 years) examining the effect of parental emotion-related socialization behaviors on children's emotional competence, Fabes *et al*. (2002) assessed 101 primarily middle-class Caucasian parents (98 mothers) of 3–6-year-old's with the CCNES self-report questionnaire, and found that parental supportive reactions were associated with greater child emotion understanding. Conversely, non-supportive parental reactions, such as parental distress in response to children's negative emotions, were associated with

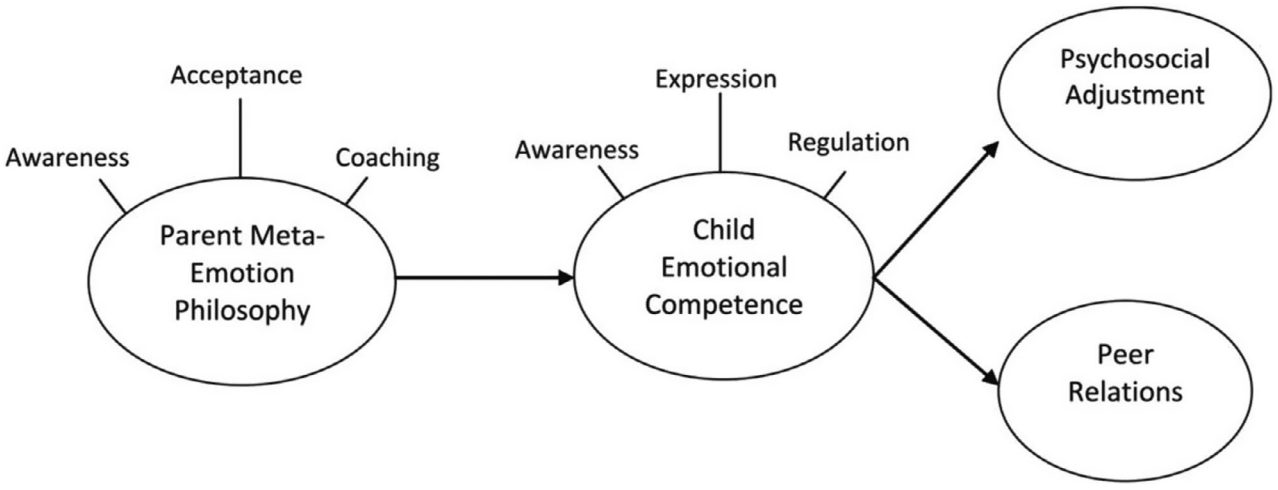

Fig 1. PMEP theoretical framework suggested by Katz *et al*. (2012).

poorer child emotion understanding. In another study, Denham, Mitchell-Copeland, Strandberg, Auerbach, and Blair (1997) using both observational measures of parental coaching and child emotion understanding, the researchers found that parents who were more aware of, labeled and validated their children's emotions had preschoolers (n = 60, M = 4.15 years) with better emotion understanding. Thus, research suggests a positive relationship between supportive ERSBs and emotion understanding in preschool children.

Discussion of emotions in families is positively related to child emotion understanding (for a review see Harris, de Rosnay & Pons, 2005; Salmon & Reese, 2016). For example, Laible (2004) observed 51 preschool children (M = 4.08 years) and their mothers in a story-telling and a reminiscing task and found that discussion of positive emotions was related to better emotion understanding and prosocial behavior.

Parental ERSBs in relation to externalizing behavior problems

Parental ERSBs are predictive of externalizing behavior problems in preschool children (Eisenberg *et al*., 1998; Johnson *et al*., 2017; Morris *et al*., 2007). Children who receive less support from their parents to manage their emotions may become angrier, reactive or emotionally shut off, and are less likely to regulate their behavior in socially appropriate ways. Using a longitudinal design and a combination of interviews, direct assessment, observations, self-report, and physiological measures, Gottman *et al*. (1996) found in a sample of 56 parents and their 5-year-old children in normally developing families that children of emotion coaching parents had significantly lower levels of externalizing behavior problems, better inhibitory control, physical health and academic achievement. Parental emotion coaching at age five significantly predicted a reduction in externalizing child behavior problems at age eight. In a recent meta-analysis of 49 studies (n = 6270), Johnson *et al*. (2017) found that parental ERSBs were significantly related to both concurrent and prospective externalizing child behavior problems. Non-supportive ERSBs had a greater positive impact on externalizing child behavior problems (r = 0.13) than the negative impact of supportive ERSBs (r = −0.06). Child age was found to be a significant moderator, where the association between parental ERSBs and behavior problems was stronger in preschool than in later childhood or adolescence. Similarly, in a study of 62 5-year-old's, 75 6-year-old's and 50 7-year-old's using the CCNES, the researchers found a positive association between non-supportive ERSBs and externalizing behavior problems in 5-year-old's, but not in 6-year-old's (Nelson & Boyer, 2018). In 7-year-old's they found evidence of an opposite relationship. Non-supportive parental ERSBs were negatively related to externalizing behavior problems. The researchers suggest that these discrepancies represent a developmental shift in the function of maternal ERSBs as children enter school age. In a study comparing ERSBs in parents and teacher closeness in a diverse community sample of 89 4–6-year-old children, Bardack and Obradović (2017) did not find that supportive emotion socialization practices was related to better emotional competence and school adjustment. Girls scoring higher on relational aggression towards peers had a better teacher-child relationships when parents were emotionally non-supportive (i.e., minimizing) than when parents were supportive. The authors conclude that their findings challenge the notion of universally supportive and unsupportive parent emotion socialization practices. Cultural diversity might be one explanation for their findings. Another explanation might be that peers and teachers become increasingly important socialization agents as children enter middle childhood (for a review see Denham *et al*., 2015).

Collectively, a large body of research suggests a significant positive association between non-supportive parental ERSBs and externalizing child behavior problems in 5-year-olds (Eisenberg et al., 1998, and Morris *et al*., 2007). More recent studies do, however, find inconsistent results, and findings do not necessarily replicate across cultures (Bardack & Obradović, 2017; Cole & Tan, 2015; Nelson & Boyer, 2018; Raval & Walker, 2019).

Cultural differences in associations with child outcomes

The theory suggests that supportive parental emotion socialization leads to better child emotional competence and better child outcomes (Denham *et al*., 2015; Eisenberg *et al*., 1998; Gottman *et al*., 1996, 1997; Katz *et al*., 2012; Morris *et al*., 2007). In other words, when parent's express emotions calmly and regulate their emotions in response to children's emotions, children's emotional competence is improved, and emotional arousal and behavior problems are reduced.

Few studies have directly tested this theory, and cross-cultural studies find results that are inconsistent with findings from North American studies (Raval & Walker, 2019; Raval, Walker & Daga, 2018). The first study to test the theory was the original study by Gottman *et al*. (1996), who concluded that the effect of emotion coaching on child outcomes was mediated by child emotion regulation. A second study, by Cunningham *et al*. (2009), investigated the association between maternal emotion socialization, child emotion understanding and child outcomes in sixty-nine urban African American families with a child in middle childhood (M = 11.29 years). Their findings also provided support for the mediation hypothesis. They found that child emotion understanding was related to parental meta-emotion philosophy. For girls, emotion understanding mediated the relationship between parent emotion socialization and children's social skills. For boys, emotion understanding mediated the relationship between emotion socialization and children's internalizing behaviors. A more recent cross-cultural study of emotion understanding in 281 preschoolers (159 boys; M age = 4 years) from English (N = 158) and Spanish-speaking (N = 123) backgrounds investigated the relationship between child emotion understanding and externalizing child behavior problems at different time points over 6 months (Strand, Barbosa-Leiker, Piedra & Downs, 2015). They found evidence of a stronger and more complex bi-directional relationship between child emotion understanding and behavior problems for Spanish-speaking girls compared to boys and for all English-speaking children. Gender moderated the relationship between emotion understanding and behavior problems in Spanish children. There is thus a need to explore potential moderators (such as gender and age) of the relationship between emotion socialization and externalizing child behavior problems (Katz *et al*., 2012; Martin, Williamson, Kurtz-Nelson & Boekamp, 2015).

Because the relationship between parental ESB's and child outcomes may vary across cultures, it is important to investigate parental ERSBs in diverse cultural contexts (Cole & Tan, 2015). For example, a study of Latin American mothers found that the negative effects of non-supportive ERSBs in European American mothers did not have the same impact on children's functioning in Latino families (Breen, Tamis-LeMonda & Kahana-Kalman, 2018). The researchers found that while supportive ERSBs were associated with better child emotion understanding in both cultural contexts, non-supportive responses were not significantly associated with poorer child emotion understanding in Latino families.

We do not know whether the North American findings on parental ERSBs and child behavior problems hold in Scandinavian countries such as Norway. Scandinavian countries differ from Anglo-American countries, were emotion socialization typically has been studied. In 1966, Sweden, as the first nation in the world, made corporal punishment of children illegal. The right to use corporal punishment was repealed in Norway in The Child Care Act of 1972 and made illegal in a revision of the act in 1987. Harsh parenting is considered socially improper in Scandinavian countries, and parenting is typically child-focused, dialogue-based, and characterized by low levels of force and violence in parenting (Hollekim, Anderssen & Daniel, 2016). Parents in Norway receive substantially more economic and social support in their role as parents compared to the US, and all Norwegian families have universal access to inexpensive child care (Zachrisson & Dearing, 2015). In 2017, 97% of children aged 3–5 years attended subsidized, government regulated kindergartens (SSB, 2018). Longer maternity and paternity leave means parents spend more time with their children in the first year of life, which may also affect later child emotional development. In recent years, fathers in the Nordic countries have had greater access to longer periods of paternity leave, boosting fathers' practical and emotional investment in infant care (O'Brien, Brandth & Kvande, 2007). In 2019, 71% of all Norwegian fathers participated in parental leave (SSB, 2019). It is unclear how these policy measures may impact emotion socialization processes in Norway.

Although no previous studies have looked specifically at parental ERSBs as predictors of child emotion understanding in Norwegian 5-year-old's, previous studies have investigated emotion understanding in preschool samples (Kårstad, Kvello, Wichstrøm & Berg-Nielsen, 2014; Kårstad, Wichstrom, Reinfjell, Belsky & Berg-Nielsen, 2015; Vikan, Kårstad & Dias, 2013), For example, in a study of emotion understanding, Kårstad *et al*. (2014), used the Test of Emotion Comprehension (TEC; Pons & Harris, 2000) to assess child emotion understanding in a sample of 884 4-year-olds. In addition, the researchers asked parents to respond to the TEC items as if they were their child. When comparing children's TEC scores to parent responses, they found that 91% of the Norwegian parents overestimated their child's emotion understanding by approximately 3 years (Kårstad *et al*., 2014). The researchers did, however, not compare results cross-culturally.

In a cross-cultural study using the TEC (Pons & Harris, 2000) to asses cultural differences in phases of emotional development, Tang, Harris, Pons, Zou, Zhang and Xu (2018) found that Chinese children ($N = 65$; age = 4–6), developed an understanding of emotions that followed a pattern similar to that found in Western European preschoolers. Chinese preschoolers did, however, perform better at understanding hidden emotions compared to European children, and worse at linking reminders to emotions. One possible explanation for this finding is that hiding emotions is more common in the Chinese culture and children therefore develop this component earlier compared to Western European children. However, factors other than culture are even more important predictors of emotion understanding. When comparing TEC results in samples of high and low socioeconomic status (SES) Brazilian 4-year-olds, and Peruvian (low SES), Norwegian (high SES) and Italian (high SES) samples, Kårstad, Vikan, Berg-Nielsen, Moreira, de Abreu and Rique (2016) concluded that the observed differences in emotion understanding were more related to SES, than to culture.

It is unclear how universal access to early high quality child care effects externalizing child behavior problems in Norwegian preschoolers. Studies investigating the effects of child care have relied heavily on US samples, the results are mixed, and often inconsistent with the hypothesis that early non-maternal care heightens the risk of externalizing disorders (Dearing & Zachrisson, 2017). In a sample of 75,271 1.5–3-year-old Norwegian children, Zachrisson, Dearing, Lekhal, and Toppelberg (2013) found little evidence that many hours spent in high quality child care caused externalizing problems in children. Some evidence does, however, suggest an increased risk for boys (aged 2 to 4 years of age) for developing externalizing behavior difficulties when exposed to peer groups of two or more peers with behavior problems in child care (Ribeiro & Zachrisson, 2019). Conversely, Havnes and Mogstad (2011) found strong positive effects of time spent in kindergartens on Norwegian children's later educational attainment. In sum, the evidence does not suggest a significant long term relationship between externalizing problems and hours spent in Norwegian high quality kindergartens (Dearing & Zachrisson, 2017; Dearing, Zachrisson & Nærde, 2015; Havnes & Mogstad, 2011; Zachrisson *et al*., 2013).

In the present study, we aimed to replicate previous findings linking parental ERSBs to child emotion understanding and behavior problems in a Norwegian sample of preschool children. Based on our literature review, we hypothesized that supportive parental ERSBs would positively predict child emotion understanding, and non-supportive parental ERSBs negatively predict child emotion understanding. We also expected to find a negative relationship between supportive parental ERSBs and externalizing child behavior problems, and a positive relationship between non-supportive parental ERSBs and externalizing child behavior problems. Based on Katz *et al*.'s (2012) theoretical framework, we expected to find an indirect association between emotion coaching and externalizing child behavior problems via child emotion understanding.

MATERIALS AND METHODS

Participants

Participants were a voluntary community sample of 40 children (M age = 5.91 years, $SD = 0.32$, boys $n = 21$) recruited in their final year of kindergarten and one of their parents (M age = 42.05, range = 19.00, $SD = 4.55$, fathers $n = 10$). Norwegian children typically attend kindergarten until they start school the year they turn six. The parents were recruited from 17 different kindergartens. One mother of twins responded twice for the questionnaires concerning her two children and

one twin was randomly removed from the sample in order to avoid violating the assumption of independency of observations (Tabachnick & Fidell, 2013). One case had 21 of 36 items missing on the ECBI and was excluded from analyses. Children had from 1 to 4 siblings (M = 1.3): five children (12.5%) had no siblings, 26 children had 1 sibling (65%), and seven children had two or more siblings (17.5%). One child (2.5%) was adopted. A total of 37 (92.5%) children were living together with both parents fulltime, three children (7.5%) lived with a single parent, one child (2.5%) lived with their biological parent and other relatives. Most parents were highly educated with 34 (85%) having a college or university degree of at least 4 years, five (12.5%) reporting that they had a college or university degree of less than 4 years, and one (2.5%) reporting only completing high school. The income level of the families in this study was generally high, with 39 parents (97.5%) reporting that they were either "well off" or "very well off" financially, and 1 parent (2.5%) reporting that they "get by" financially. The sample thus represents middle to upper middle-class Norwegian families.

Procedure

Participants were recruited from 17 kindergartens within a 10 km radius of the University of Oslo as part of a larger ongoing parenting intervention project. Local kindergartens circulated information letters about the study to all parents of 5–6-year-old children attending the final year of kindergarten. Following receipt of expressions of interest forms from parents, a researcher from the project team called interested parents, described the study and then sent them a plain language statement and consent form via email or post. Child assessments were carried out at the University of Oslo by the research team and parents completed online questionnaires while waiting. The assessment took approximately one and a half hours. The research study was approved by the Regional Committees for Medical and Health Research Ethics, region: south-east of Norway (REC: 2015/2383) and all parents gave written and informed consent for their own as well as for their child's participation in the study.

Measures

The Coping with Children's Negative Emotions Scale (CCNES; Fabes et al*., 1990).* Parent emotion socialization was measured using the Norwegian translation of the CCNES. The CCNES was translated to Norwegian by the first and last authors with back-translation and proofreading by bilingual scholars. The CCNES is a 72 item self-report scale measuring parental reactions to children's negative emotions. The parent was asked to rate on a seven-point Likert scale how likely it was that he/she would react in a certain way in a variety of parenting scenarios. The parent was presented with 12 scenarios with six possible reactions in each scenario that corresponded to one of the six subscales in the CCNES: Distress Reactions (DR), Punitive Reactions (PR), Minimization Reactions (MR), Expressive Encouragement (EE), Emotion-Focused Reactions (EFR), or Problem-Focused Reactions (PFR). An example of a scenario was: *If my child loses some prized possession and reacts with tears, I would…* Possible responses on this item are: *get upset with him/her for being so careless and then crying about it* (example of distress reaction); *tell him/her that's what happens when you're not careful* (punitive reaction); *tell my child that he/she is over-reacting* (minimizing reaction); *tell him/her it's OK to cry when you feel unhappy* (expressive encouragement); *distract my child by talking about happy things* (emotion-focused reaction); *help my child think of places he/she hasn't looked yet* (problem-focused reactions). The Distress, Minimization and Punitive Reactions subscales were used as measures of non-supportive ERSBs. The Expressive Encouragement (EE) subscale was used as a measure of emotion coaching (supportive ESB). At face value, the EE subscale better captures parent's willingness to explore, label and discuss children's emotional reactions, which are identified as core components of emotion coaching (Gottman *et al*., 1996; Katz *et al*., 2012), than do the emotion-focused and problem-focused subscales, which may be regarded as supportive but emotionally dismissive if using Gottman *et al*. (1996, 1997) and Katz *et al*.'s (2012) ways of defining emotion coaching. Cronbach's alphas for the DR, PR, MR, EE, EFR and PFR subscales in this study were 0.75, 0.82, 0.72, 0.84, 0.76, and 0.49, respectively.

The Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999). The Norwegian translation of the ECBI (Reedtz, Bertelsen, Lurie, Handegård, Clifford & Mørch, 2008), was used to measure parent-reported externalizing child behavior problems. The ECBI is a widely used questionnaire consisting of 36 items rated on a seven point Likert scale from 1 = *never* to 7 = *always*. Examples of items are: *Refuses to go to bed on time* and *gets angry when doesn't get own way*. The questionnaire has good psychometric properties (Axberg, Johansson Hanse & Broberg, 2008; Burns & Patterson, 2000) and is widely used as a continuous measure of externalizing behavior problems (Hukkelberg, Reedtz & Kjøbli, 2018). In the current study, the ECBI *Intensity subscale* was computed by calculating the mean value of parents' responses on the questionnaire. Cronbach's alpha for the intensity scale was 0.85.

The Test of Emotion Comprehension (TEC; Pons & Harris, 2000). The Norwegian translation of the TEC (e.g., Kårstad *et al*., 2015) was used to provide a structured direct assessment of children's emotion understanding. The TEC assesses nine different core components of emotion understanding in a hierarchical order, starting with components of emotion understanding that are presumed to be developed in children at age 3 to 4 and moving to components that develop through ages 8 to 11 (Pons *et al*., 2004). The TEC measures nine components of emotion understanding: (1) recognition, (2) external cause, () desire, (4) belief, (5) reminder, (6) regulation, (7) hiding, (8) mixed and (9) morality. The TEC includes a picture book with cartoon scenarios accompanied by stories. The child is asked to indicate the emotion of the protagonist in each story by pointing to one of the four faces presented under each cartoon scenario. The faces exhibit two pleasant emotions (happy and alright) and two unpleasant emotions (scared, angry, and/or sad). In this study, only the first three core components of the TEC (i.e., emotion recognition, external cause, and desire) were used to measure emotion understanding, as these correspond with the external phase of emotional development that is usually mastered by 5–6 years of age (e.g., Pons *et al*., 2004). The first core component, emotion recognition, and the second core component, understanding of external causes of emotions, were assessed with five stories (items) for each component. For example, the experimenter told a story about a turtle that died and asked the child whether the boy or girl in the story (depending on the child's gender) was happy, sad, angry or all right when looking at the dead pet. The child indicated the emotion by pointing to the corresponding face. The third component, understanding desire-based emotions, consists of two story-based items. In one story, the two protagonists are thirsty, and they are offered Coca-Cola. However, only one of the protagonists likes Coca-Cola, whereas the other protagonist does not. The experimenter asked the child to indicate both protagonist's emotions. The score was calculated by using the specified SPSS script. Success on one component yields 1 point, resulting in a maximum score of 3 and a minimum score of 0. Acceptable levels of internal consistency have been found in other studies using the Kuder–Richardson coefficient as a measure of reliability (KR-20 = 0.72; da Glória Franco, Beja, Candeias, & Santos, 2017). The raw score Kuder–Richardson coefficient was estimated as .73 in this study.

Wechsler Preschool and Primary Scale of Intelligence – third edition (WPPSI-III; Wechsler, 2003). Two subscales from the Norwegian translation of WPPSI-III (Wechsler, 2003) were included, similarities and matrix reasoning. The similarities subscale was used to control for verbal (crystalized) intelligence and the matrix reasoning subscale was used to control for non-verbal (fluid) intelligence, as previous studies have found that child emotion understanding is related to verbal and non-verbal intelligence (Albanese, De Stasio, Di Chiacchio, Fiorilli & Pons, 2010; De Stasio, Fiorilli & Di Chiacchio, 2014). The WPPSI-III similarities subscale is correlated 0.75 with verbal IQ, and matrix reasoning is correlated 0.82 with performance IQ (Sattler, 2008).

Data analysis

Data analyses were conducted using IBM SPSS version 25 (IBM Corp, 20172017). Data were screened prior to analysis according to the

guidelines of Tabachnick and Fidell (2013). G*power version 3.1.9.4 was used to estimate power post hoc (Faul, Erdfelder, Lang & Buchner, 2007). Given $n = 40$ and an effect size of $r = 0.40$ (as suggested by Fabes *et al*., 2002), power = 0.78, which leaves a 22% chance of making a Type II error. Ideally, a power of 0.80 is desired (Howell, 2013). There were no missing values in TEC scores, three missing CCNES items (0.11%) and two missing ECBI items (0.15%). Little's MCAR test (CCNES, $p = 1.000$; ECBI, $p = 0.462$) indicated that items were missing at random (Tabachnick & Fidell, 2013) and so missing values were imputed using expectation maximization (EM). One univariate ECBI outlier with an extreme score was identified and changed to one unit more than the next most extreme score in the distribution (Tabachnick & Fidell, 2013). Normality was checked for skew and kurtosis, which was found to be acceptable for most variables (see Table 1), except for the TEC, punitive and minimizing reaction subscales. Bootstrapping is robust to violations of non-normality (Erceg-Hurn & Mirosevich, 2008; Field, 2013), and was therefore applied in all analyses. Heteroskedasticity and multicollinearity were not indicated.

Gender differences were tested with independent samples t-tests in IBM SPSS. Process analysis was conducted using model 4 in Hayes PROCESS Macro plugin v.3.0 (Hayes, 2018) in IBM SPSS. Process analysis was selected because this method provides a quantifiable estimate of indirect effects in cases where predictor and criterion variables are not significantly correlated, but still indirectly associated (Hayes, 2009, 2018).

The PROCESS macro calculated total, direct, indirect effects of variable X (i.e., parental expressive encouragement) on variable Y (i.e., child behavior problems). By default, bootstrap sampling with replacement is used in PROCESS analysis. As the product term in process analysis by definition is non-normal, bootstrapping is used because it is robust to non-normal data. Bootstrapping is an alternative approach to hypothesis testing in that it produces a 95% confidence interval (CI) instead of a p-value. If the CI does not include zero, one can be 95% confident that the true value of the indirect effect is different from zero (Field, 2013; Hayes, 2018).

RESULTS

Preliminary analyses

Descriptive statistics and correlations are presented in Table 1. Preschool children's emotion understanding was negatively correlated with parental ratings of externalizing child behavior problems, where children with greater emotion understanding had lower scores on behavior problems. Parental expressive encouragement (EE) was positively correlated with child emotion understanding, indicating that parents who encouraged their children to talk about emotions had children who were better at emotion understanding. EE was therefore included as a predictor (X) in the indirect model presented below (Fig. 2). Parental expressive encouragement was not significantly correlated with externalizing child behavior problems. The only parental ERSBs subscale that was correlated with externalizing child behavior problems was the parental distress reactions (DR) subscale, with higher DR associated with more externalizing child behavior problems. DR was therefore included as a covariate in the indirect model (see below). Minimizing reactions (MR) and Punitive reactions (PR) were not significantly correlated with either externalizing child behavior problems or emotion understanding. A paired samples t-test showed that parents reported significantly less minimizing and punitive responses of children's emotions compared to self-reported distress reactions ($p < 0.005$; $p < 0.001$, respectively). The emotion-focused reactions (EFR) and problem-focused reactions (PFR) scales were uncorrelated to child emotion understanding and behavior problems. Parental level of education and household income were not correlated with

Table 1. *Descriptive statistics and correlations*

Measure	*M*	*SD*	*n*	1	2	3	4	5	6	7	8	9	10	11
1. Child behavior problems	110.92	18.92	38											
2. Child emotion understanding	2.58	0.64	38	−0.40*										
3. Parental distress reactions	2.60	0.74	38	0.42**	−0.28									
4. Parental punitive reactions	1.83	0.57	38	0.22	−0.18	0.55**								
5. Parental minimizing reactions	2.11	0.74	38	0.24	−0.02	0.48**	0.57**							
6. Parental expressive encouragement	5.32	0.74	38	−0.16	0.42**	−0.21	−0.31	−0.30						
7. Parental emotion focused responses	5.79	0.66	38	0.29	−0.30	0.29	0.15	0.19	−0.14					
8. Parental problem focused responses	6.02	0.42	38	0.12	0.01	−.03	−.05	0.02	0.34*	0.43**				
9. Parental level of education	4.84	0.44	38	0.19	0.05	0.03	0.14	0.12	−0.13	0.31	0.29			
10. WPPSI similarities raw scores	25.92	8.91	38	−0.03	0.08	−0.14	−0.20	−0.26	0.27	0.08	−0.07	−0.13		
11. WPPSI matrices raw scores	16.47	4.84	38	−0.09	0.35*	−0.09	0.40	0.19	0.14	−0.19	−0.07	−0.08	0.33*	
12. Gender	.47	0.51	38	−0.17	−0.035	0.151	0.09	−0.05	0.03	0.06	−0.20	−0.26	0.17	−0.12

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

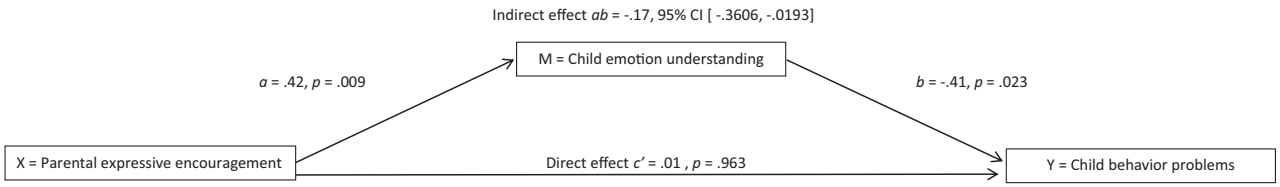

Fig 2. Estimated mediation model.

child emotion understanding or behavior problems. Children's mean scaled score on the WPPSI matrices (non-verbal intelligence) was 10 (score range = 3 to 17, *M* raw score = 16, raw score range = 21, *SD* = 4.76), and on WPPSI similarities (verbal intelligence) was 11 (score range = 5–19, *M* raw score = 25, raw score range = 44, *SD* = 9.46). This indicates that the participating children had normally distributed IQ scores. Child non-verbal intelligence was significantly correlated with child emotion understanding and therefore included as a covariate in the indirect model. Independent samples t-tests revealed no significant differences in mean scores between boys and girls on any study variable, nor any significant differences in mean scores between mother and fathers ratings on the ECBI and CCNES.

Main analyses

A regression analysis was conducted to investigate predictors of child emotion understanding. Parental expressive encouragement was the only CCNES subscale correlated with child emotion understanding in addition to WPPSI Matrices. The results are presented in Table 2.

This regression model explains 22% of the variance in child emotion understanding and show that both variables were significant predictors of child emotion understanding. The regression analysis shows that parental expressive encouragement remains a significant predictor of child emotion understanding in addition to non-verbal intelligence.

A second regression analysis was conducted to investigate predictors of externalizing child behavior problems. Child emotion understanding and parental distress reactions and were significantly correlated with externalizing child behavior problems and were thus included in the model. The model is presented in Table 3.

This regression model explains 22% of the variance in externalizing child behavior problems and showed that parental distress reactions and child emotion understanding are significant predictors of externalizing child behavior problems.

Table 2. *Predictors of child emotion understanding*

	Child emotion understanding	
Variable	β	p-value
Parental expressive encouragement	0.38**	0.014
WPPSI Matrices	0.30*	0.052
R^2	0.26	
F	6.24**	
Adjusted R^2	0.22	

Notes: N = 38.
**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Table 3. *Predictors of child behavior problems*

	Child behavior problems	
Variable	β	p-value
Parental distress reactions	0.33*	0.037
Child emotion understanding	−0.31*	0.047
R^2	0.26	
F	6.20**	
Adjusted R^2	0.22	

Notes: N = 38.
**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

A process analysis was conducted to test the mediation model proposed by Katz *et al*. (2012), in which the effect of parental emotion socialization on externalizing child behavior problems is hypothesized to be mediated by child emotion understanding. Parental expressive encouragement (EE) was entered as the predictor (X) variable, externalizing child behavior problems (ECBI) was entered as the outcome (Y) variable, and emotion understanding was entered as the mediator (M).

There was a significant indirect effect of parental expressive encouragement on externalizing child behavior problems, $ab = -0.17$, 95% CI [−0.3606, −0.0193]. The effect size was small (Cohen, 1988; Ellis, 2010; Lakens, 2013). There was no significant total effect ($\beta = -0.16$, $p = 0.328$) or direct effect ($\beta = 0.01$, $p = 0.963$) of parental expressive encouragement (X) on externalizing child behavior problems (Y), indicating an indirect relationship between parental expressive encouragement and externalizing child behavior problems through child emotion understanding (Baron & Kenny, 1986; Hayes, 2018). Effect sizes, direct and indirect effects are presented in Fig. 2.

DISCUSSION

The main aim of the current study was to replicate the finding that parental ERSBs predict child emotion understanding and behavior problems in a sample of Norwegian kindergarten children. In addition, we investigated indirect effects of parental emotion coaching on behavior problems through child emotion understanding. We found that Norwegian parents reported the same intensity of problem-focused responses and expressive encouragement as did the American sample in Fabes *et al*. (2002) psychometric evaluation of the Coping with Children's Negative Emotions Scale (CCNES). Our sample reported more distress and

emotion-focused reactions, and as expected less punitive and minimizing responses. We did not, however, test whether these cross-cultural differences were statistically significant.

The lower self-reported punitive and minimizing responses correspond to the notion that Norwegian parenting is dialogue-based with little use of force and aggression in parenting (Hollekim *et al*., 2016). We do not know, however, whether this finding is generalizable to the Norwegian population. Our sample was small, and the finding needs to be replicated in a larger study in order to draw generalizable conclusions.

In our sample, parents reported more emotion-focused responses compared to Fabes *et al*.'s. (2002) American sample. Although similar in terms, emotion-focused responses as operationalized in the CCNES and emotion coaching parenting as defined by Gottman *et al*. (1996, 1997) are not the same concepts. The emotion-focused items in the CCNES involve helping the child to feel better by way of distraction, relaxation, soothing, comforting, and to help the child to forget that bad things have happened by thinking happy thoughts. According to Gottman *et al*. (1996, p. 245) this was typical of emotionally dismissive parents, who: "felt that the child's sadness or anger were potentially harmful to the child, that it was the parents' job to change these toxic negative emotions as quickly as possible, that the child needed to realize that these negative emotions would not last and were not very important, and that it was the parent's job to convey to the child a sense that he or she could ride out these negative emotions without damage." Thus, in Gottman's terms, moving the child towards positive emotions, rather than valuing negative emotions as an opportunity for intimacy and teaching, is dismissive (Gottman *et al*., 1997). Emotion coaching, on the other hand, involves calmly "sitting with" emotions, helping the child to label emotions, conveying empathy, using validation, and tolerance of emotions, followed by problem solving and limit setting strategies only when the negative emotions have subsided (Gottman *et al*., 1996, 1997; Greenberg, 2002; Havighurst & Harley, 2007; Katz *et al*., 2012). The parental Expressive Encouragement CCNES scale closely resembles the concept of emotion coaching as described by Gottman *et al*. (1996, 1997). It involves parental encouragement for children to express fears, nervousness, sadness, anger and frustration, conveying the message that it is OK to cry or to be unhappy. In our Norwegian sample, mean scores on Expressive Encouragement were identical with mean scores in American sample in Fabes *et al.,* (2002).

There is a cultural stereotype suggesting that Norwegians typically are dismissive of emotions (Bourrelle, 2017). If true, this could explain the elevated scores on the dismissive scales (emotion-focused and distress reactions) in our Norwegian sample but does not explain why mean scores on emotion coaching (expressive encouragement) are identical with results from Fabes *et al.,* (2002) American sample. Replication in a larger, representative, cross-cultural sample is necessary to investigate these assumptions.

Predictors of emotion understanding and externalizing child behavior problems

In our sample of Norwegian parents, we investigated whether parental emotion socialization was related to child outcomes. Specifically, we investigated whether parental ERSBs were directly related to externalizing child behavior problems, or indirectly through emotion understanding. We also investigated whether the effect was moderated by gender. In the following discussion these findings will be explored in detail.

As expected, we replicated previous findings linking parental ERSBs to child emotion understanding and behavior problems in a Norwegian sample. Parental distress reactions was significantly correlated with externalizing child behavior problems ($r = 0.42$), parental expressive encouragement was significantly correlated with child emotion understanding ($r = 0.42$), and child emotion understanding, and behavior problems were significantly correlated ($r = -.40$). Thus, when parents became overwhelmed and very emotional in response to children's negative emotions (i.e., anger, sadness or fear), children were more likely to have externalizing behavior problems. When parents encouraged their children to talk about negative emotions, the children were more likely to have a better understanding of emotions, and children with better emotion understanding were less likely to exhibit behavior problems. We did not find that parental emotion- and problem-focused responses were related to either child emotion understanding or externalizing behavior problems. Parental emotion- and problem-focused responses where significantly correlated with each other, but uncorrelated with every other variable in the study (see Table 1).

Contrary to our expectations, parental distress reactions was the only non-supportive ERSB related to externalizing child behavior problems ($r = 0.42$). Distress, minimizing and punitive reactions were, however, significantly correlated, suggesting that parents who were distressed in reaction to their children's negative emotions also tended to react in a punitive and minimizing manner towards their children.

Neither of the non-supportive parental ERSBs (distress, minimizing and punitive reactions) were related to child emotion understanding. Fabes *et al*. (2002) found that parental distress reactions negatively predicted child decoding of emotion, but we did not replicate this finding in our Norwegian sample. A study of 325 Chinese children and their parents found that harsh parenting had a negative effect on child emotion understanding, and a positive effect on externalizing child behavior problems (Chang, Schwartz, Dodge & McBride-Chang, 2003). However, Breen *et al.,* (2018) failed to find an effect of non-supportive ERSBs for Latino mothers compared to European American mothers, suggesting that the effect of non-supportive ERSBs on child emotion understanding varies across cultures.

The indirect effects model

According to the Parental Meta-Emotion Philosophy (PMEP) framework, parental awareness, acceptance and coaching of emotions leads to better emotion understanding in children and less externalizing behavior problems (Katz *et al*., 2012). Using process analysis (Hayes, 2018), we tested the PMEP model. In our sample, we found evidence of a significant indirect relationship between parental expressive encouragement and behavior problems through child emotion understanding (see Fig. 2).

The process analysis showed that parental expressive encouragement was indirectly related to externalizing child behavior problems through child emotion understanding. Thus,

when parents encourage children to express emotions, children tend to have better emotion understanding which in turn is associated with less externalizing behavior problems. However, as data are cross-sectional, we cannot make any causal claims about directionality of effects.

Although we found support for the PMEP model, other interpretations of the data are also plausible. An alternative explanation is that children with poor emotion understanding discourage parents from talking about emotions, either indirectly (e.g., the child does not respond to the parent's efforts) or directly (e.g., the child actively refuses to talk about emotions). In kindergarten, externalizing behavior problems might exacerbate poor child emotion understanding through a process of peer rejection and lack of socialization in peer groups (Di Giunta, Pastorelli, Thartori, Bombi, Baumgartner, Fabes & Enders, 2018; Racz, Putnick, Suwalsky, Hendricks & Bornstein, 2017; Viana, Zambrana, Karevold & Pons, 2019; Wong, Chen & McElwain, 2019).

Parental distress reactions and externalizing child behavior problems were highly correlated in our sample. One interpretation of this correlation is that parental distress causes externalizing problem behavior in children. An alternative interpretation is that externalizing problem behavior makes parents more distressed. Eisenberg, Fabes, Shepard, Guthrie, Murphy, and Reiser (1999) found that the relationship between parental distress reactions and externalizing child behavior problems tends to be bi-directional, suggesting a transactional process in which parental factors (i.e., parental distress) interacts with externalizing child behavior problems in a negative spiral (Baker, McIntyre, Blacher, Crnic, Edelbrock & Low, 2003; Neece, Green & Baker, 2012; Sameroff, 2009). In a recent study of parental self-reported ERSBs (using the CCNES) and child externalizing behavior problems in 4, 5, 7 and 10 year olds, the researchers used structural equation models (SEM) to compare indirect or transactional effects (Mackler, Kelleher, Shanahan, Calkins, Keane & O'Brien, 2015). The evidence suggested a transactional, rather than indirect, process where parenting stress was affected by and affected externalizing behavior in children. It is therefore likely that the association found between parental distress reactions and externalizing behavior problems in our sample is bi-directional.

As expected, children's non-verbal intelligence also predicted child emotion understanding. This finding is consistent with findings from previous studies on emotion understanding. For example, a study of 4–6-year-old preschoolers (N = 274) found that children's non-verbal intelligence and attention was a predictor of emotion understanding above and beyond age and receptive language skills (von Salisch, Haenel & Freund, 2013). However, other studies have found that verbal intelligence also is a significant positive predictor of emotion understanding in children (De Stasio *et al*., 2014; Pons, Lawson, Harris & de Rosnay, 2003).

In sum, we found evidence of a direct, non-supportive link between parental distress reactions and externalizing child behavior problems. In addition, we found evidence of an indirect, supportive pathway from parental expressive encouragement via child emotion understanding to behavior problems. These findings provide support for the theoretical framework suggested by Katz *et al*. (2012).

LIMITATIONS

There are a number of limitations in this study. First, the cross-sectional design limits conclusions about causality. Process analysis can be applied in cross-sectional studies but does not allow any causal inference about the direction of effects (Hayes, 2018). Second, the sample (both size, representativeness and that it was a volunteer sample) limits the conclusions that can be drawn from this study and its generalizability. We also had limited statistical power to test all of the hypotheses (Howell, 2013), and the findings need to be replicated in longitudinal design with a larger more diverse Norwegian sample. Third, the Coping with Children's Negative Emotions Scale (CCNES; Fabes *et al*., 1990) is of limited validity in measuring Gottman *et al*.'s (1996) and Katz *et al.''*s (2012) conceptualization of emotion coaching meta-emotion philosophy. Specifically, the emotion-focused scale is problematic. The use of the Meta-Emotion Interview to assess Parental Meta-Emotion Philosophy (PMEP; Gottman *et al*., 1997) would have provided a stronger measure of the PMEP construct as would inclusion of an observation measures of parental ERSBs. Fourth, the inclusion of a measure of child emotion regulation and expressiveness would have provided a more comprehensive measurement of child emotional competence as suggested by Katz *et al*.'s (2002) theoretical framework.

IMPLICATIONS

This is the first study to replicate the finding that parental emotion-related socialization behaviors predict externalizing behavior problems and emotion understanding in a sample of Norwegian 5-year-old children. These findings provide further evidence that children benefit from parental encouragement to express emotions (Barrett, 2017). Future research should include interventions aimed at parents (such as the Tuning in to Kids parenting program; Havighurst & Harley, 2007), as well as school-based interventions (such as the PATHS curriculum; Greenberg, Kusche, Cook & Quamma, 1995). Parenting interventions should focus on reducing parental distress in response to children's negative emotions, in addition to teaching new parenting skills (i.e., emotion coaching, limit setting and problem solving).

CONCLUSION

This study investigated Eisenberg *et al*.'s (1998) concept of parental emotion-related socialization behaviors (ERSBs) as predictors of child emotion understanding and behavior problems in a Norwegian sample of 5-year-old children and their parents. We found evidence of an indirect, supportive pathway from parental expressive encouragement to externalizing child behavior problems via child emotion understanding, as well as a direct positive relationship between parental distress reactions and externalizing child behavior problems. Parents who encouraged children to talk about negative emotions had children with better emotion understanding and less behavior problems, whereas parents who got distressed in response to negative emotions had children with more behavior problems. These findings have important implications for interventions aimed at reducing

externalizing child behavior problems: the focus may need to be dually directed at increasing children's emotional competence as well as reducing parental distress in response to children's negative emotions.

AUTHOR CONTRIBUTIONS

RFB (main author), participation in the study implementation and data collection, responsible for the study data analyses and interpretations, and of the writing of the manuscript. SSH (coauthor), participation in the study planning, implementation and data collection, analyses and interpretation, and on the writing of the manuscript. FP (coauthor), participation in the study data interpretation and in the writing of the manuscript. EBK (senior author principal investigator of the overall project) Responsible for the overall project conception, implementation and data collection, participation in the study data collection, analyses and interpretation and in the writing of the manuscript. All authors contributed to manuscript revision, read and approved the submitted version.

DATA AVAILABILITY STATEMENT

Research data are not shared as our ethics approval does not allow for sharing of data (Karevold, 2017).

REFERENCES

Albanese, O., De Stasio, S., Di Chiacchio, C., Fiorilli, C. & Pons, F. (2010). Emotion comprehension: The impact of nonverbal intelligence. *The Journal of Genetic Psychology*, *171*, 101–115.

Axberg, U., Johansson Hanse, J. & Broberg, A.G. (2008). Parents' description of conduct problems in their children–A test of the Eyberg Child Behavior Inventory (ECBI) in a Swedish sample aged 3–10. *Scandinavian Journal of Psychology*, *49*, 497–505.

Baker, B.L., McIntyre, L., Blacher, J., Crnic, K., Edelbrock, C. & Low, C. (2003). Pre-school children with and without developmental delay: behaviour problems and parenting stress over time. *Journal of Intellectual Disability Research*, *47*, 217–230.

Bardack, S. & Obradović, J. (2017). Emotional behavior problems, parent emotion socialization, and gender as determinants of teacher-child closeness. *Early Education and Development*, *28*, 507–524.

Baron, R.M. & Kenny, D.A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.

Barrett, L.F. (2017). *How emotions are made: The secret life of the brain*. Boston, MA; New York, NY: Houghton Mifflin Harcourt.

Bender, P.K., Pons, F., Harris, P.L., Esbjørn, B.H. & Reinholdt-Dunne, M.L. (2015). Emotion understanding in clinically anxious children: A preliminary investigation. *Frontiers in Psychology*, *6*, 1916. https://doi.org/10.3389/fpsyg.2015.01916

Bourrelle, J.S. (2017). *The social guidebook to Norway: An illustrated introduction*. Oslo: Mondå.

Breen, A.I.P., Tamis-LeMonda, C.S. & Kahana-Kalman, R. (2018). Latina mothers' emotion socialization and their children's emotion knowledge. *Infant and Child Development*, *27*, e2077. https://doi.org/10.1002/icd.2077

Burns, G.L. & Patterson, D.R. (2000). Factor structure of the Eyberg Child Behavior Inventory: A parent rating scale of Oppositional Defiant Behavior Toward Adults, Inattentive Behavior, and Conduct Problem Behavior. *Journal of Clinical Child Psychology*, *29*, 569–577.

Chang, L., Schwartz, D., Dodge, K.A. & McBride-Chang, C. (2003). Harsh parenting in relation to child emotion regulation and aggression. *Journal of Family Psychology*, *17*, 598–606.

Cohen, J. (1988). Statistical power analysis for the behaviors science. (2nd ed.). Hillsdale, NJ: Laurence Erlbaum Associates.

Cole, P.M. & Tan, P.Z. (2015). Emotion socialization from a cultural perspective. In J.E. Grusec & P.D. Hastings (Eds.), *Handbook of socialization: Theory and research* (2nd edn) (pp. 499–519). New York: The Guilford Press.

IBM Corp (2017). IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.

Cunningham, J.N., Kliewer, W. & Garner, P.W. (2009). Emotion socialization, child emotion understanding and regulation, and adjustment in urban African American families: Differential associations across child gender. *Development and Psychopathology*, *21*, 261–283.

De Stasio, S., Fiorilli, C. & Di Chiacchio, C. (2014). Effects of verbal ability and fluid intelligence on children's emotion understanding. *International Journal of Psychology*, *49*, 409–414.

Dearing, E. & Zachrisson, H.D. (2017). Concern over internal, external, and incidence validity in studies of child-care quantity and externalizing behavior problems. *Child Development Perspectives*, *11*, 133–138.

Dearing, E., Zachrisson, H.D. & Nærde, A. (2015). Age of entry into early childhood education and care as a predictor of aggression: faint and fading associations for young Norwegian children. *Psychological Science*, *26*, 1595–1607.

Denham, S.A. (1986). Social Cognition, prosocial behavior, and emotion in preschoolers: contextual validation. *Child Development*, *57*, 194–201.

Denham, S.A., Bassett, H.H. & Wyatt, T. (2015). The socialization of emotional competence. In J.E. Grusec & P.D. Hastings (Eds.), *Handbook of socialization: Theory and research* (2nd edn) (pp. 590–613). New York: The Guilford Press.

Denham, S.A., Mitchell-Copeland, J., Strandberg, K., Auerbach, S. & Blair, K. (1997). Parental contributions to preschoolers' emotional competence: direct and indirect effects. *Motivation and Emotion*, *21*, 65–86.

Denham, S.A., Zoller, D. & Couchoud, E.A. (1994). Socialization of preschoolers emotion understanding. *Developmental Psychology*, *30*, 928–936.

Di Giunta, L., Pastorelli, C., Thartori, E., Bombi, A.S., Baumgartner, E., Fabes, R.A. & Enders, C.K. (2018). Trajectories of Italian children's peer rejection: associations with aggression, prosocial behavior, physical attractiveness, and Adolescent Adjustment. *Journal of Abnormal Child Psychology*, *46*, 1021–1035.

Eisenberg, N., Cumberland, A. & Spinrad, T.L. (1998). Parental socialization of emotion. *Psychological Inquiry*, *9*, 241–273.

Eisenberg, N., Fabes, R.A., Shepard, S.A., Guthrie, I.K., Murphy, B.C. & Reiser, M. (1999). Parental reactions to children's negative emotions: Longitudinal relations to quality of children's social functioning. *Child Development*, *70*, 513–534.

Ellis, P.D. (2010). *The essential guide to effect sizes: Statistical power, meta-analysis, and the interpretation of research results*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511761676

Erceg-Hurn, D.M. & Mirosevich, V.M. (2008). Modern robust statistical methods: An easy way to maximize the accuracy and power of your research. *American Psychologist*, *63*, 591–601.

Eyberg, S.M. & Pincus, D. (1999). *ECBI & SESBI-R: Eyberg child behavior inventory and Sutter-Eyberg student behavior inventory-revised: Professional manual*. Odessa, FL: Psychological Assessment Resources.

Fabes, R.A., Eisenberg, N. & Bernzweig, J. (1990). *Coping with children's negative emotions scale (CCNES): Description and scoring*. Tempe, AZ: Arizona State University.

Fabes, R.A., Poulin, R.E., Eisenberg, N. & Madden-Derdich, D.A. (2002). The coping with children's negative emotions scale (CCNES):

Psychometric properties and relations with childrens emotional competance. *Marriage & Family Review*, *34*, 285–310.
Faul, F., Erdfelder, E., Lang, A.-G. & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175–191.
Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage.
da Glória Franco, M., Beja, M. J., Candeias, A. & Santos, N. (2017). Emotion Understanding, Social Competence and School Achievement in Children from Primary School in Portugal. *Frontiers in Psychology*, *8*, 1376. https://doi.org/10.3389/fpsyg.2017.01376
Gottman, J.M., Katz, L.F. & Hooven, C. (1996). Parental meta-emotion philosophy and the emotional life of families: Theoretical models and preliminary data. *Journal of Family Psychology*, *10*, 243–268.
Gottman, J.M., Katz, L.F. & Hooven, C. (1997). *Meta-emotion: How families communicate emotionally*. Mahwah, NJ: Lawrence Erlbaum Associates.
Greenberg, L.S. (2002). *Emotion-focused therapy: Coaching clients to work through their feelings*. Washington, DC: American Psychological Association.
Greenberg, M.T., Kusche, C.A., Cook, E.T. & Quamma, J.P. (1995). Promoting emotional competence in school-aged children – the effects of the PATHS curriculum. *Development and Psychopathology*, *7*, 117–136.
Grusec, J.E. (2011). Socialization processes in the family: Social and emotional development. In S.T. Fiske, D.L. Schacter & S.E. Taylor (Eds.), *Annual review of psychology*, (vol *62* pp. 243–269). Palo Alto, CA: Annual Reviews.
Harris, P.L., de Rosnay, M. & Pons, F. (2005). Language and children's understanding of mental states. *Current Directions in Psychological Science*, *14*, 69–73.
Harris, P.L., Johnson, C.N., Hutton, D., Andrews, G. & Cooke, T. (1989). Young children's theory of mind and emotion. *Cognition and Emotion*, *3*, 379–400.
Havighurst, S.S. & Harley, A.E. (2007). *Tuning in to Kids: Emotionally intelligent parenting program manual*. Melbourne: University of Melbourne.
Havnes, T. & Mogstad, M. (2011). No child left behind: Subsidized child care and children's long-run outcomes. *American Economic Journal: Economic Policy*, *3*, 97–129.
Hayes, A.F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76*, 408–420.
Hayes, A.F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd edn). New York: The Guilford Press.
Hollekim, R., Anderssen, N. & Daniel, M. (2016). Contemporary discourses on children and parenting in Norway: Norwegian Child Welfare Services meets immigrant families. *Children Youth Services Review*, *60*, 52–60.
Howell, D.C. (2013). *Statistical methods for psychology* (8th edn). Belmot, CA: Wadsworth Cengage Learning.
Hukkelberg, S.S., Reedtz, C. & Kjøbli, J. (2018). Construct validity of the Eyberg child behavior inventory (ECBI). *European Journal of Psychological Assessment*, *34*, 14–21.
Johnson, A.M., Hawes, D.J., Eisenberg, N., Kohlhoff, J. & Dudeney, J. (2017). Emotion socialization and child conduct problems: A comprehensive review and meta-analysis. *Clinical Psychology Review*, *54*, 65–80.
Karevold, E.B. (2017). Child self-regulation: Impact and neurocognitive underpinnings of a psychosocial intervention. Unpublished manuscript.
Kårstad, S.B., Kvello, Ø., Wichstrøm, L. & Berg-Nielsen, T. (2014). What do parents know about their children's comprehension of emotions? Accuracy of parental estimates in a community sample of pre-schoolers. *Child: Care, Health and Development*, *40*, 346–353.
Kårstad, S.B., Vikan, A., Berg-Nielsen, T.-S., Moreira, L., de Abreu, E.L. & Rique, J. (2016). Young Brazilian children's emotion understanding: A comparison within and across Cultures. *Journal of Educational and Developmental Psychology*, *6*, 113–124.
Kårstad, S.B., Wichstrom, L., Reinfjell, T., Belsky, J. & Berg-Nielsen, T.S. (2015). What enhances the development of emotion understanding in young children? A longitudinal study of interpersonal predictors. *British Journal of Developmental Psychology*, *33*, 340–354.
Katz, L.F., Maliken, A.C. & Stettler, N.M. (2012). Parental meta-emotion philosophy: A review of research and theoretical framework. *Child Development Perspectives*, *6*, 417–422.
Laible, D. (2004). Mother-child discourse in two contexts: links with child temperament, attachment security, and socioemotional competence. *Developmental Psychology*, *40,* 979–992.
Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: a practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, *4*.
Mackler, J.S., Kelleher, R.T., Shanahan, L., Calkins, S.D., Keane, S.P. & O'Brien, M. (2015). Parenting stress, parental reactions, and externalizing behavior from ages 4 to 10. *Journal of Marriage and Family*, *77*, 388–406.
Martin, S.E., Williamson, L.R., Kurtz-Nelson, E.C. & Boekamp, J.R. (2015). Emotion understanding (and misunderstanding) in clinically Rreferred preschoolers: The role of child language and maternal depressive symptoms. *Journal of Child and Family Studies*, *24*, 24–37.
Morris, A.S., Silk, J.S., Steinberg, L., Myers, S.S. & Robinson, L.R. (2007). The role of the family context in the development of emotion regulation. *Social Development (Oxford, England)*, *16*, 361–388.
Neece, C.L., Green, S.A. & Baker, B.L. (2012). Parenting stress and child behavior problems: A transactional relationship across time. *American Journal on Intellectual and Developmental Disabilities*, *117*, 48–66.
Nelson, J.A. & Boyer, B.P. (2018). Maternal responses to negative emotions and child externalizing behavior: Different relations for 5-, 6-, and 7-year-olds. *Social Development*, *27* 482–494.
O'Brien, M., Brandth, B. & Kvande, E. (2007). Fathers, work and family life. *Community, Work & Family*, *10*, 375–386.
Pons, F. & Harris, P.L. (2000). *Test of emotion comprehension: TEC*. Oxford: Oxford University Press.
Pons, F., Harris, P.L. & de Rosnay, M. (2004). Emotion comprehension between 3 and 11 years: Developmental periods and hierarchical organization. *European Journal of Developmental Psychology*, *1*, 127–152.
Pons, F., Lawson, J., Harris, P.L. & de Rosnay, M. (2003). Individual differences in children's emotion understanding: Effects of age and language. *Scandinavian Journal of Psychology*, *44*, 347–353.
Racz, S.J., Putnick, D.L., Suwalsky, J.T.D., Hendricks, C. & Bornstein, M.H. (2017). Cognitive abilities, social adaptation, and externalizing behavior problems in childhood and adolescence: specific cascade effects across development. *Journal of Youth and Adolescence*, *46*, 1688–1701.
Raval, V.V. & Walker, B.L. (2019). Unpacking 'culture': Caregiver socialization of emotion and child functioning in diverse families. *Developmental Review*, *51*, 146–174.
Raval, V.V., Walker, B.L. & Daga, S.S. (2018). Parental socialization of emotion and child functioning among Indian American families: Consideration of cultural factors and different modes of socialization. In S.S. Chuang & C.L. Costigan (Eds.), *Parental roles and relationships in immigrant families: An international approach* (pp. 69–89). Cham: Springer International Publishing.
Reedtz, C., Bertelsen, B., Lurie, J., Handegård, B.H., Clifford, G. & Mørch, W.-T. (2008). Eyberg Child Behavior Inventory (ECBI): Norwegian norms to identify conduct problems in children. *Scandinavian Journal of Psychology*, *49*, 31–38.
Ribeiro, L.A. & Zachrisson, H.D. (2019). Peer effects on aggressive behavior in Norwegian child care centers. *Child Development*, *90*, 876–893.
Salmon, K. & Reese, E. (2016). The benefits of reminiscing with young children. *Current Directions in Psychological Science*, *25*, 233–238.
Sameroff, A. (2009). *The transactional model*. Washington, DC: American Psychological Association.
Sattler, J.M. (2008). *Assesment of children: Cognitive foundations* (5th edn). La Mesa, CA: Jerome M. Sattler, Publisher.

Southam-Gerow, M.A. & Kendall, P.C. (2000). A preliminary study of the emotion understanding of youths referred for treatment of anxiety disorders. *Journal of Clinical Child Psychology*, *29*, 319–327.

Southam-Gerow, M.A. & Kendall, P.C. (2002). Emotion regulation and understanding: Implications for child psychopathology and therapy. *Clinical Psychology Review*, *22*, 189–222.

SSB (2018). *Barnehager*. Retrieved from https://www.ssb.no/utdanning/statistikker/barnehager/aar-endelige. Accessed 14 December 2018.

SSB (2019). *Fedrekvoten forsetter å fenge*. Retrieved from https://www.ssb.no/befolkning/artikler-og-publikasjoner/fedrekvoten-forsetter-a-fenge. Accessed 23 January 2020.

Strand, P.S., Barbosa-Leiker, C., Piedra, M.A. & Downs, A. (2015). Exploring the bidirectionality of emotion understanding and classroom behavior with Spanish- and English-speaking preschoolers attending Head Start. *Social Development*, *24*, 579–600.

Tabachnick, B.G. & Fidell, L.S. (2013). *Using multivariate statistics* (6th edn). Boston, MA: Pearson Education.

Tang, Y., Harris, P.L., Pons, F., Zou, H., Zhang, W. & Xu, Q. (2018). The understanding of emotion among young Chinese children. *International Journal of Behavioral Development*, *42*, 512–517.

Trentacosta, C.J. & Fine, S.E. (2010). Emotion knowledge, social competence, and behavior problems in childhood and adolescence: A meta-analytic review. *Social Development*, *19*, 1–29.

Viana, K.M.P., Zambrana, I.M., Karevold, E.B. & Pons, F. (2019). Emotions in motion: Impact of emotion understanding on children's peer action coordination. *Cognition and Emotion*, 1–8. https://doi.org/10.1080/02699931.2019.1669535

Vikan, A., Kårstad, S.B. & Dias, M. (2013). Young Brazilian and Norwegian children's concepts of strategies and goals for emotion regulation. *Journal of Early Childhood Research*, *11*, 63–77.

von Salisch, M., Haenel, M. & Freund, P.A. (2013). Emotion understanding and cognitive abilities in young children. *Learning and Individual Differences*, *26*, 15–19.

Wechsler, D. (2003). *Wechsler Preschool and Primary Scale of Intelligence – Norsk versjon*. Bromma: Pearson Assessment.

Wong, M.S., Chen, X. & McElwain, N.L. (2019). Emotion understanding and maternal sensitivity as protective factors against hostile attribution bias in anger-prone children. *Social Development*, *28*, 41–56.

Zachrisson, H.D. & Dearing, E. (2015). Family income dynamics, early childhood education and care, and early child behavior problems in Norway. *Child Development*, *86*, 425–440.

Zachrisson, H.D., Dearing, E., Lekhal, R. & Toppelberg, C.O. (2013). Little evidence that time in child care causes externalizing problems during early childhood in Norway. *Child Development*, *84*, 1152–1170.

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