



## The impact of classroom quality on young children's emotion understanding

A. N. Veraksa , M. N. Gavrilova & F. Pons

To cite this article: A. N. Veraksa , M. N. Gavrilova & F. Pons (2020): The impact of classroom quality on young children's emotion understanding, European Early Childhood Education Research Journal, DOI: [10.1080/1350293X.2020.1817240](https://doi.org/10.1080/1350293X.2020.1817240)

To link to this article: <https://doi.org/10.1080/1350293X.2020.1817240>



Published online: 07 Sep 2020.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)



# The impact of classroom quality on young children's emotion understanding

A. N. Veraksa <sup>a</sup>, M. N. Gavrilova <sup>a</sup> and F. Pons<sup>b</sup>

<sup>a</sup>Department of Psychology, Lomonosov Moscow State University, Moscow, Russia; <sup>b</sup>Department of Psychology, University of Oslo, Oslo, Norway

## ABSTRACT

Many studies have been conducted to identify the factors explaining individual differences in children's emotion understanding (capacity to comprehend the nature, causes and consequences of emotions in the self and others). These studies represent a significant advance in our comprehension of the origins of the child's capacity to understand emotions. However, almost nothing is known about the impact of classroom quality on children's emotion understanding even though Western children spend about six to eight hours per day in school. In this study, we used the Early Childhood Environmental Rating Scale – Revised edition [ECERS-R] to evaluate global childcare classroom quality in 31 classrooms located in Moscow (middle SES areas) and the Test of Emotion Comprehension [TEC] to assess their emotion understanding ( $N = 592$ ) while controlling for the effects of age, gender and non-verbal fluid intelligence. We hypothesized that children from high-quality classrooms would outperform their peers from low-quality classrooms in terms of their understanding of emotions. The results showed, albeit controlling for gender, age, non-verbal fluid intelligence, that children from low-quality classrooms had a significantly higher level of emotion understanding than children from high-quality classrooms. Results are discussed both in terms of their theoretical and practical implications.

## KEYWORDS

Classroom quality; ECERS-R; global quality; emotion understanding; TEC

## Introduction

Emotion understanding (EU) can be defined as the capacity to comprehend the nature, causes and consequences of emotions in the self and others, its main function being to identify, describe, explain, predict, control the expression and regulate the experience of emotion in everyday life (Pons and Harris 2019). Studies have revealed a significant impact of children's EU on their psychological well-being. Children who are good at understanding emotions are less likely to experience anxiety, depression and anger (e.g. Banerjee and Henderson 2001; Trentacosta and Fine 2010). Research has indicated that children with good EU demonstrate better results on prosocial competences such as interactive peer play (Mathieson and Banerjee 2011), index of social problem solving (Franco et al. 2017), prosocial behaviors (Liao, Li, and Su 2014). More recently, an increasing number of studies has shown that children's emotion understanding is also a good

**CONTACT** A. N. Veraksa [veraksa@yandex.ru](mailto:veraksa@yandex.ru)

© 2020 EECERA

predictor of their school adjustment (Garrett-Peters, Castro, and Halberstadt 2017) and achievement (Franco et al. 2017; Józsa and Barrett 2018).

Many studies showed that children's EU goes through 3 main stages (e.g. Pons, Harris, and de Rosnay 2004). Children aged between 3 and 5 years (external stage) are able to recognize basic emotions via facial expressions and to understand the impact of external causes and desires on emotions. Later, between the age of 5–7 years, children gradually begin to understand mental causes (e.g. beliefs, memories) that could trigger emotions and that there's a difference between the appearance and the experience of emotions (mental stage). At the third stage, between the ages of 7–9, children start to realize that emotions can be regulated by the means of cognitive strategies, that moral rules have an impact on emotions and that several emotional experiences can be mixed (reflexive stage) (Pons and Harris 2005; Pons et al. 2003; Saltzman et al. 2018).

There is abundant evidence that children's ability to understand emotions varies within particular stages of the above-mentioned periodization. Much research has been devoted to identify factors related to the child or his/her family environment explaining individual differences in children's EU, such as parental occupational class (Kårstad 2016), mothers' education (Cutting and Dunn 1999), maternal emotion-related beliefs (Garrett-Peters, Castro, and Halberstadt 2017), the parents' ability to accurately estimate their child's EU (Kårstad 2016), parents' emotional vocabulary (Harris, De Rosnay, and Pons 2005; Ornaghi, Brockmeier, and Gavazzi 2011). A number of studies have focused on cognitive and affective factors that determine differences in the EU (De Stasio, Fiorilli, and Di Chiacchio 2014; von Salisch, Haenel, and Freund 2013). However, a review of the literature has shown that to date, no research had been carried out to analyze the impact of classroom quality on children's EU. Meanwhile, this factor could prove very important for EU development due to the large amount of time children normally spend in kindergartens and schools.

Classroom quality of educational environment is explored through the three main components: structural, process, and global quality (Vandell and Wolfe 2000). Structural quality assesses classroom materials, curriculum, teacher education, and teacher–child ratio (NICHD Early Child Care Research Network 2005). Process quality focuses on more dynamic aspects related specifically to teacher–child and peer-to-peer interactions in classrooms (Hamre and Pianta 2007; Vandell and Wolfe 2000). The combined assessment of structural quality and process quality represents global quality and provides an understanding of classroom environment. Early Childhood Environment Rating Scale (ECERS-R) is one of the most widely used tools for evaluating global quality of school environment. The investigation of the impact of classroom quality on preschoolers' achievements is increasingly attracting researchers in the field of developmental and educational psychology. The results of the EPPSE (Effective Pre-School, Primary and Secondary Education) study showed that classroom quality has a long-term impact on the level of academic achievement in school: the adolescents who attended kindergartens with high classroom quality at an early age over a long period of time did better at their final exams than those who did not have such experience (Sylva et al. 2004). These findings have contributed to the acknowledgement of the importance of the educational environment for a child's psychological development in several works (Vandell et al. 2010; Sammons et al. 2014; Hall et al. 2013). But the majority of studies on classroom quality (are aimed at analyzing) were aimed to analyze children's outcomes that fall under the

‘school readiness’ category. A systematic review (Brunsek et al. 2017; Nisskaya 2018) of relationship between the ECERS-R and child’s outcomes does not include studies of emotional outcomes. Brunsek pointed out the need for studies that address the association between the ECERS-R and social/emotional outcomes in the future.

## Present study

Given that the EU gradually develops in the preschool and school years and has variability associated not only with child’s cognitive or affective factors but also with some environmental family factors, it is of interest to establish whether the classroom quality impacts the EU in 5–6 years old children. As far as we know, no studies to date have examined the possible impact of this variable on EU. Hence, in an attempt to fill this gap in the literature, this study was designed to investigate the impact of classroom quality on EU in a sizeable sample of children aged between 5 and 6 years.

More specifically, we hypothesized that children from classrooms with high-quality settings would perform better than their peers from low-quality settings on general level of EU and its components. Because previous studies exploring the development of EU have reported association between non-verbal fluid intelligence and EU (Albanese et al., 2010; De Stasio, Fiorilli, and Di Chiacchio 2014; Rieffe and Wiefferink 2017; von Salisch, Haenel, and Freund 2013), gender and EU (Kårstad 2016), we also conducted exploratory analysis in which non-verbal fluid intelligence and gender were included as control variables for EU. Other variables that could have a potential impact on the relationship under study, such as age and family socioeconomic status were also controlled.

## Method

### Participants

Data collection was carried out in 11 preschools in Moscow (Russia), which resulted in a sample of 592 typically-developing 5–6 years old ( $M = 5.71$  y. o.,  $SD = .52$ ) children (50.1% girls) from 31 same-age kindergarten classrooms. The group size varied from 8 to 27 children ( $M = 19.23$ ,  $SD = 5.37$ ). For the study, we selected kindergartens in the districts characterized by the same level of infrastructure and designed to accommodate primarily medium-income families. Since children in Russia are normally assigned to the kindergartens according to their registered residence address, this allows us to infer that the sample is homogeneous in terms of the family’s socioeconomic status. In Russia children typically enter kindergarten at the age of 3 and stay there up to the age of 7 years. It is not uncommon that they spend all these 4 years without changing the classroom, the teacher, the peers or the physical environment. In Moscow children typically spend up to 8–12 h 5 days a week in a kindergarten.

Out of 31 classrooms, we selected 4 classrooms with the highest classroom quality settings and 4 with the lowest, based on ECERS-R total scores. The classrooms have been selected in such a way as to create quasi-experimental conditions in order to avoid the problem of a non-linear interaction between children’s outcomes and quality settings. Since those two extreme groups ( $N = 152$ ) had unequal gender ratios, at the next step we formed two groups with an identical gender composition using a random numbers



generator: low-quality classrooms ( $N = 60$ , 51% girls), high-quality classrooms ( $N = 60$ , 49% girls). Further analysis did not include 32 children who were not selected for any of the groups by a random number's generator.

### Measures

To assess children's performance in terms of the EU, we used the Russian version of the Test of Emotion Comprehension (TEC) (Pons and Harris 2000; Almazova et al. 2019). The test materials consisted of an A4 picture book (versions for boys and girls) with simple cartoon scenarios on the upper part of each page. For each scenario four possible emotional outcomes were proposed at the bottom of the same page (in the form of drawings of different facial expressions). The child was told the story and then asked to choose the drawing of a feeling that the hero of the story would supposedly have. We also designed control questions to check children's comprehension of the situation. Children's answers were nonverbal. The test provides information about nine components of emotion understanding: (I) recognition of emotions, (II) understanding of external causes of emotions, (III) understanding of emotions based on desires, (IV) understanding of emotions based on beliefs, (V) understanding of the influence of memories on emotions, (VI) understanding of the possibilities of regulation of emotions, (VII) understanding of hidden and true emotions, (VIII) understanding of mixed emotions, (IX) understanding of moral emotions. For further analysis, these nine components can be divided into three groups depending on their complexity: External, Mental and Reflexive. The External components focus on the ability to recognize emotions, to understand the external causes of emotions and the impact of desires on emotions. The Mental components concern the understanding of the role of beliefs and memories in relation to emotions, as well as the understanding of hidden emotions. The Reflexive components are the most complex and evaluate the understanding of mixed feelings, the possibilities of emotion regulation via cognitive strategies and the influence of moral self-reflective rules on emotions. The score can vary from 0 to 3 for each component. Accordingly, the overall level of understanding of emotions is expressed by the sum of scores from 0 to 9. Previous studies have shown that the TEC has good reliability and validity (e.g. Tang et al. 2018 for a review).

The Russian version of ECERS-R (Early Childhood Environment Rating Scale – Revised) (Harms, Clifford, and Cryer 2016) was applied to measure classroom quality. The authors of this scale report that it's designed 'to see how well a program is meeting children's needs – to see whether children receive the protection, learning opportunities, and positive relationships they need for successful development' (Cryer, Harms, and Riley 2003, 150). ECERS-R assesses classroom physical environment, materials, warmth and responsivity in child–teacher interaction. It consists of seven scales: Space and furnishings, Personal care, Language and reasoning, Activities, Interactions, Program structure, and Parents/staff. The average on all scales represents the global classroom quality. The validity, reliability and adequacy of the results obtained with its help are confirmed by a series of studies (Sylva et al. 2010). Depending on conditions observed in a classroom, an external expert assigns a mark from 1 to 7 to each of seven scales (6–7 items per scale, 43 items in total). The indicators describe specific requirements for each scale and can be presented in scores 1 (inadequate), 3 (minimum), 5 (good) and 7 (excellent).

Previously, the Russian version of ECERS-R has been tested on a sample of 1336 preschool groups in different regions of Russia (Bodrova and Yudina 2018).

In order to assess the children's non-verbal fluid intelligence, the Colored Progressive Matrices (Raven et al., 1991) test was used.

### Procedure

Data collection for the study was conducted in two stages. First, 31 kindergarten classrooms were assessed in terms of classroom quality using the Russian version of ECERS-R (Harms, Clifford, and Cryer 2016). The assessment was carried out through a 4-hour observation in each classroom. Second, the evaluation of the children's EU abilities and non-verbal fluid intelligence was conducted individually over two sessions lasting 10–15 min each in a quiet area away from classrooms. The classrooms and children were observed and tested in September and October 2018. Written agreements from each school administration were provided. Parents or caregivers of all participants also provided their written informed consent for the children to take part in the study. Due to their age, children did not sign any forms, but all gave their verbal consent prior to testing. The study and consent procedures were approved by the Ethics Committee of Faculty of Psychology at Lomonosov Moscow State University (the approval No: 2018/41).

### Results

Results are organized into three sections. We first provide descriptive information about children's emotion understanding, non-verbal fluid intelligence, gender, age and all ECERS-R subscales (see Tables 1 and 2). Next, using a linear regression, we examine age, gender, non-verbal fluid intelligence and classroom quality as predictors of total level of children's emotion understanding. In the third section, we present the results obtained using independent-sample *t* tests to explore differences in EU performance between children from extremely high- and low-quality classroom settings. Statistical analysis was performed using SPSS version 23.0.

Descriptive statistics of age, non-verbal fluid intelligence, TEC components both for the whole sample (31 classrooms) and for two types of classroom quality settings: low-quality classrooms settings (4 classrooms) and high-quality classrooms settings (4 classrooms) are presented in Table 1.

**Table 1.** Descriptive statistics by age, non-verbal fluid intelligence, TEC components for the entire sample ( $N = 592$ ), and for extremely high- ( $N = 60$ ) and low-quality ( $N = 60$ ) classroom settings.

Parameter	Entire sample		Low-quality classrooms settings		High-quality classrooms settings	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age (in month)	66.07	3.41	67.23	4.18	68.05	4.31
Raven	13.78	6.86	14.32	7.34	12.25	7.27
TEC External	2.64	.61	2.52	.65	2.57	.65
TEC Mental	1.46	.87	1.72	.82	1.35	.84
TEC Reflective	1.11	.85	1.28	.80	1.03	.80
TEC Total	5.22	1.50	5.52	1.56	4.95	1.38

**Table 2.** Descriptive statistics by all ECERS-R subscales for the entire sample ( $N = 592$ ) and for low- ( $N = 60$ ) and high-quality ( $N = 60$ ) classrooms settings.

Parameter	Entire sample		Low-quality classrooms settings		High-quality classrooms settings	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Space and furnishings	3.20	.58	2.63	.23	4.02	.24
Personal care	3.31	.90	2.26	.40	4.21	.44
Language and reasoning	3.26	.50	2.82	.45	3.80	.20
Activities	2.49	.67	1.72	.04	3.52	.65
Interactions	3.68	.84	2.49	.40	5.00	.78
Program structure	2.80	.95	2.11	.37	4.38	.95
Parents/staff	3.40	1.08	2.29	.33	4.89	.60
ECERS-R Total Score	3.16	.63	2.33	.12	4.26	.16

Exploratory analysis showed that the general level of EU was normally distributed with a minimum of 1 and a maximum of 9 (range 0–9). On TEC External component, children in both extremely high- and low-quality classrooms settings gained close to the maximum scores which indicates the ceiling effect (range 0–3). For Mental and Reflective components, the average scores were within the range of 1–1.72 (range 0–3).

Descriptive statistics for all ECERS-R subscales both for the entire sample (50% girls) and separately for two extremely low- (50.1% girls) and high-quality (49.9% girls) classrooms settings are provided in Table 2.

Low-quality classroom settings correspond to the minimum quality level according to the ECERS-R' authors. Thus, the low classroom quality is characterized by a minimum set of equipment and materials and basic safety maintenance. Most of the activities are carried out for all children at the same time; there's neither space for privacy, nor separation between active and quiet play areas; teachers do not interfere in children's interaction; they only intervene in case of danger of physical harm to children, but they neither teach children to communicate with each other, nor do they help them to join others, make friends and create game ideas. High-quality classroom settings correspond to the moderate quality according to the ECERS' authors. This level of classroom quality, apart from safety maintenance and materials, is characterized by the following: there are separate zones for active and quiet games, as well as places for privacy; teachers help children to find interesting activities and prevent conflicts; conditions for communication and play in small groups are created.

Next, linear regression analysis for TEC was conducted to examine the potential impact of age, gender, and non-verbal fluid intelligence on the total level of children's emotion understanding. The results indicate that EU was predicted by age ( $\beta = .134$ ,  $P < 0.01$ ) and non-verbal fluid intelligence ( $\beta = 0.534$ ,  $P < 0.01$ ). Gender was not a significant predictor ( $\beta = 0.534$ ,  $P < 0.01$ ). The overall model fit was  $R^2 = 0.46$ .

As a last step, we conducted an analysis of differences in EU performance between children from extremely high- and low-quality classroom settings. Prior to that type of analysis, we verified that there were no significant group differences in age and non-verbal fluid intelligence between children from extremely high- and low-quality classroom settings. Significant differences were found in TEC Mental ( $t(118) = 0.195$ ,  $p = 0.017$ ) and TEC Total ( $t(118) = 2.012$ ,  $p = 0.04$ ). Trend to significant differences was found in TEC Reflective component ( $t(118) = 1.028$ ,  $p = 0.09$ ). No significant differences between groups in TEC External component were found.



## Discussion and conclusion

The proposed study evaluated the impact of classroom quality on EU in preschool-age children. A review of the literature has shown that to date, no research had been carried out to analyze the impact of classroom quality on children's EU. Previous studies of the relationship between classroom quality and children's outcomes have been focusing mainly on children's 'school readiness' or behavioral problems (Brunsek et al. 2017). No research has been conducted to examine the impact of classroom quality on EU in preschool age.

Three main findings relevant to our research hypotheses were obtained. They are discussed below, particularly but not exclusively in relation to their possible applications. First, we hypothesized that children who attend high-quality classrooms would outperform their peers from low-quality classrooms. The analysis revealed significant differences in EU between children from extremely high- and low-quality classroom settings. The obtained results did not support our hypothesis. Contrary to the expectation, children from low-quality classroom settings showed significantly higher scores on general level of EU and on understanding of mental causes of emotions than those who attended high-quality classrooms. A difference close to significant was found in the Reflective component which evaluates the understanding of mixed moral feelings and strategies of emotion regulation. The analysis did not reveal any differences in External component of EU: according to descriptive statistics, children's results on this component were on average close to a maximum score, which indicates the ceiling effect. This result corresponds to a development periodization of emotion understanding (Pons, Harris, and de Rosnay 2004) according to which the understanding of external causes of emotions forms at an earlier age.

Unlike previous studies which showed weak positive associations between classroom quality and children's social (Ishimine, Wilson, and Evans 2010) and cognitive (Sylva et al. 2011) skills, the current study demonstrated the negative impact of high-quality classroom settings on children's EU. It seems that some factors inherent in low classroom quality plays a positive role in the development of children's EU. These results are interesting in that they show that the EU is better developed among children who had long experience of attending classrooms with poor quality of care and adult supervision. This could suggest either that (1) there are some conditions that urge the use of EU skills in a low-quality classroom settings (e.g. peer interaction, that is not organized by the preschool teacher; higher rate of conflicts with peers due to insufficient materials and toys; lack of privacy, etc.), or (2) that this study did not appropriately capture other aspects of classroom quality that may also affect the emotion understanding.

A comprehensive consideration of the differences between the two compared levels of classroom quality has led us to make several assumptions about the potential developmental opportunities for EU in low-quality classroom settings. First, in low-quality classrooms teachers only interrupt negative peer-to-peer interaction if it threatens children's safety; teachers do not help children to resolve conflicts; there's a lack of materials and space for motor skills, play activities, art, etc. For these reasons, children in low-quality classrooms are likely to have a lot of experience competing for materials and space, and therefore experience of conflict. Although conflicts between children are often seen as undesirable social behavior which need to be prevented, recent research has shown that peer-to-peer conflict is a part of social interaction in which children learn to maintain



their group and individual boundaries (e.g. Farris 2000; Kyratzis and Guo 2001), to engage in social relationships (Comparini, Douglas, and Perez 2014), to understand the position and desires of others (Laursen, Finkelstein, and Betts 2001). And vice versa, Liao and colleagues found that children's ability to recognize emotions was linked to their propensity to reconcile in conflict situations (Liao, Li, and Su 2014). Mathieson & Banerjee showed that, for boys, EU served as positive predictor of interactive peer play and negative predictor of disjointed play (Mathieson and Banerjee 2011). In the absence of sufficient toys and materials, children are prompted to negotiate through bilateral conflict resolution strategies (Singer et al. 2012). However, more research is needed to identify the specific relationship between classroom quality, peer conflicts and children's EU.

Another important feature of low-quality classroom setting is a rigid and non-individualized daily routine in which children's preferences and initiatives are not taken into account, while the high-quality classroom settings are characterized by a balance between strict structuring and flexibility of the daily routine. The vast majority of activities in low-quality classrooms are characterized by frontal class work, while in high-quality classrooms children are involved in activities in small groups and can choose the activity (Fuligni et al. 2012). This means that during the day children in low-quality classroom settings are more likely to find themselves participating in joint activity in a large group. The preschool teacher has to be very disciplined in order to manage a large group of children in a classroom. As a result, children are subject to unified rules, which requires the ability to regulate their own emotions. In addition, there's lack of privacy and personal space in low-quality classroom settings. Unavailability of a private place in a classroom limits children's ability to regulate the number and frequency of contacts with other children and to avoid unwanted interactions (Colwell et al. 2016). Absence of privacy in the classroom space forces the child to make numerous contacts with peers throughout the day, even if it provokes negative emotions. Thus, children in low-quality classroom settings are more likely to be involved in a variety of contacts with other children, including uncomfortable ones. This extensive interaction, which children cannot always interrupt, broadens the range of experiences that children need to cope with. Also, children in low-quality classroom setting probably observe a wider range of different of emotional manifestations of peers than in high-quality classroom setting.

Although this study has several strengths, such as large sample and studying children who have attended the same kindergarten classrooms for several years, its results should be interpreted with due regard to a number of constraints. First, while classroom quality was evaluated using a methodology designed for assessing global classroom quality (i.e. both structural and processual components), in this study, we analyzed only a global classroom quality due to the uneven score's distribution across ECERS-R subscales. This approach has some limitations, including the impossibility of comprehensive analysis of the educational environment from different perspectives. It also proved impossible to analyze separately the impact of ECERS-R subscales on children's EU due to insufficient variation in these parameters among the classrooms included in the study. It is important to note that the highest classroom quality level presented in this study corresponds to the moderate level according to ECERS-R methodology. Although the teacher-child interaction aspect of the classroom was previously shown to be an important aspect of social-emotional development, it was not sufficiently addressed in this study. Further research is needed, including more comprehensive analyses of the teacher-child interaction, which is not fully feasible using ECERS-R.

Another limitation is that the study did not address cultural perspectives that may impact the understanding of classroom quality.

Given the results of previous studies, this study indicates that the classroom quality doesn't affect different aspects of child's development equally. This result can prove useful in planning further research as well as developing educational programs within the ECEC. The survey also contributed to the improvement of assessment practices in Russian Federation with the Russian version of ECERS-R.

## Acknowledgements

This work was supported by the Russian Science Foundation under grant 20-78-20009.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Funding

This work was supported by the Russian Science Foundation under grant 20-78-20009.

## ORCID

A. N. Veraksa  <http://orcid.org/0000-0002-7187-6080>

M. N. Gavrilova  <http://orcid.org/0000-0002-8458-5266>

## References

- Albanese, O., S. De Stasio, C. Di Chiacchio, C. Fiorilli, and F. Pons. 2010. "EU in Children: Impact of Age and Intelligence." *The Journal of Genetic Psychology* 171 (2): 101–115. doi:10.1080/00221320903548084.
- Almazova, O. V., A. K. Beloluckaya, D. A. Buhalenkova, A. N. Veraksa, and M. N. Gavrilova. 2019. "Educational Environment and Emotional Development among Preschool Children." *Questions of Psychology* 1: 40–51. [Алмазова, О. В., Белолуцкая, А. К., Бухаленкова, Д. А., Веракса, А. Н., & Гаврилова, М. Н. (2019). Образовательная среда и эмоционально-личностное развитие дошкольников. Вопросы психологии, (1), 40-51.].
- Banerjee, R., and L. Henderson. 2001. "Social-cognitive Factors in Childhood Social Anxiety: A Preliminary Investigation." *Social Development* 10: 558–572. doi:10.1111/1467-9507.00180.
- Bodrova, E., and E. Yudina. 2018. "Early Childhood Education in the Russian Federation." In *Handbook of International Perspectives on Early Childhood Education*. Jaipaul L. Roopnarine, James E. Johnson, Suzanne Flannery Quinn, Michael M. Patte, 59–69. New York: Routledge.
- Brunsek, A., M. Perlman, O. Falenchuk, E. McMullen, B. Fletcher, and P. S. Shah. 2017. "The relationship between the Early Childhood Environment Rating Scale and its revised form and child outcomes: A systematic review and meta-analysis." *PloS one* 12 (6): e0178512.
- Colwell, M. J., K. Gaines, M. Pearson, K. Corson, H. D. Wright, and B. J. Logan. 2016. "Space, Place, and Privacy: Preschool Children's Secret Hiding Places." *Family and Consumer Sciences Research Journal* 44 (4): 412–421. doi:10.1111/fcsr.12169.
- Comparini, L., E. M. Douglas, and S. N. Perez. 2014. "The Development of Social Cognition: Preschoolers' Use of Mental State Talk in Peer Conflicts." *Early Education and Development* 25 (7): 1083–1101. doi:10.1080/10409289.2014.896770.
- Cryer, D., T. Harms, and C. Riley. 2003. *All About the ECERS-R*. Lewisville, NC: Kaplan.

- Cutting, A. L., and J. Dunn. 1999. "Theory of Mind, Emotion Understanding, Language, and Family Background: Individual Differences and Interrelations." *Child Development* 70 (4): 853–865. doi:10.1111/1467-8624.00061.
- De Stasio, S., C. Fiorilli, and C. Di Chiacchio. 2014. "Effects of Verbal Ability and Fluid Intelligence on Children's Emotion Understanding." *International Journal of Psychology* 49 (5): 409–414. doi:10.1002/ijop.12032.
- Farris, C. S. 2000. "Cross-sex Peer Conflict and the Discursive Production of Gender in a Chinese Preschool in Taiwan." *Journal of Pragmatics* 32 (5): 539–568. doi:10.1016/S0378-2166(99)00064-8.
- Franco, M. da G., M. J. Beja, A. Candeias, and N. Santos. 2017. "Emotion Understanding, Social Competence and School Achievement in Children From Primary School in Portugal." *Frontiers in Psychology* 8 (AUG): 1–15. doi:10.3389/fpsyg.2017.01376.
- Fuligni, A. S., C. Howes, Y. Huang, S. S. Hong, and S. Lara-Cinisomo. 2012. "Activity Settings and Daily Routines in Preschool Classrooms: Diverse Experiences in Early Learning Settings for low-Income Children." *Early Childhood Research Quarterly* 27 (2): 198–209. doi:10.1016/j.ecresq.2011.10.001.
- Garrett-Peters, P. T., V. L. Castro, and A. G. Halberstadt. 2017. "Parents' Beliefs About Children's Emotions, Children's Emotion Understanding, and Classroom Adjustment in Middle Childhood." *Social Development* 26 (3): 575–590. doi:10.1111/sode.12222.
- Hall, J., K. Sylva, P. Sammons, E. Melhuish, I. Siraj-Blatchford, and B. Taggart. 2013. "Can Preschool Protect Young Children's Cognitive and Social Development? Variation by Center Quality and Duration of Attendance." *School Effectiveness and School Improvement* 24 (2): 155–176. doi:10.1080/09243453.2012.749793.
- Hamre, B. K., and R. C. Pianta. 2007. Learning Opportunities in Preschool and Early Elementary Classrooms.
- Harms, T., R. M. Klifford, and D. Cryer. 2016. Scales for Comprehensive Assessment of Education Quality in Preschool Educational Organizations. National Education. [Хармс, Т., Клиффорд, Р. М., & Крайер, Д. (2016). Шкалы для комплексной оценки качества образования в дошкольных образовательных организациях. М.: Национальное образование
- Harris, P. L., M. De Rosnay, and F. Pons. 2005. "Language and Children's Understanding of Mental States." *Current Directions in Psychological Science* 14 (2): 69–73. doi:10.1111/j.0963-7214.2005.00337.x.
- Ishimine, K., R. Wilson, and D. Evans. 2010. "Quality of Australian Childcare and Children's Social Skills." *International Journal of Early Years Education* 18 (2): 159–175. doi:10.1080/09669760.2010.494430.
- Józsa, K., and K. C. Barrett. 2018. "Affective and Social Mastery Motivation in Preschool as Predictors of Early School Success: A Longitudinal Study." *Early Childhood Research Quarterly* 45: 81–92. doi:10.1016/j.ecresq.2018.05.007.
- Kårstad, S. B. 2016. Young Children's Emotion Understanding: The Impact of Parent and Child Factors, Socioeconomic Status, and Culture.
- Kyrtziz, A., and J. Guo. 2001. "Preschool Girls' and Boys' Verbal Conflict Strategies in the United States and China." *Research on Language and Social Interaction* 34 (1): 45–74. doi:10.1207/S15327973RLSI3401\_3.
- Laursen, B., B. D. Finkelstein, and N. T. Betts. 2001. "A Developmental Meta-Analysis of Peer Conflict Resolution." *Developmental Review* 21 (4): 423–449. doi:10.1006/drev.2000.0531.
- Liao, Z., Y. Li, and Y. Su. 2014. "Emotion Understanding and Reconciliation in Overt and Relational Conflict Scenarios among Preschoolers." *International Journal of Behavioral Development* 38 (2): 111–117. doi:10.1177/0165025413512064.
- Mathieson, K., and R. Banerjee. 2011. "Peer Play, Emotion Understanding, and Socio-Moral Explanation: The Role of Gender." *British Journal of Developmental Psychology* 29 (2): 188–196. doi:10.1111/j.2044-835X.2010.02020.x.
- NICHD Early Child Care Research Network. 2005. *Child Care and Child Development: Results From the NICHD Study of Early Child Care and Youth Development*. New York: Guilford Press.
- Nisskaya, A. K. 2018. "School Readiness Outcomes of Different Preschool Educational Approaches." *Psychology of Russia: State of Art* 11 (1): 43–60.



- Ornaghi, V., J. Brockmeier, and I. G. Gavazzi. 2011. "The Role of Language Games in Children's Understanding of Mental States: A Training Study." *Journal of Cognition and Development* 12 (2): 239–259. doi:10.1080/15248372.2011.563487.
- Pons, F., and P. Harris. 2000. *Test of Emotion Comprehension: TEC*. Oxford: University of Oxford.
- Pons, F., and P. L. Harris. 2005. "Longitudinal Change and Longitudinal Stability of Individual Differences in Children's Emotion Understanding." *Cognition and Emotion* 19 (8): 1158–1174. doi:10.1080/02699930500282108.
- Pons, F., and P. L. Harris. 2019. "Children's Understanding of Emotions or Pascal's 'Error': Review and Prospects." In *Handbook of Emotional Development*. LoBue V., Buss K.A., Pérez-Edgar K., 431–449. Cham: Springer.
- Pons, F., P. L. Harris, and M. de Rosnay. 2004. "Emotion Comprehension Between 3 and 11 Years: Developmental Periods and Hierarchical Organization." *European Journal of Developmental Psychology* 1 (2): 127–152. doi:10.1080/17405620344000022.
- Pons, F., J. Lawson, P. L. Harris, and M. De Rosnay. 2003. "Individual Differences in Children's Emotion Understanding: Effects of age and Language." *Scandinavian Journal of Psychology* 44 (2002): 347–353. doi:10.1111/1467-9450.00354.
- Raven, J., J. C. Raven, and J. H. Court. 1991. *Manual for Raven's Progressive Matrices and Vocabulary Scales. Section 2, Coloured Progressive Matrices*. Oxford: Oxford Psychologists Press. 44 p.
- Rieffe, C., and C. H. Wieferrink. 2017. "Happy Faces, sad Faces: Emotion Understanding in Toddlers and Preschoolers with Language Impairments." *Research in Developmental Disabilities* 62: 40–49. doi:10.1016/j.ridd.2016.12.018.
- Saltzman, J. A., B. H. Fiese, K. K. Bost, and B. A. McBride. 2018. "Development of Appetite Self-Regulation: Integrating Perspectives From Attachment and Family Systems Theory." *Child Development Perspectives* 12 (1): 51–57. doi:10.1111/cdep.12254.
- Sammons, P., S. Davis, C. Day, and Q. Gu. 2014. "Using Mixed Methods to Investigate School Improvement and the Role of Leadership: An Example of a Longitudinal Study in England." *Journal of Educational Administration* 52 (5): 565–589. doi:10.1108/JEA-10-2013-0121.
- Singer, E., A. G. Van Hoogdalem, D. De Haan, and N. Bekkema. 2012. "Day Care Experiences and the Development of Conflict Strategies in Young Children." *Early Child Development and Care* 182 (12): 1661–1672. doi:10.1080/03004430.2011.640753.
- Sylva, K., E. Melhuish, P. Sammons, I. Siraj-Blatchford, and B. Taggart. 2004. *The Effective Provision of Pre-school Education (EPPE) Project: Final Report: A Longitudinal Study Funded by the DfES 1997–2004*. Institute of Education, University of London/Department for Education and Skills/Sure Start.
- Sylva, K., E. Melhuish, P. Sammons, I. Siraj-Blatchford, and B. Taggart. 2010. *Early childhood matters: Evidence from the effective pre-school and primary education project*. Routledge.
- Sylva, K., E. Melhuish, P. Sammons, I. Siraj-Blatchford, and B. Taggart. 2011. "Pre-school Quality and Educational Outcomes at Age 11: Low Quality has Little Benefit." *Journal of Early Childhood Research* 9 (2): 109–124. doi:10.1177/1476718X10387900.
- Tang, Y., P. Harris, F. Pons, H. Zou, W. Zhang, and Q. Xu. 2018. "The Understanding of Emotion among Young Chinese Children." *International Journal of Behavioural Development* 42 (5): 512–517. doi:10.1177/0165025417741366.
- Trentacosta, C. J., and S. E. Fine. 2010. "Emotion Knowledge, Social Competence, and Behavior Problems in Childhood and Adolescence: A Meta-Analytic Review." *Social Development* 19: 1–29. doi:10.1111/j.1467-9507.2009.00543.x.
- Vandell, D. L., J. Belsky, M. Burchinal, L. Steinberg, N. Vandergrift, and NICHD Early Child Care Research Network. 2010. "Do Effects of Early Child Care Extend to age 15 Years? Results From the NICHD Study of Early Child Care and Youth Development." *Child Development* 81 (3): 737–756. doi:10.1111/j.1467-8624.2010.01431.x.
- Vandell, D., and B. Wolfe. 2000. *Child Care Quality: Does it Matter and Does it Need to be Improved?*. Vol. 78. Madison: University of Wisconsin–Madison, Institute for Research on Poverty.
- von Salisch, M., M. Haenel, and P. A. Freund. 2013. "Emotion Understanding and Cognitive Abilities in Young Children." *Learning and Individual Differences* 26: 15–19. doi:10.1016/j.lindif.2013.04.001.