Teaching and Teacher Education 114 (2022) 103705

Contents lists available at ScienceDirect

Teaching and Teacher Education

journal homepage: www.elsevier.com/locate/tate

Research paper

Early childhood teachers' psychological well-being and responsiveness toward children: A comparison between the U.S. and South Korea

Sooyeon Byun [a, *], Xiangyu Zhao [a], Cynthia K. Buettner [b], Shun Ah Chung [c], Lieny Jeon [a]

[a] School of Education, Johns Hopkins University, 2800 North Charles Street, Baltimore, MD, 21218, USA
[b] Department of Human Sciences, College of Education and Human Ecology, Ohio State University, 129A Campbell Hall, 1787 Neil Avenue, Columbus, OH, 43210, USA
[c] Division of Child Welfare and Studies, College of Human Ecology, Sookmyung Women's University, 100 Cheongpa-ro 47-gil, Seoul, 04310, South Korea

HIGHLIGHTS

- Variations in teacher well-being and practices existed across different countries.
- Teachers' psychological well-being was generally associated with their practice.
- The strength of the associations varied by countries, the U.S. and South Korea.
- U.S. early childhood teachers demonstrated greater responsiveness toward children.
- South Korean teachers reported more severe psychological challenges.

ARTICLE INFO

Article history:
Received 21 January 2021
Received in revised form
1 March 2022
Accepted 16 March 2022
Available online xxx

Keywords:
Responsiveness
Teacher well-being
Psychological well-being
Early care and education
Teacher-child interaction
Cross-country comparison

ABSTRACT

This study explores the cross-country differences in the associations between early childhood teachers' psychological well-being and responsiveness toward children. Data collected from teachers in South Korea ($n = 322$) and the U.S. ($n = 1129$) revealed associations between teachers' psychological well-being and responsiveness in both countries, however, patterns differed between countries. Specifically, the degree of psychological well-being, responsiveness, and the associations between well-being and responsiveness were significantly different between the two countries. Although teachers have similar experiences in their psychological well-being, the sources of well-being may be varied. Thus, teachers' backgrounds should be considered to effectively promote teachers' psychological well-being and positive practice.

Teachers' social and emotional well-being is an essential component of positive classroom climate and healthy child development in early care and education (ECE) settings (Jennings & Greenberg, 2009). The Prosocial Classroom Model suggests that contextual factors, such as environmental characteristics or education policy and demands surrounding ECE settings, may affect teachers' well-being and their classroom practice (Jennings & Greenberg, 2009). This suggests that teachers in different national contexts may show differential patterns of psychological well-being and practice. Furthermore, the association between teachers' well-being and practice may vary by national context. It is, therefore, important to understand unique characteristics of each country that may differentiate teachers' well-being and practice.

The purpose of this study is to examine cross-country variations in teachers' psychological well-being, their responsiveness toward children, and the association between well-being and responsiveness. Teachers promote positive social and emotional outcomes among children with their positive responsiveness to children's behaviors and emotions (Denham et al., 2012; Jennings &

* Corresponding author.
E-mail addresses: sbyun10@jhu.edu (S. Byun), xzhao61@jhu.edu (X. Zhao), buettner.16@osu.edu (C.K. Buettner), chung78@sookmyung.ac.kr (S.A. Chung), lieny.jeon@jhu.edu (L. Jeon).

https://doi.org/10.1016/j.tate.2022.103705
0742-051X/

Greenberg, 2009). Previous research from diverse national contexts suggests that ECE teachers' psychological well-being can become a key predictor of their positive responsiveness (e.g., W. Kim et al., 2019; Penttinen et al., 2020; Zinsser et al., 2013).

Although currently no shared definition of teachers' well-being exists in the ECE context (O'Sullivan et al., 2021), this study defines psychological well-being as a healthy, positive, and encouraging psychological state. Specifically, we operationalize it as healthy emotion regulation (i.e., high reappraisal emotion regulation and low suppression emotion regulation), a positive job-related emotional state, and low levels of stress. The literature demonstrates the ways in which teachers interact with children, the degree of teachers' psychological well-being, and the associations between these two vary considerably by national context (e.g., Hong & Zhang, 2019; Steed et al., 2014). For example, although teachers' psychological well-being is associated with high-quality teacher-child interactions in both South Korea (SK) and the United States (US) (e.g., Buettner et al., 2016; J. Kim & Choi, 2018), the ways in which teachers interact with children are significantly different between the two countries (e.g., Steed et al., 2014).

Interest in and efforts toward promoting the quality of ECE teacher practice through improved well-being are increasing (e.g., Zinsser et al., 2016). However, to our knowledge, no studies have explored between-country variations in the associations between teachers' psychological well-being and the quality of their practice. Comparing teachers in SK and US, this study will provide valuable knowledge toward creating more positive environments for the healthy development of children in ECE settings.

1. Literature review

1.1. Teachers' responsiveness to Children's emotion

Teachers, being the closest and most influential adults for children in ECE settings, use various strategies in response to children's emotional expressions. These emotion-related interactions contribute to the way children's emotions are socialized (Denham et al., 2012). Teachers' responsiveness toward children's emotions is often categorized into either positive or negative responsiveness (Denham et al., 2017; Jeon et al., 2016), as reflected in multiple scales (e.g., Coping with Children's Negative Emotions Scale [CCNES; Buettner et al., 2016; Fabes et al., 1990], Coping with Children's Challenging Social Interactions [CCCSI; Jeon et al., 2016], Self-Expressiveness in the Classroom Questionnaire [Halberstadt & Wilson, 2010], and Teacher Emotion Socialization Self-Test [Paterson et al., 2012]). Positive responsiveness refers to teachers' supportive reactions, such as helping to resolve root problems or sources of negative emotions, or comforting or distracting children to directly reduce their negative emotions (Fabes et al., 1990). In contrast, negative responsiveness indicates non-supportive reactions such as devaluing the seriousness of children's emotional distress, or punishing them for the negative emotional expressions (Fabes et al., 1990).

Denham et al. (2012) suggest that teachers' positive responsiveness toward children's emotional reactions can promote emotional competence in children. Children who receive supportive, encouraging, and adaptive responses from teachers are likely to enhance emotional knowledge, and to actively regulate and manage emotions (Denham et al., 2012). Furthermore, teachers' use of more negative responsiveness tends to moderate the relationship between children's age and their social and emotional outcomes (Morris et al., 2013). For example, in Denham and Bassett (2019), when teachers provided non-supportive behavioral reactions, children were more likely to demonstrate less positive/prosocial emotions and more negative/dysregulated emotions (Denham & Bassett, 2019).

A study of 119 young children and their teachers in the Netherlands found that teachers' increased emotional and behavioral supports, as measured by the Classroom Assessment Scoring System, (CLASS; Pianta et al., 2008) were highly associated with children's positive emotions (Broekhuizen et al., 2017). Bhang and Chung's (2015) study with 372 Korean kindergarteners and their teachers also identified a relationship between teachers' emotional support (measured by the CLASS) and increased school readiness among children. Moreover, a study with 177 Korean kindergarteners demonstrated that children's positive adjustment to school was significantly associated with their perceived level of teacher support (T.-D. Kim, 2016). Altogether, these studies point to the importance of teachers' responsiveness on children's healthy development and well-being, regardless of national context.

1.2. The common role of teachers' psychological well-being across countries

Previous studies show that teachers' psychological well-being is associated with ECE teacher practice in various countries (e.g., W. Kim et al., 2019; Penttinen et al., 2020; Zinsser et al., 2013). In the current study, we focus on five aspects of psychological well-being that are commonly identified as key predictors of teacher practice: reappraisal and suppression emotion regulation (e.g., Jeon et al., 2019), job-related emotional exhaustion (e.g., Buettner et al., 2016), job-related emotional competence (e.g., Jennings, 2015), and personal stress (e.g., Jeon et al., 2018).

Emotion regulation is the internal and behavioral process of managing one's emotional experiences and expressions (Gross, 1998, 2002; Richards & Gross, 2000). According to Gross (2002), there are two common forms of emotion regulation: cognitive reappraisal and expressive suppression. Reappraisal emotion regulation changes an individual's reaction to the cause of emotional arousal, such as events or circumstances; in contrast, suppression emotion regulation restrains the emotional arousal itself.

The associations between ECE teachers' emotion regulation and their practice can vary by national context (e.g., Karabay, 2019; Swartz & McElwain, 2012). In the US, ECE teachers' reappraisal emotion regulation was associated with more positive responsiveness and less negative responsiveness, while suppression emotion regulation was associated with more negative and less positive responsiveness (Jeon et al., 2016; Swartz & McElwain, 2012). Teachers in Turkey also demonstrated associations between reappraisal emotion regulation and high-quality teacher-child relationships (Karabay, 2019), and between higher emotional regulation ability and increased positive classroom practice (Ersay, 2015). Furthermore, in a study of SK ECE teachers, teachers' enhanced emotion regulation was associated with more positive teacher-child interactions (K.-R. Lee & Moon, 2016).

Job-related emotional exhaustion and competence are also related to teachers' practice in many countries (e.g., Cassidy et al., 2017; Jennings, 2015; W. Kim et al., 2019; N.-Y. Lee et al., 2014). Job-related emotional exhaustion is characterized by helpless, hopeless, and negative feelings about work (Maslach et al., 1997; Pines & Aronson, 1988). In the current study, job-related emotional competence is conceptualized as the opposite of emotional exhaustion, that is, a feeling of competence and satisfaction about one's occupation and position.

Job-related emotional exhaustion is closely associated with teachers' negative practice in ECE settings (e.g., Jennings, 2015), whereas job-related emotional competence is associated with positive teacher practice (e.g., Cassidy et al., 2017). For example, in a US study, teachers with greater emotional exhaustion

demonstrated lower emotional support in their classrooms (Jennings, 2015). In Canada, ECE teachers were more likely to express anger in the classroom when they had negative emotional perceptions of their job (Mill & Romano-White, 1999). Studies using SK samples also showed significant associations between teachers' emotional exhaustion and negative teacher-child interactions (N.-Y. Lee et al., 2014; N.-S. Park & Song, 2019). Meanwhile, when US teachers felt competent and satisfied with their job, they were more likely to have a lower turnover rate (Jeon & Wells, 2018), and exhibited greater emotional support toward children (McCormick Center for Early Childhood Leadership, 2016). Also, US teachers who reported higher satisfaction with their salary demonstrated greater emotional support in the classroom (Cassidy et al., 2017). Moreover, SK teachers who were satisfied with their job, and those who had greater levels of teaching efficacy showed improved teacher-child interactions (E. G. Kim & Kwak, 2019; W. Kim et al., 2019).

Finally, personal stress is another factor commonly associated with teachers' responsiveness across national contexts. (e.g., E. G. Kim & Kwak, 2019; Penttinen et al., 2020; Whitaker et al., 2015). For example, US teachers with low levels of stress had better relationships with children, and socialized emotions in more desired ways (Denham et al., 2017; Whitaker et al., 2015). Also, when teachers reported high levels of stress, they were more likely to provide low-quality care (de Schipper et al., 2009), and use less positive responsiveness (Jeon et al., 2018). Particularly, when teachers reported moderate stress levels instead of high or low stress levels, their classrooms were more likely to have a positive emotional climate (Friedman-Krauss et al., 2014). Likewise, Penttinen and colleagues' (2020) study on Finnish teachers found that teachers with higher levels of teaching-related stress provide less emotional support for children. Studies of SK teachers also showed that greater levels of job-related stress among teachers were associated with reduced positive child-teacher interactions and increased negative child-teacher interactions (e.g., E. G. Kim & Kwak, 2019).

1.3. Cross-country differences

As shown above, studies from various countries have consistently found associations between teachers' psychological well-being and practice (e.g., K. H. Kim & Park, 2016; Penttinen et al., 2020; Zinsser et al., 2013). However, those associations can be shaped by culture, which has been described as "the collective programming of the mind distinguishing the members of one group or category of people from others" (Hofstede et al., 2010, p. 6). With respect to this definition, people from different national backgrounds are likely to experience different sets of norms and values (Kağıtçıbaşı, 2007). This can differentially shape teachers' psychological well-being and the way teachers interact with children. For instance, there may be variation in ECE teaching practices that are shaped by the dominant forces in the teacher education and management system of each country. Due to the variation, teachers in different countries can potentially employ different styles of interactions with parents (e.g., interact only during work hours vs. interact whenever parents exhibit needs), emphasize different instructional strategies (e.g., talking and playing with children vs. skills and drills), and have different sources of stress (e.g., dealing with parents' criticism vs. achieving professional goals) (Clarke-Stewart et al., 2006; Hong & Zhang, 2019).

Literature supports the idea that teachers in different national contexts show diverse patterns in managing and reacting to children's behaviors. (e.g., Steed et al., 2014). In studies comparing US and SK teachers, US teachers tended to use more frequent positive verbal responses to manage children's behaviors (Steed et al., 2014), developmentally appropriate practices (McMullen et al., 2005), and instructional strategies promoting children's social competence (H.K. Kim & Han, 2019) than SK teachers. US teachers also focused more on building close verbal and emotional relationships with children, whereas SK teachers emphasized practicing skills and drills (Clarke-Stewart et al., 2006). Moreover, in a study comparing US and Vietnamese teachers, US teachers perceived children's aggression as a more serious problem than Vietnamese teachers, while Vietnamese teachers expressed disapproval more explicitly than US teachers (Pochtar & Vecchio, 2014). Differences were also reported between US and Japanese teachers in a qualitative study conducted by Rothbaum et al. (2006); US teachers tended to believe that children should learn independently, whereas Japanese teachers had stronger beliefs that teachers should be the mechanism of learning. Accordingly, US teachers preferred to provide help only when there were explicit needs identified by children, while Japanese teachers preferred to proactively identify children's needs and intervene to meet their needs immediately (Rothbaum et al., 2006).

Variations in ECE teachers' psychological well-being in various national contexts are also well-noted. This is interesting because, in fact, the conceptualization of psychological well-being is relatively consistent across different countries. For example, many countries in the world, including both SK and the US, commonly use the American Psychiatric Association's (2013) Diagnostic and Statistical Manual of Mental Disorders series as a key reference for mental health and well-being. However, psychological well-being among ECE teachers in different countries shows considerable variation (e.g., Hong & Zhang, 2019).

For instance, Benevene et al. (2018) compared the psychological well-being of kindergarten teachers in Italy and Hong Kong. The study identified that teachers in Hong Kong are more likely to report lower levels of job satisfaction, mental health, and self-esteem than Italian teachers (Benevene et al., 2018). Another study by Hong and Zhang (2019) compared Chinese and Norwegian teachers in ECE settings. This study found that, while teachers from both countries experience emotional burdens and challenges, Chinese teachers encounter much more complex contextual challenges that exacerbate their emotional labor pressure than Norwegian teachers. The authors explain this finding by differences in parental perception of child safety in each country. Norwegian parents tend to believe that dealing with danger is a natural process of child development. Therefore, their sources of negative emotions are mainly related to child-teacher relationships. However, Chinese teachers face pressures on child safety, educational practice, inspection, and relationships with parents, along with high teacher-child ratios (Hong & Zhang, 2019).

Finally, Aboagye et al.'s (2018) study examined differences in burnout among preschool teachers in Ghana, Pakistan, and China. This study showed that teachers from each of the three countries encountered varying work conditions. The teachers also demonstrated significantly different patterns of burnout related to emotional exhaustion, depersonalization, and personal accomplishment depending on their national background. Specifically, teachers in Ghana and China showed a greater level of emotional exhaustion than Pakistani teachers, and the differences between Ghana and Pakistan, and China and Pakistan in the levels of emotional exhaustion were both significant. Pakistani teachers showed a greater level of burnout related to depersonalization and personal accomplishment than Chinese and Ghanaian teachers. However, the differences between Chinese and Pakistani teachers were significant only for personal accomplishment, while the differences between Ghanaian and Pakistani teachers were significant only for depersonalization. The authors argue that these differences can be attributed to national variations in the perceptions of ECE

teachers and social and religious context among the three countries (Aboagye et al., 2018).

Although previous studies identified significant between-country differences in ECE teacher practice and their psychological well-being, to our knowledge, no empirical studies have examined national level variations in the associations between ECE teachers' psychological well-being and their responsiveness toward children. In this study, we focus on the comparison between SK and the US. The two countries share similar political backgrounds because when SK was established as a liberal democratic country in 1948, its political system was adapted from the US political system (Brazinsky, 2007). However, the two countries hold different norms and values. For example, Korean society has been influenced by Confucian collectivist ideas for centuries, while US society has been influenced by Christian and individualistic ideologies.

Hofstede and colleagues' (2010) Individualism Index shows that the US is the top-ranked individualistic country, whereas SK is a highly collectivistic country. Cross-country variations tend to appear particularly extreme between individualistic and collectivistic contexts (Triandis, 1995). These differences can also lead to discrepancies in the US and SK educational systems, which mirror the norms and values dominating each society. Fang and Gopinathan (2009) reviewed the characteristics of educational systems in individualistic and collectivistic societies. According to the authors, in eastern countries like SK, where collectivistic values are emphasized due to a Confucian heritage, an education system also reflects the collective values of the society. Curriculum and materials are controlled by the guidelines from the central government, and teacher instruction and resources are required to be aligned with the governmental guidelines. However, in the US where individualism and autonomy are valued, national level guidelines governing curriculum and resources are less strict than in eastern countries. In the US, individual school districts as well as teachers have more latitude in the curriculum and resources they use in their classrooms (Fang & Gopinathan, 2009).

These orientations also appear in ECE systems in SK and the US. In SK, the ECE system has been standardized by the central government. Although there was a legislative revision allowing ECE programs to have more autonomy, which became effective in 2020 after our data were collected (Ministry of Education [MOE] & Ministry of Health and Welfare [MHW], 2019; MHW, 2021), historically, SK ECE programs and teachers have not had much flexibility or autonomy (S. A. Chung, 2014; C. Park & Yang, 2017). For example, in SK, common curriculum standards for preschool-aged children have been designed and distributed by the government (Central Support Center for Childcare, 2013). And because these are aligned with the national curriculum for primary schools, all ECE programs are required to follow the national standards (Ministry of Education, Science and Technology & MHW, 2013; MHW, 2013). Pursuing universal preschool education, the base tuition for all licensed ECE programs, including private programs, is fixed and paid by the central government. To meet the qualification for financial support from the government, all ECE programs are required to be accredited by a unified national accreditation system and registered in the Governmental Child-Care Management System.

The SK teacher and director qualification system is also centralized under the Child Care Act (2019) and the Early Childhood Education Act (2017). All teachers must have a national ECE teacher certification to work in any licensed ECE program. To be nationally certified, pre-service teachers first need to complete all required courses and a practicum, mostly by obtaining an associate or bachelor's degree. They then have to submit all required documents to the Office for Korea Childcare Promotion Institute, governed by MHW (2020), to become certified child-care providers. Alternatively, they can obtain certification from MOE to become kindergarten (equivalent to preschools in the US) teachers. Although the quality of training in degree programs may vary, no licensed ECE programs are allowed to hire teachers who do not hold a national certificate. In an effort to improve the quality of care, teachers' work hours are also controlled by the government. For instance, teachers in child-care centers are only allowed to work 7 h per day, and they need to have a 1-h mandatory break during the day (Labor Standards Act, 2019). These reflect attempts by the central government to control the quality of ECE programs so that every child and family receive consistent quality care and education. Ironically, however, this often contributes to a hierarchical organizational climate that prevents teachers from having input and involvement in decision making processes (Ha & Jung, 2020).

The landscape of the ECE system in the US is quite different. The US ECE system is decentralized and diversified, and gives ECE programs more flexibility and autonomy (Cho & Couse, 2008). Although many states have their own standards aligned with K-12 education, there are no required federal level guidelines for ECE curricula. In addition, the standards are not consistent across the country, and often, not mandatory even within the states (National Center on Early Childhood Quality Assurance, 2016). National or state accreditation is also voluntary. ECE programs are allowed to use any curriculum and materials. Programs also decide the tuition independently, and families that cannot afford to pay the high tuition of private programs utilize government child-care subsidy or find federally-funded or state-funded programs (e.g., Head Start). Credentialing requirements for teachers and administrators also have large variations, leading to differential teacher salary, high teacher turnover, unequal distribution of the teacher workforce, and reduced diversity among the teacher population (McLean et al., 2021). The requirements for teacher qualifications also vary by state. In most cases, there is no governmental enforcement of requirements for teacher qualifications except for the minimum teacher qualifications required by an accreditation process (Cho & Couse, 2008) or through the Quality Rating and Improvement Systems in each state. In sum, the independence and autonomy of individual programs are emphasized in the US rather than standardization.

1.4. The present study

Variations in social norms and values can diversify the characteristics and quality of the ECE environment by national context (Sheridan et al., 2009). Given potential similarities and differences in ECE teachers' experiences and practice in US and SK ECE settings, we compared teachers' psychological well-being and responsiveness toward children. We attempt to answer the following research questions:

1) What are the similarities and differences in responsiveness toward children among teachers in the US and SK?
2) What are the similarities and differences in the psychological well-being among teachers in the US and SK?
3) What are the similarities and differences in the association between psychological well-being and responsiveness toward children among teachers in the US and SK?

The current study operationalized positive responsiveness into three sub-categories including Positively Focused Reactions, Expressive Encouragement, and Positive Social Guidance. Negative responsiveness was operationalized into two sub-categories, Negative Reactions and Negative Social Guidance. This categorization follows Jeon et al. (2016). We expect to see variation in the patterns of responsiveness toward children and in psychological

well-being between teachers in the US and SK. While we anticipate the global associations between psychological well-being and responsiveness, we also hypothesize that the pattern of the associations will emerge differently in the two countries.

2. Methods

2.1. Participants

This study included a total of 1451 teachers from private and public ECE centers in the US and SK. Among the participating teachers, 1129 teachers were from the US, and 322 teachers were from SK. The majority of teachers from both countries were females. Sixty-seven percent of US teachers and 72% of SK teachers had a bachelor's degree or higher. The mean age of US teachers was 44.5 years old, and the mean age of SK teachers was 32.9 years old. Years of experience in the ECE field averaged 15.56 for the US teachers and 7.67 for the SK. Among US teachers, 85% were White, non-Hispanic, 8% were Black, non-Hispanic, 2% were Hispanic, and 5% were other races. No data were collected regarding race and ethnicity from SK teachers because SK is an ethnically homogeneous country.

2.2. Procedures

This study is approved by the [masked for peer review] University Institutional Review Board (IRB). All procedures of data collection and analysis were performed in compliance with IRB. In both countries, informed consent was provided at the beginning of the survey.

Data for the US teachers were collected in 2014 as part of a larger study on ECE teachers' social and emotional capacity (Buettner et al., 2016). For the US study, a teacher survey was mailed to 7500 randomly selected center-based ECE facilities in 50 states. The research team purchased the list of preschools from a private education mailing agency called Market Data Retrieval (MDR), which has been a source of ECE sampling in previous studies (e.g., Pianta et al., 1999; Rous et al., 2010). We asked the MDR to conduct proportional stratified random sampling based on the program type (private child-care versus public prekindergarten) and geographic regions.

The survey packet was initially sent to center directors. We asked directors of the selected ECE centers to distribute the survey to their teachers. Each package included sealed packets with the teacher survey inside to allow teachers to mail the survey back. A $1 bill was also included in each packet as an incentive. One reminder post card was sent out 3 weeks after distributing the survey. Among 7500 packets, 455 packets were returned due to undeliverable addresses or having no qualified teachers. The proportion of the final sample by program types and geographic regions, 1129 teachers (16% response rate), was not statistically different from the original proportion that we used for stratified random sampling. The proportion was also similar to what was found in other nationally representative samples (e.g., National Survey of Early Care and Education, 2013).

Data collection for SK teachers was administered in 2019. We used snowball sampling and recruited public and private ECE centers in Seoul, Gyeonggi-do, and Gangwon-do regions where about half of the licensed ECE programs are located (Korean Educational Statistics Service, 2020; MHW, 2019). For items assessing psychological well-being and teacher responsiveness, we used the same measures as used in the US survey. Some of the questions related to demographic and professional backgrounds were modified based on SK ECE context. If measures had an official version of translation to Korean language, we used the official Korean versions (see the Measures section); otherwise, measures were translated by an undergraduate research assistant whose first language is Korean, reviewed by the principal investigators of the study who are also fluent in Korean, and certified by a third person who is also Korean.

Surveys were mailed to each participating ECE center, with sealed envelopes to allow teachers to return them anonymously. Centers collected surveys from teachers once they were completed and sent them back to the research team. Among 375 surveys that we distributed, 86% were returned with valid data and used for the data analysis ($n = 322$).

2.3. Measures

2.3.1. Teachers' responsiveness

To measure teachers' responsiveness to children's emotions, we first used the shortened version of CCNES (Fabes et al., 1990) using three subscales, Positively-Focused Reactions (e.g., "comfort the child and try to get him/her to forget about the accident"), Expressive Encouragement (e.g., "tell the child it's OK to cry"), and Negative Reactions (e.g., "tell the child to stop crying or he/she won't be allowed to play with the toy anytime soon"). These three subscales were validated in a previous study with ECE teachers (Buettner et al., 2016). To measure teachers' responsiveness to children's social interactions, we used CCCSI (Jeon et al., 2016), which is designed to be parallel with the CCNES. The CCCSI has two subscales: Positive Social Guidance (e.g., "help the children develop a plan to share the toy") and Negative Social Guidance (e.g., "tell the children that fighting is unacceptable, and ask them both to walk away and choose a different activity"; Jeon et al., 2016). The CCNES and CCCSI present seven scenarios to teachers in which children can experience negative emotions or challenging social interaction. Then for each scenario, teachers are asked to rate their likelihood to respond in each of several options, using a 7-point Likert scale (1 = *Very Unlikely* to 7 = *Very Likely*). The current study had an internal reliability, Cronbach's alphas, of 0.75 for Positively-Focused Reactions, 0.76 for Expressive Encouragement, 0.86 for Negative Reactions, 0.79 for Positive Social Guidance, and 0.62 for Negative Social Guidance.

2.3.2. Psychological well-being

Emotion Regulation. Teachers' emotion regulation strategies were measured by the Emotion Regulation Questionnaire (ERQ; Gross, 1998). ERQ is composed of 10 items under 2 subscales measuring cognitive reappraisal and expressive suppression. Teachers responded to each item on a 7-point Likert scale (1 = *Strongly disagree* to 7 = *Strongly agree*). The reappraisal subscale (e.g., "I control my emotions by changing the way I think about the situation I'm in.") and suppression subscale (e.g., "I control my emotions by not expressing them.") both showed acceptable reliability in this study (Cronbach's alpha = 0.82 and 0.73, respectively). The composite scores for the two subscales were calculated in the way that higher scores represent more desirable emotion regulation strategies (i.e., greater reappraisal and lower suppression), following the original scale (Gross, 1998).

Job-Related Emotional Exhaustion and Competence. Teachers' job-related emotional exhaustion was measured by 2 items adapted from Buettner et al. (2016). Teachers were asked to rate the extent to which they are emotionally exhausted due to their job and children's behaviors (i.e., "I'm emotionally exhausted by my work" and "Dealing with children's behaviors drains my energy") using a 7-point Likert scale (1 = *Strongly disagree* to 7 = *Strongly agree*). The mean of the 2 items was used as a composite score for job-related emotional exhaustion. Using the same 7-point Likert scale, teachers were also asked whether they feel competent in their job. A raw

score of this item was used to represent teachers' job-related emotional competence.

Personal Stress. Teachers' general perceived stress was assessed using the Perceived Stress Scale (PSS; Cohen et al., 1983), composed of 10 items asking the perceived level of stress during the past month. A translation by J. O. Park and Seo (2010) was used in SK survey. Teachers responded on a 5-point Likert scale (1 = *Never* to 5 = *Very Often*), and the sum of 10 items was used to represent teachers' stress − a higher score represents a higher degree of perceived personal stress. Cronbach's alpha was 0.84 in this study.

2.3.3. Covariates

Seven covariates were included in the study to account for teachers' demographic and professional backgrounds, health, job satisfaction, and disciplinary self-efficacy. The covariates have been found to be related to teachers' well-being and practices in previous studies (e.g., Baumgartner et al., 2009; Hall-Kenyon et al., 2014). First, teachers' age and sex were used to adjust for demographic characteristics. Ages were calculated in years by subtracting the year of birth from the year of survey response. To account for teachers' sex, a binary variable was created to indicate being female as 1 and being male as 0. Professional backgrounds were measured by years of experience in the ECE field and educational attainment (1 = *a bachelor's degree or higher*, 0 = *less than a bachelor's degree*). To assess teachers' overall perceived health condition, we used one item from Respondent-Assessed Health Status Scale (Adams et al., 2012) and asked teachers to evaluate their perceived general health condition using a 5-point Likert scale (1 = *excellent* to 5 = *poor*). Teachers' job satisfaction was measured by the mean of 2 items asking about teachers' level of satisfaction for being an ECE teacher, and for one's current position (Buettner et al., 2016). We also assessed teachers' disciplinary self-efficacy using a subscale of Teacher Self-Efficacy Scale (Bandura, 1997) (Cronbach's $\alpha = 0.85$).

2.4. Analytic strategy

For the first two research questions exploring similarities and differences in teachers' responsiveness and psychological well-being between the two countries, we conducted a *t*-test for each variable. For Research Question 3, we first used multivariate regression analysis in Stata 15.0 to understand the overall associations between psychological well-being and responsiveness among teachers in both countries. This method allowed us to examine all independent variables and dependent variables simultaneously. We used multiple model fit indices to examine the overall model fit: chi-squared test (χ^2) − a non-significant p-value greater than 0.05 is expected −, a root mean square error of approximation (RMSEA) less than 0.05, and a comparative fit index (CFI) greater than 0.90 were used (Browne & Cudeck, 1993). Potential multicollinearity among five key predictors was examined using variance inflation factors (VIF) and tolerance in each country, which revealed that the five key predictors had no concerns of multicollinearity. VIF ranged from 1.04 to 1.25, tolerance ranged from 0.80 to 0.96 in the US data; VIF ranged from 1.13 to 1.48, tolerance ranged from 0.68 to 0.89 in the SK data (VIF greater than 5 and tolerance less than 0.20 indicate a concern for multicollinearity; Menard, 1995). Missing data ranged from 0% to 6%. Specifically, US teachers had 0–6.2% of missing data for teacher responsiveness, 0–1.77% of missing data for psychological well-being, and 0.8–5.9% of missing data for covariates. SK teacher data were 0–5.9% missing for teacher responsiveness, 0–0.93% for psychological well-being, and 0–3.73% for covariates. The missing data were handled using the Full Information Maximum Likelihood (FIML) estimation. The FIML estimation preserves relationships between all available data (Arbuckle, 1996).

To explore similarities and differences in the associations between the US and SK, we then tested the structural invariance of the hypothesized associations between US and SK teachers using the multi-group analysis, with country as a grouping variable (Kline, 2016). First, as a preliminary analysis, we fitted a model only with five key predictors and five outcome variables in each country. Second, as a main analysis, we fitted a model adding all covariates. We allowed the coefficients, error variances and covariances, and intercepts to vary between countries in the multi-group analysis. Then, we compared the magnitude and significance of each hypothesized association between two countries to examine whether any differences were statistically significant.

3. Results

3.1. Descriptive statistics

Table 1 reports the descriptive statistics of the US and SK teachers. Independent-samples t-tests identified significant differences between teachers in the US and SK for most of the study variables. SK teachers had significantly higher scores on Negative Reactions than US teachers. US teachers showed significantly higher scores on the other four subscales of teacher responsiveness. US teachers also demonstrated greater reappraisal emotion regulation, and lower suppression emotion regulation. Teachers from the two countries did not significantly differ in job-related emotional exhaustion. Nevertheless, they showed an opposite trend in two items composing the job-related emotional exhaustion composite score. US teachers reported significantly lower scores on "I am emotionally exhausted by my work," while they showed significantly greater scores on "Dealing with children's behaviors drains my energy" than SK teachers. US teachers reported higher levels of emotional competence in their job, and lower levels of stress than SK teachers.

Correlations among the key study variables for US and SK teachers are presented in Table 2. Teachers' responsiveness was highly correlated with psychological well-being in both countries. However, in the US sample, no significant correlations were observed between emotional exhaustion and responsiveness.

3.2. Multivariate regression and multigroup analysis

The results for the preliminary model and the full model are presented in Tables 3 and 4. In general, psychological well-being was associated with responsiveness toward children among both US and SK teachers. However, there were some significant differences in the magnitude of the associations between two countries. The full multivariate model, allowing coefficients, error variances and covariances, and intercepts to vary between countries, had an adequate fit, $\chi^2 = 76.79$, $df = 34$, $p < .001$; RMSEA = 0.042 (90% CI [0.029, 0.054]); CFI = 0.980. The results for this full model are also visualized in Fig. 1.

3.2.1. Emotion regulation

Generally, teachers' reappraisal and suppression emotion regulation were significantly associated with teachers' responsiveness toward children in both samples. Although reappraisal emotion regulation was significantly associated with positive responsiveness toward children (i.e., Positively-Focused Reactions, Expressive Encouragement, and Positive Social Guidance) for teachers from both countries, the associations with Positively-Focused Reactions and Positive Social Guidance were stronger for SK teachers. Meanwhile, reduced suppression emotion regulation had significant associations with higher levels of Expressive Encouragement and Positive Social Guidance, and lower level of

Table 1
Descriptive statistics for study variables by country.

Variable Name	US				SK				*t*
	N	*M*	*(SD)*	Range	*N*	*M*	*(SD)*	Range	
Responsiveness									
Positively-Focused Reactions	1129	5.77	(0.88)	1–7	322	5.48	(0.91)	1.25–7	5.09***
Expressive Encouragement	1096	5.31	(1.15)	1–7	315	5.01	(1.00)	1.8–7	4.22***
Negative Reactions	1059	1.36	(0.63)	1–7	305	2.76	(1.04)	1–7	−28.84***
Positive Social Guidance	1126	5.92	(0.94)	1–7	321	5.71	(0.93)	1.43–7	3.49***
Negative Social Guidance	1084	3.97	(1.45)	1–7	303	3.64	(1.14)	1–7	3.64***
Psychological well-being									
Reappraisal emotion regulation	1116	5.46	(0.97)	1.5–7	321	5.04	(1.00)	2.33–7	6.64***
Suppression emotion regulation[a]	1114	4.76	(1.17)	1–7	320	4.36	(1.25)	1–7	−5.27***
Job-related emotional exhaustion	1119	3.53	(1.68)	1–7	322	3.67	(1.23)	1–7	−1.41
"I am emotionally exhausted by my work"	1118	3.44	(1.83)	1–7	321	4.17	(1.78)	1–7	−6.29***
"Dealing with children's behaviors drains my energy"	1117	3.62	(1.75)	1–7	317	3.17 (1.20)	1–5	4.29***	
Job-related emotional competence	1109	6.29	(1.04)	1–7	321	4.86	(1.28)	1–7	20.61***
Personal stress	1129	11.97	(5.66)	0–34	319	18.13	(4.68)	4–33	−17.82***
Covariates									
Job satisfaction	1120	6.23	(1.09)	1–7	322	5.00	(1.33)	1–7	16.99***
Disciplinary self-efficacy	1120	4.26	(0.62)	2–5	321	3.78	(0.68)	1.67–5	11.99***
Years in ECE field	1114	15.56	(9.62)	1–50	310	7.67	(6.38)	.25–31	13.63***
BA degree or higher	1109	0.67	(0.47)	0–1	322	0.72	(0.45)	0–1	−1.80
Perceived health condition	1112	4.01	(0.78)	1–5	322	2.74	(0.96)	1–5	24.42***
Age	1062	44.52	(12.32)	20–85	312	32.89	(8.48)	21–57	15.62***
Female	1110	0.97	(0.16)	0–1	320	0.97	(0.18)	0–1	0.60

Note. ***$p < .001$.
[a] Higher scores refer to lower suppression emotion regulation.

Table 2
Correlations among study variables by country.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Positively-Focused Reactions	–	.55***	−.02	.67***	.11	.33***	.00	.03	.13*	−.20***
2. Expressive Encouragement	.37***	–	−.06	.57***	−.03	.32***	.06	−.04	.16**	−.23***
3. Negative Reactions	−.18***	−.16***	–	−.12*	.61***	−.17**	−.28***	.29***	−.19***	.31***
4. Positive Social Guidance	.56***	.53***	−.25***	–	.10	.31***	.18**	−.06	.22***	−.16**
5. Negative Social Guidance	.22***	−.16***	.28***	−.03	–	−.15**	−.17**	.25***	−.20***	.29***
6. Reappraisal emotion regulation	.20***	.21***	.00	.20***	.04	–	−.14*	−.08	.33***	−.30***
7. Suppression emotion regulation[a]	−.04	.07*	−.18***	.06	−.13***	−.09**	–	−.23***	.06	−.21***
8. Emotional exhaustion	−.04	.02	.03	.02	.04	−.08**	−.09**	–	−.20***	.46***
9. Job−related emotional competence	.09**	.08**	−.07*	.10***	.01	.15***	.13***	−.08**	–	−.32***
10. Personal stress	−.07*	−.03	.08*	−.03	−.00	−.16***	−.10**	.38***	−.25***	–

Note. Correlations for the US sample are presented below the diagonal and correlations for the South Korean sample are presented above the diagonal.
*$p < .05$, **$p < .01$, ***$p < .001$.
[a] Higher scores refer to lower suppression emotion regulation.

Table 3
Preliminary model examining between-group differences of associations between key predictors and outcomes.

Variables	Positively−Focused Reactions					Expressive Encouragement					Negative Reactions				
	US		SK		Multi−group	US		SK		Multi−group	US		SK		Multi−group
	β	SE	*β*	SE		*β*	SE	*β*	SE		*β*	SE	*β*	SE	
Reappraisal ER	0.16***	0.03	0.27***	0.05	3.13	0.27***	0.04	0.28***	0.06	ns	0.00	0.02	−0.14*	0.06	4.53*
Suppression ER[a]	−0.03	0.02	0.03	0.04	ns	0.09**	0.03	0.07	0.05	ns	−0.09***	0.02	−0.18***	0.05	ns
Emo. exhaustion	−0.01	0.02	0.11*	0.04	6.17*	0.03	0.02	0.06	0.05	ns	0.00	0.01	0.13**	0.05	6.79**
Emo. competence	0.05	0.03	0.00	0.04	ns	0.04	0.04	0.03	0.05	ns	−0.02	0.02	−0.05	0.05	ns
Personal stress	0.00	0.01	−0.03**	0.01	5.27*	0.00	0.01	−0.03*	0.01	ns	0.01	0.00	0.03*	0.01	ns
Intercept	4.76***	0.26	4.20***	0.49	ns	3.10***	0.34	3.47***	0.57	ns	1.83***	0.19	3.45***	0.58	7.09**

Variables	Positive Social Guidance					Negative Social Guidance				
	US		SK		Multi−group	US		SK		Multi−group
	β	SE	*β*	SE		*β*	SE	*β*	SE	
Reappraisal ER	0.20***	0.03	0.28***	0.05	ns	0.04	0.05	−0.08	0.07	ns
Suppression ER[a]	0.06	0.02	0.17***	0.04	5.31*	−0.16***	0.04	−0.11*	0.05	ns
Emo. exhaustion	0.03	0.02	0.03	0.04	ns	0.03	0.03	0.11*	0.06	ns
Emo. competence	0.06*	0.03	0.08*	0.04	ns	0.03	0.05	−0.09	0.05	ns
Personal stress	0.00	0.01	0.00	0.01	ns	−0.01	0.01	0.04*	0.02	5.16*
Intercept	4.11***	0.27	3.06***	0.51	ns	4.28***	0.44	3.91***	0.65	ns

Note. ER = emotion regulation; ns = not significant; *β* = unstandardized coefficient; SE = standard error.
*$p < .05$, **$p < .01$, ***$p < .001$.
[a] Higher scores refer to lower suppression emotion regulation.

Table 4
Multi−group analysis comparing associations of US and SK teachers.

Variables	Positively−Focused Reactions					Expressive Encouragement					Negative Reactions				
	US		SK		Multi−group	US		SK		Multi−group	US		SK		Multi−group
	β	SE	β	SE		β	SE	β	SE		β	SE	β	SE	
Psychological Well−Being															
Reappraisal ER	0.15***	0.03	0.34***	0.05	10.72**	0.27***	0.04	0.28***	0.06	ns	0.01	0.02	−0.09	0.06	ns
Suppression ER[a]	−0.01	0.02	0.05	0.04	ns	0.09**	0.03	0.10*	0.05	ns	−0.09***	0.02	−0.16**	0.05	ns
Emo. exhaustion	0.00	0.02	0.09*	0.04	3.89*	0.03	0.02	0.00	0.05	ns	−0.01	0.01	0.11*	0.05	5.22*
Emo. competence	0.04	0.03	−0.05	0.04	ns	0.02	0.04	0.04	0.05	ns	−0.01	0.02	−0.14**	0.05	5.15*
Personal stress	−0.00	0.01	−0.04***	0.01	8.94**	0.00	0.01	−0.03*	0.01	4.12*	0.01	0.00	0.05**	0.01	6.63*
Covariates															
Job satisfaction	0.00	0.03	−0.02	0.04	ns	0.05	0.04	−0.08	0.05	4.27*	−0.02	0.02	0.01	0.05	ns
Disc. self−efficacy	0.17***	0.05	0.42***	0.07	8.83**	−0.06	0.06	0.03	0.09	ns	−0.04	0.03	0.16	0.09	4.76*
Years in ECE field	−0.00	0.00	0.02	0.01	ns	0.01	0.01	0.03	0.01	ns	0.00	0.00	0.04**	0.01	6.21*
BA or higher	−0.25***	0.06	−0.37***	0.10	ns	−0.02	0.07	−0.00	0.12	ns	0.01	0.04	−0.19	0.12	ns
Health condition	−0.06	0.04	−0.18**	0.05	ns	−0.03	0.05	−0.13*	0.06	ns	0.06*	0.03	0.08	0.06	ns
Age	0.00	0.00	−0.02*	0.01	4.65*	−0.00	0.00	0.00	0.01	ns	−0.00	0.00	−0.01	0.01	ns
Female	0.12	0.16	−0.54*	0.24	5.23*	0.24	0.20	−0.68*	0.29	6.51*	−0.37**	0.11	0.07	0.30	ns
Intercept	4.27***	0.38	4.46***	0.61	ns	3.10***	0.50	4.57***	0.75	ns	2.27***	0.28	2.48**	0.77	ns

Variables	Positive Social Guidance					Negative Social Guidance				
	US		SK		Multi−group	US		SK		Multi−group
	β	SE	β	SE		β	SE	β	SE	
Psychological Well−Being										
Reappraisal ER	0.19***	0.03	0.32***	0.05	4.52*	0.02	0.05	0.00	0.07	ns
Suppression ER[a]	0.06*	0.02	0.20***	0.04	9.38**	−0.15***	0.04	−0.09	0.05	ns
Emo. exhaustion	0.04*	0.02	0.02	0.04	ns	0.05	0.03	0.11*	0.06	ns
Emo. competence	0.04	0.03	−0.01	0.05	ns	0.04	0.05	−0.19**	0.06	9.58**
Personal stress	0.00	0.01	0.00	0.01	ns	−0.00	0.01	0.05**	0.02	7.76**
Covariates										
Job satisfaction	0.03	0.03	0.10*	0.05	ns	−0.03	0.04	0.01	0.06	ns
Disc. self−efficacy	0.14**	0.05	0.24**	0.07	ns	0.22**	0.08	0.35***	0.10	ns
Years in ECE field	0.00	0.00	0.03*	0.01	4.90*	−0.04***	0.01	0.04*	0.02	18.89***
BA or higher	−0.06	0.06	−0.25*	0.11	ns	−0.47***	0.09	−0.37**	0.14	ns
Health condition	−0.06	0.04	−0.12*	0.06	ns	0.10	0.06	0.06	0.07	ns
Age	−0.01	0.00	−0.02*	0.01	ns	0.01*	0.01	−0.02*	0.01	8.27**
Female	0.12	0.17	−0.45	0.26	ns	−0.32	0.25	0.03	0.33	ns
Intercept	3.87***	0.40	3.14***	0.66	ns	3.66***	0.63	2.92**	0.85	ns

Note. ER = emotion regulation; ns = not significant; β = unstandardized coefficient; SE = standard error.
*$p < .05$, **$p < .01$, ***$p < .001$.
[a] Higher scores refer to lower suppression emotion regulation.

Negative Reactions for both US and SK teachers. The association between suppression emotion regulation and Negative Social Guidance was significant only for US teachers. The between-country difference was significant only for Positive Social Guidance − SK teachers demonstrated a significantly stronger association between reduced suppression emotion regulation and increased Positive Social Guidance than US teachers.

3.2.2. Job-related emotional exhaustion and competence

Job-related emotional exhaustion and competence data indicated significant group differences, mostly being more significant predictors of the responsiveness for SK teachers than US teachers. Emotional exhaustion of US teachers was associated with a higher degree of Positive Social Guidance, but this association showed no significant group differences. SK teachers demonstrated positive associations between emotional exhaustion and Positively-Focused Reactions, Negative Reactions, and Negative Social Guidance. Among them, significant group differences were found for Positively-Focused Reactions and Negative Reactions. Job-related emotional competence was significantly associated with lower levels of Negative Reactions and Negative Social Guidance only for SK teachers, with significant group differences.

3.2.3. Personal stress

Personal stress had significant associations with teacher responsiveness only for SK teachers. A greater level of personal stress was associated with lower scores on Positively-Focused Reactions and Expressive Encouragement, and greater Negative Reactions and Negative Social Guidance for SK teachers. All four associations showed significant group differences.

4. Discussion

This study explored national variations in ECE teachers' psychological well-being, their responsiveness toward children, and the associations between well-being and responsiveness in SK and the US. Although the US and SK share similar political backgrounds, the two countries have different social characteristics. As suggested by the Prosocial Classroom Model, teachers' psychological well-being, their practice, and the way these two are associated can vary significantly by teachers' environments. This implies that the social atmospheres and cultural systems distinct to the US and SK may play a critical role in shaping teachers' interactions with children. Thus, intervention and policy efforts for children and teachers in ECE settings need to account for contextual variations among countries.

4.1. Variations in responsiveness and psychological well-being

First, we explored the similarities and differences in teachers'

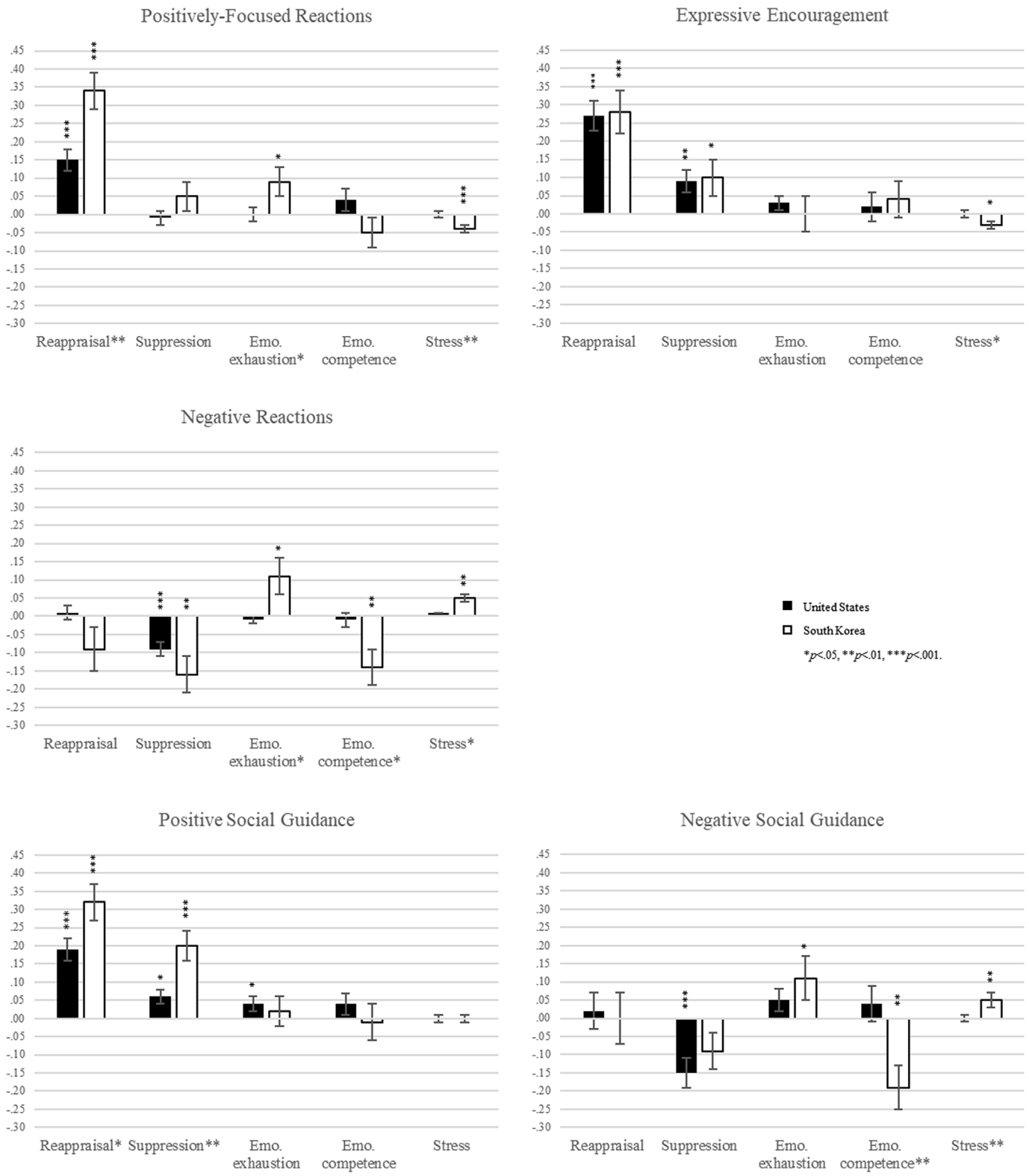

Fig. 1. Bar graphs showing the standardized multivariate regression coefficients for each country. *Note*. Asterisks on each bar indicate the *p*-values of each regression coefficient. Asterisks next to names of the variable indicate *p*-values of the between-group differences.

responsiveness toward children between SK and US teachers. As predicted, the study demonstrated significant variations in outcome variables between the two countries. US teachers reported greater positive responsiveness and social guidance than SK teachers. However, SK teachers were more likely to use Negative Reactions toward children's negative emotions. These findings are consistent with previous findings that US teachers tend to provide more positive statements and praise than SK teachers (Steed et al.,

2014), whereas SK teachers use more directive and teacher-centered instructional strategies (Clarke-Stewart et al., 2006; Y. H.; Kim & Stormont, 2012). Y. H. Kim and Stormont (2016) reaffirms this by reporting that redirection and reprimand/punishment were the two most frequently used strategies among SK ECE teachers, more than other positive strategies such as precorrection or behavior-specific praises. Our SK sample supports these previous findings.

We also found significant variation in psychological well-being between the two countries. US teachers reported that they utilize more desirable emotion regulation strategies (i.e., greater reappraisal and lower suppression) than SK teachers. Ford and Mauss (2015) suggest that context contributes to the motivation for emotion regulation. Specifically, the authors argue that people in contexts that emphasize interdependence (traditionally Asian backgrounds) are more likely to use suppression emotion regulation than those in the contexts that emphasize independence such as is found in the US. Therefore, the comparison between SK and US teachers in the current study may represent a comparison between these two unique contextual characteristics – interdependence-focused contexts and independence-focused contexts. SK people may suppress their own emotions more often than US teachers, whether the emotion is positive or negative, due to their contextual background. This emotion regulation process could negatively impact their emotional expression and overall psychological well-being (K. H. Kim & Lee, 2020), as reflected in the current findings on SK teachers.

In addition, SK teachers demonstrated lower job-related emotional competence and greater personal stress than US teachers. These findings may be attributed to more diverse sources of psychological challenges among SK teachers. For instance, SK teachers often report difficulties in their relationships with parents and families, which can be associated with greater psychological distress (A.-R. Chung, 2018; Hwang et al., 2012). Teachers from SK, or broadly from Asian backgrounds, tend to have greater engagement with parents (Steed et al., 2014), and encounter more complicated challenges and pressures from parents in ECE settings (Hong & Zhang, 2019). We suspect that these challenges may explain the lower levels of psychological well-being among SK teachers.

Another possible explanation is that differences in the ECE systems in the two countries may contribute to the differences in teachers' psychological well-being status. As discussed earlier, the SK ECE system is government-centralized and structured, while the US ECE system allows greater variance in individual districts and teachers. Moreover, the organizational climate in SK is hierarchical and does not allow teachers much autonomy (Ha & Jung, 2020). Under the highly controlled nature of the ECE system, SK teachers may experience greater levels of extrinsic motivation (motivated by external control), rather than intrinsic motivation (motivated by personal interest and willingness). According to Ryan and Deci (2000), one's increased self-determination or locus of control at work is associated with more intrinsic and self-integrated work motivation, which in turn leads to improved psychological well-being. It may be the case that SK teachers have lower intrinsic work motivation than US teachers due to the system climate, and as a result, they have decreased psychological well-being. More in-depth investigations are needed to better understand the differences in the associations between the climate of ECE systems and teachers' work motivation in the two countries.

Although job-related emotional exhaustion did not show significant differences between SK and US teachers, teachers from the two countries, interestingly, showed an opposite trend on the two items comprising this variable. SK teachers were more likely to be emotionally exhausted by their *work* in general, whereas US teachers were more likely to be emotionally exhausted by children's *challenging behaviors*. This implies that, although SK and US teachers experience similar levels of job-related emotional exhaustion, the sources of their emotional exhaustion may be different.

SK had been governed by the Confucian value system for centuries. Therefore, core norms and values of Confucian ideas are still prevalent in SK society, which puts a greater value on collectivism over individualism (Hofstede et al., 2010). In collectivistic societies such as SK, seeking harmonious interpersonal relationships is an important virtue, rather than expressing one's personal ideas and opinions that are different from others (U. Kim et al., 1994; Triandis, 1995). Thus, when SK teachers were asked about their work, they may have considered broader aspects of teacher duties, including interpersonal relationships with parents and colleagues. In contrast, US teachers who are under greater influences of individualistic norms and values may have focused more on matters within their own classrooms.

An empirical study by Steed et al. (2014) provides supporting evidence to this explanation. In their study, US teachers focused more on classroom organization and children's behavior management, while SK teachers spent more time and energy on collaborating with families. For example, SK teachers tended to involve families in the process of establishing program expectations and implementing positive behavioral interventions and supports strategies in the classroom than US teachers (Steed et al., 2014). As such, US teachers in our sample may have more concerns about children's behaviors, and thus, devote more energy to children's behavioral management itself. Meanwhile, SK teachers may spend more time with families to resolve concerns with children's behavior. In turn, SK teachers often report broad sources of stress in their work, including difficulties with parent-teacher communication (H. J. Lee & Kim, 2017; Son, 2009).

4.2. Role of emotion regulation in teacher responsiveness

Consistent with our hypothesis, there were significant overall associations between psychological well-being and responsiveness toward children among teachers in both countries, particularly for emotion regulation. Teachers using more reappraisal emotion regulation tended to demonstrate greater Expressive Encouragement, Positively-Focused Reactions, and Positive Social Guidance in both SK and the US. Moreover, in both countries, teachers using reduced suppression emotion regulation demonstrated greater Expressive Encouragement and Positive Social Guidance, and lower Negative Reactions. Literature shows that teachers often choose to suppress negative feelings and express other emotions that are more appropriate to the situations in which they interact with children and colleagues (Brown et al., 2018; Isenbarger & Zembylas, 2006). Our findings suggest that this tendency is also prevalent in our sample. There are mixed findings about the relationships between suppression emotion regulation and well-being, particularly among samples from non-Western contexts (Ford & Mauss, 2015). Still, suppression emotion regulation is generally considered as an undesirable strategy for teachers because it can lead to long-term negative psychological consequences (e.g., Gross, 2002; Gross & John, 2003; John & Gross, 2004). This highlights the importance of teacher training on positive emotion regulation strategies as an alternative to suppression emotion regulation.

Although the overall associations between emotion regulation and teacher responsiveness appeared to be similar across the two countries, the strength of associations between emotion regulation and responsiveness was significantly stronger for SK teachers. In the US, emotions are understood as individual-level constructs. However, in Asian countries such as SK, emotions are considered to

be relational, and emotions promoting harmonious interpersonal relationships are more emphasized (Gross, 2007; Hochschild, 1995). Teachers' responsiveness toward children is to some extent an interpersonal outcome in classroom settings. This national context in SK may impact the way that SK teachers use emotion regulation strategies in their interactions with children, resulting in stronger associations between emotion regulation and their responsiveness toward children.

4.3. Job-related emotional exhaustion and competence and personal stress

In the previous literature, job-related emotional exhaustion and competence, and personal stress have been associated with positive teacher practice in both SK and the US (e.g., Jennings, 2015; E. G.; Kim & Kwak, 2019; N.-S.; Park & Song, 2019; Whitaker et al., 2015). However, in the current study, job-related emotional exhaustion and competence were significantly associated only with responsiveness of SK teachers. The only exception was the positive association between job-related emotional exhaustion and Positive-Social Guidance among US teachers, which failed to show a significant group difference. Similarly, higher stress was associated with less use of Expressive Encouragement and Positively-Focused Reactions and greater use of Negative Reactions and Negative Social Guidance among SK teachers, whereas no significant associations between stress and teacher responsiveness were found among US teachers.

It is surprising to find a positive association between job-related emotional exhaustion and positive responsiveness in both countries. Given that these findings are correlational, not causal, it may be the case that teachers' efforts to provide positive responsiveness toward children increased their job-related emotional exhaustion. In a study of frontline workers who directly interact with customers, workers' obsessive passion (deriving from pressures or external control to engage in practice, rather than autonomous choice) was found to be related to greater usage of surface acting, which in turn was associated with emotional exhaustion (Chen et al., 2019). And the positive association between obsessive passion and emotional exhaustion is also found within the teaching profession (e.g., Fernet et al., 2014). Teachers in our sample may have obsessive passion, thus, their demonstration of positive responsiveness, potentially relying on surface acting, may lead to greater job-related emotional exhaustion.

One of the possible explanations for the non-significant associations between psychological burdens and responsiveness found among US teachers is that teachers' emotion regulation may play a mediating role in those relationships. Although US teachers showed no significant associations between job-related emotional exhaustion and responsiveness in multivariate regressions, we found that job-related emotional competence and personal stress were significantly correlated with responsiveness, and emotion regulation was significantly correlated with job-related emotional competence and personal stress in the US sample. These findings suggest possible mediation of emotion regulation on the association between responsiveness and psychological burdens. It is also worth noting that US-based studies that found positive associations between job-related emotional status and teacher practice (i.e., Jennings, 2015; McCormick Center for Early Childhood Leadership, 2016), and between personal stress and teacher practice (i.e., Denham et al., 2017; Jeon et al., 2018; Whitaker et al., 2015), did not account for teachers' emotion regulation or coping strategies in their models.

Interestingly, the association between responsiveness and psychological burden remained significant even after adding emotion regulation in the model for SK teachers. This indicates that emotion regulation has a unique association with teachers' responsiveness even after controlling for psychological burden. As shown in Table 1, US teachers demonstrated more desirable emotion regulation than SK teachers, whereas SK teachers showed lower job-related emotional competence and greater personal stress. Having significantly fewer psychological challenges, US teachers' utilization of positive emotion regulation strategies may function as a coping mechanism to increase job-related emotional competence and decrease personal stress (e.g., Mearns & Cain, 2003; Wagner et al., 2013), neutralizing the negative influences of psychological challenges on teacher practice.

4.4. Limitations

Despite its contributions to educational theory and praxis, this study has a few limitations. First, the current findings are correlational, not causal. Therefore, all the findings must be interpreted carefully because there are possibilities that the relations may be bidirectional. For example, building positive relationships with children may improve teachers' psychological well-being, rather than teachers' psychological well-being leading to their positive responsiveness toward children (e.g., Friedman-Krauss et al., 2014).

Second, this study used different sampling methods for SK and US samples, and the sample sizes were not balanced between the two countries. Particularly, SK teachers in the current study are mostly from urban metropolitan areas, which limits the generalizability of the results. Furthermore, this brings more complexities in the explanation of the findings. The findings on the associations between psychological well-being and responsiveness were generally more aligned with previous research for the SK sample than for the US sample even though the sampling method was more robust for the US sample. This might illustrate that the role of ECE teachers' psychological well-being may be more critical in their practice in SK than in the US. However, given the limitation of the sampling strategies, further research is needed to confirm the findings and the findings should be interpreted with caution.

Third, because of national variations, we collected demographic data differently in the SK and US surveys. For example, race and ethnicity data were only collected in the US, not in SK, because SK has a racially homogeneous population. Furthermore, unlike in the US where there is more diversity in ECE teacher qualifications, people without the national ECE teacher certificate are not qualified to work as a teacher in SK. Therefore, we did not separately ask SK teachers about teaching qualifications. In addition, teacher salary was not included in the model due to the differences in currency and economics. To utilize a consistent set of covariates across countries in the model, these variables were not considered. Instead, we included teachers' education level and years of experience as covariates, which were comparable between the two countries. It is still noteworthy that, in our sensitivity analyses, the associations between psychological well-being and responsiveness appeared consistently when the model with race and ethnicity was tested only with the US sample. Despite these efforts, it is important to note that this study did not account for cultural variations within the countries (e.g., potential race/ethnicity effects in the US) and we focused only on national level variations between the US and SK.

Finally, all of our findings are solely based on self-report measures which have a risk of response bias (e.g., Van de Mortel, 2008). In particular, bias may be introduced in reporting their own practice, such as responsiveness to children. However, it is still critical to understand teachers' self-reports because teachers' own perceptions of their performance can be a good representation of their actual interactions with children (Ascetta et al., 2019). Measuring teachers' practice using other means, such as observations, can

strengthen the internal validity of our findings in future research.

4.5. Implications for future research and practice

This exploratory study provides valuable insights about future research and practice that would promote positive teacher practice in ECE settings. First, our findings show that psychological well-being is associated with teachers' responsiveness in both countries. This finding is consistent with previous studies conducted in various countries, which also indicated an association between ECE educators' well-being and practice (e.g., Buettner et al., 2016 from the US; deSchipper et al., 2008 from Netherlands; K. H. Kim & Park, 2016; N.-Y. Lee et al., 2014 from SK; Kotaman, 2016 from Turkey). This underscores the importance of accounting for teachers' psychological well-being in policy and intervention efforts toward creating positive ECE environments, regardless of the national context. Interventions fostering teachers' mindfulness, reducing teacher burnout, and eliminating organization-level stressors have been found to be effective strategies for improving teachers' psychological well-being (e.g., Jennings, 2015; White, 2020).

At the same time, our findings suggest the existence of substantial cross-country differences in the state of psychological well-being. This indicates that national-level variations must be considered in designing and implementing ECE teacher interventions. For example, trainings on children's behavioral management can be more effective for the US teachers. Meanwhile, SK teachers may be better supported by training that focuses on relieving emotional exhaustion related to broader aspects of their work. In addition, given that overall level of psychological burdens as well as their associations with responsiveness were significantly higher for SK teachers, interventions on management of psychological challenges might be more effective for SK teachers in improving their responsiveness with children. Furthermore, considering the prevalence of individualistic norms and values in the US, it may be more appropriate to implement personalized interventions in the US than in SK.

Second, it may be critical to provide professional development to facilitate the increased use of reappraisal emotion regulation and reduced suppression emotion regulation. As teachers often use detrimental coping strategies such as suppression emotion regulation in ECE settings, regardless of the national backgrounds, there are possibilities that teachers have increased risks of adverse psychological consequences. More discussion and trainings about the importance of using healthy emotional coping skills are critical for the wellness of teachers. To our knowledge, no effective strategies to reduce suppression emotion regulation among ECE teachers have been identified yet. Wimmer et al. (2019) found that mindfulness trainings can be particularly effective to promote reappraisal emotion regulation; however, they did not find a positive association between mindfulness trainings and reduced suppression emotion regulation. It is important to put increased efforts into research and practice to identify strategies to reduce or alter suppression emotion regulation that is prevalent among teachers.

Finally, more in-depth research is needed to better understand the underlying mechanism between teachers' psychological well-being and their responsiveness toward children. Interestingly, our findings suggest potential mediation of emotion regulation on the association between teachers' psychological challenges and responsiveness. Identifying these mechanisms is essential to providing effective intervention strategies that promote teachers' psychological well-being and responsiveness. For example, if emotion regulation is indeed a mediator of the association between psychological burden and negative teacher practice, providing professional development on emotion regulation may be effective. Or, if SK teachers are truly more susceptible to psychological challenges, more targeted and collective efforts are needed between researchers, practitioners, and policymakers to address the issue of psychological burdens in SK.

Using this study as an exploratory study, further research would benefit from more in-depth investigations using a more rigorous sampling method in diverse contextual backgrounds. Cultural variations within the same countries (e.g., variations among diverse racial/ethnic groups in the US) could be further studied as well. This will help identify the most effective intervention strategies to promote teachers' psychological well-being and their positive ECE practice, which would ultimately facilitate children's healthy development in any given national setting.

Author note

We have no known conflict of interest to disclose. All authors have approved the final article should be true. The study was supported by the Johns Hopkins University School of Education Dean's Office.

References

Aboagye, M. O., Qin, J., Qayyum, A., Antwi, C. O., Jababu, Y., & Affum-Osei, E. (2018). Teacher burnout in pre-schools: A cross-cultural factorial validity, measurement invariance and latent mean comparison of the maslach burnout inventory, educators survey (MBI-ES). *Children and Youth Services Review, 94*, 186–197. https://doi.org/10.1016/j.childyouth.2018.09.041

Adams, P. F., Kirzinger, W. K., & Martinez, M. E. (2012). *Summary health statistics for the U.S. population*. National Center for Health Statistics. National Health Interview Survey, 2011.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.

Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. In G. A. Marcoulides, & R. E. Schumacker (Eds.), *Advanced structural equation modeling: Issues and techniques* (pp. 243–277). Lawrence Erlbaum Associates, Inc.

Ascetta, K., Harn, B., & Durán, L. (2019). Comparing self-reported and performance-based online feedback on early childhood teachers' implementation of language strategies. *Early Childhood Education Journal, 47*, 353–365. https://doi.org/10.1007/s10643-019-00934-8

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Baumgartner, J. J., Carson, R. L., Apavaloaie, L., & Tsouloupas, C. (2009). Uncovering common stressful factors and coping strategies among childcare providers. *Child and Youth Care Forum, 38*(5), 239–251. https://doi.org/10.1007/s10566-009-9079-5

Benevene, P., Wong, Y. H. P., Fiorilli, C., & De Stasio, S. (2018). A cross-national comparison on subjective well-being of kindergarten teachers: Hong Kong and Italy. *Frontiers in Psychology, 9*(2626), 1–6. https://doi.org/10.3389/fpsyg.2018.02626

Bhang, E.-J., & Chung, O. B. (2015). The influence of kindergarten teachers' teaching behaviors on young children's school readiness. *Early Childhood Education & Care, 10*(3), 25–52. https://doi.org/10.16978/ecec.2015.10.3.002

Brazinsky, G. A. (2007). *Nation building in South Korea: Koreans, Americans, and the making of a democracy*. The University of North Carolina Press.

Broekhuizen, M. L., Slot, P. L., van Aken, M. A. G., & Dubas, J. S. (2017). Teachers' emotional and behavioral support and preschoolers' self-regulation: Relations with social and emotional skills during play. *Early Education & Development, 28*(2), 135–153. https://doi.org/10.1080/10409289.2016.1206458

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen, & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Sage.

Brown, E. L., Vesely, C. K., Mahatmya, D., & Visconti, K. J. (2018). Emotions matter: The moderating role of emotional labour on preschool teacher and children interactions. *Early Child Development and Care, 188*(12), 1773–1787. https://doi.org/10.1080/03004430.2017.1286336

Buettner, C. K., Jeon, L., Hur, E., & Garcia, R. E. (2016). Teachers' social–emotional capacity: Factors associated with teachers' responsiveness and professional commitment. *Early Education & Development, 27*(7), 1018–1039. https://doi.org/10.1080/10409289.2016.1168227

Cassidy, D. J., King, E. K., Wang, Y. C., Lower, J. K., & Kintner-Duffy, V. L. (2017). Teacher work environments are toddler learning environments: Teacher professional well-being, classroom emotional support, and toddlers' emotional expressions and behaviours. *Early Child Development and Care, 187*(11), 1666–1678. https://doi.org/10.1080/03004430.2016.1180516

Central Support Center for Childcare. (2013). *Je3cha pyojunboyukgwajeong [The 3rd standard child care curriculum]*. Central Support Center for Childcare. https://www.nccw.educare.or.kr/cntntsService.do?menuId=MNU_0000000000000355&upperMenuId=MNU_0000000000000340.

Chen, K.-Y., Chang, C.-W., & Wang, C.-H. (2019). Frontline employees' passion and emotional exhaustion: The mediating role of emotional labor strategies. *International Journal of Hospitality Management, 76*, 163–172. https://doi.org/10.1016/j.ijhm.2018.05.006

Child Care Act. (2019). https://elaw.klri.re.kr/kor_mobile/viewer.do?hseq=50844&type=sogan&key=10.

Cho, E. K., & Couse, L. J. (2008). Early childhood teacher policy in the United States: Continuing issues, overcoming barriers, and envisioning the future. *International Journal of Child Care and Education Policy, 2*(2), 15–30. https://doi.org/10.1007/2288-6729-2-2-15

Chung, S. A. (2014). A study on the perspectives of implementing national early childhood education and care curriculum: Comparison with 6 OECD Nations' National early childhood education and care curriculum. *Journal of Korean Child Care and Education, 10*(1), 157–164.

Chung, A.-R. (2018). Exploration of the job stress and support requirement of first-year kindergarten teachers in private kindergartens—focus on Gwangju Metropolitan City -. *The Journal of Korea Open Association for Early Childhood Education, 23*(1), 171–199. https://doi.org/10.20437/KOAECE23-1-07

Clarke-Stewart, K. A., Lee, Y., Allhusen, V. D., Kim, M. S., & McDowell, D. J. (2006). Observed differences between early childhood programs in the U.S. and Korea: Reflections of "developmentally appropriate practices" in two cultural contexts. *Journal of Applied Developmental Psychology, 27*(5), 427–443. https://doi.org/10.1016/j.appdev.2006.06.006

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385–396. https://doi.org/10.2307/2136404

Denham, S. A., & Bassett, H. H. (2019). Early childhood teachers' socialization of children's emotional competence. *Journal of Research in Innovative Teaching & Learning, 12*(2), 133–150. https://doi.org/10.1108/JRIT-01-2019-0007

Denham, S. A., Bassett, H. H., & Miller, S. L. (2017). Early childhood teachers' socialization of emotion: Contextual and individual contributors. *Child and Youth Care Forum, 46*(6), 805–824. https://doi.org/10.1007/s10566-017-9409-y

Denham, S. A., Bassett, H. H., & Zinsser, K. M. (2012). Early childhood teachers as socializers of young children's emotional competence. *Early Childhood Education Journal, 40*(3), 137–143. https://doi.org/10.1007/s10643-012-0504-2

Early Childhood Education Act. (2017). https://elaw.klri.re.kr/kor_mobile/viewer.do?hseq=46386&type=sogan&key=2.

Ersay, E. (2015). Preschool teachers' emotional awareness levels and their responses to children's negative emotions. *Procedia - Social and Behavioral Sciences, 191*, 1833–1837. https://doi.org/10.1016/j.sbspro.2015.04.220

Fabes, R. A., Eisenberg, N., & Bernzweig, J. (1990). *The coping with children's negative emotions scale: Procedures and scoring*. Arizona State University. Available from: authors.

Fang, Y., & Gopinathan, S. (2009). Teachers and teaching in eastern and western schools: A critical review of cross-cultural comparative studies. In L. J. Saha, & A. G. Dworkin (Eds.), *International handbook of research on teachers and teaching* (pp. 557–572). Springer.

Fernet, C., Lavigne, G. L., Vallerand, R. J., & Austin, S. (2014). Fired up with passion: Investigating how job autonomy and passion predict burnout at career start in teachers. *Work & Stress, 28*(3), 270–288. https://doi.org/10.1080/02678373.2014.935524

Ford, B. Q., & Mauss, I. B. (2015). Culture and emotion regulation. *Current Opinion in Psychology, 3*, 1–5. https://doi.org/10.1016/j.copsyc.2014.12.004

Friedman-Krauss, A. H., Raver, C. C., Morris, P. A., & Jones, S. M. (2014). The role of classroom-level child behavior problems in predicting preschool teacher stress and classroom emotional climate. *Early Education & Development, 25*(4), 530–552. https://doi.org/10.1080/10409289.2013.817030

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology, 2*(3), 271–299. https://doi.org/10.1037/1089-2680.2.3.271

Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology, 39*(3), 281–291. https://doi.org/10.1017/S0048577201393198

Gross, J. J. (2007). *Handbook of emotion regulation*. The Guilford Press.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*(2), 348–362. https://doi.org/10.1037/0022-3514.85.2.348

Ha, N. R., & Jung, H. Y. (2020). Exploring how teachers experience organizational culture of childcare centers: Focusing on Freire's view. *Journal of Educational Innovation Research, 30*(2), 275–311.

Halberstadt, A. G., & Wilson, M. E. (2010). *Self-expressiveness in the classroom Questionnaire*. Department of Psychology, North Carolina State University.

Hall-Kenyon, K. M., Bullough, R. V., MacKay, K. L., & Marshall, E. E. (2014). Preschool teacher well-being: A review of the literature. *Early Childhood Education Journal, 42*(3), 153–162. https://doi.org/10.1007/s10643-013-0595-4

Hochschild, J. L. (1995). What is the American Dream? In J. L. Hochschild (Ed.), *Facing up to the American Dream: Race, class and the soul of the nation* (pp. 15–38). Princeton University Press.

Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind*. McGraw-Hill. Rev. and expanded 3. ed.

Hong, X.-M., & Zhang, M.-Z. (2019). Early childhood teachers' emotional labor: A cross-cultural qualitative study in China and Norway. *European Early Childhood Education Research Journal, 27*(4), 479–493. https://doi.org/10.1080/1350293X.2019.1634235

Hwang, H.-I., Kim, M.-J., & Tak, J.-H. (2012). A study on the work-related stress of teachers in employer-supported child care centers. *The Journal of Korea Open Association for Early Childhood Education, 17*(1), 313–335.

Isenbarger, L., & Zembylas, M. (2006). The emotional labour of caring in teaching. *Teaching and Teacher Education, 22*(1), 120–134. https://doi.org/10.1016/j.tate.2005.07.002

Jennings, P. A. (2015). Early childhood teachers' well-being, mindfulness, and self-compassion in relation to classroom quality and attitudes towards challenging students. *Mindfulness, 6*(4), 732–743. https://doi.org/10.1007/s12671-014-0312-4

Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research, 79*(1), 491–525.

Jeon, L., Buettner, C. K., Grant, A. A., & Lang, S. N. (2019). Early childhood teachers' stress and children's social, emotional, and behavioral functioning. *Journal of Applied Developmental Psychology, 61*, 21–32. https://doi.org/10.1016/j.appdev.2018.02.002

Jeon, L., Hur, E., & Buettner, C. K. (2016). Child-care chaos and teachers' responsiveness: The indirect associations through teachers' emotion regulation and coping. *Journal of School Psychology, 59*, 83–96. https://doi.org/10.1016/j.jsp.2016.09.006

Jeon, L., Kwon, K.-A., & Choi, J. Y. (2018). Family child care providers' responsiveness toward children: The role of professional support and perceived stress. *Children and Youth Services Review, 94*, 500–510. https://doi.org/10.1016/j.childyouth.2018.08.023

Jeon, L., & Wells, M. B. (2018). An organizational-level analysis of early childhood teachers' job attitudes: Workplace satisfaction affects Early Head Start and Head Start teacher turnover. *Child and Youth Care Forum, 47*(4), 563–581. https://doi.org/10.1007/s10566-018-9444-3

John, O. P., & Gross, J. J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of Personality, 72*(6), 1301–1334. https://doi.org/10.1111/j.1467-6494.2004.00298.x

Kağıtçıbaşı, Ç. (2007). *Family, self, and human development across cultures: Theory and applications* (2nd ed.). Lawrence Erlbaum Associates, Inc.

Karabay, S. O. (2019). Emotion regulation, teaching beliefs and child–teacher relationships from the perspectives of pre-school teachers. *Education, 47*(1), 101–115. https://doi.org/10.1080/03004279.2017.1405057, 3-13.

Kim, T.-D. (2016). The effects in kindergarten adjustment: The mediating effects of teachers support. *Korea Journal of Child Care and Education, 99*, 19–34.

Kim, J., & Choi, M.-K. (2018). Effect of burnout of preschool teachers on teacher-child interaction: The mediating role of psychological well-being. *Korean Journal of Child Studies, 39*(3), 127–139. https://doi.org/10.5723/kjcs.2018.39.3.127

Kim, H. K., & Han, S. (2019). South Korean and U.S. early childhood teachers' beliefs and practices supporting children's social competence. *Current Psychology*, 1–14. https://doi.org/10.1007/s12144-019-00437-0

Kim, W., Kim, J., & Lee, J.-E. (2019). The mediating effect of childcare teachers' job satisfaction in the relationship between organizational health of daycare centers and teacher-child interaction. *Early Childhood Education Research & Review, 23*(6), 83–103. https://doi.org/10.32349/ECERR.2019.12.23.6.83

Kim, E. G., & Kwak, K. H. (2019). The effect of teachers' efficacy on teacher-child interaction: The mediating effect of job stress. *Korean Journal of Children's Media, 18*(4), 271–292. https://doi.org/10.21183/kjcm.2019.12.18.4.271

Kim, K. H., & Lee, H. K. (2020). Development and validation of the Korean response styles to positive affect scale. *The Korean Journal of Rehabilitation Psychology, 27*(3), 85–115. https://doi.org/10.35734/karp.2020.27.3.005

Kim, K. H., & Park, J. H. (2016). Path analysis on factors of teacher's job stress to the teacher-children interaction in childcare center. *The Korean Society for Child Education and Care, 16*(2), 1–16. https://doi.org/10.21213/kjcec.2016.16.2.1

Kim, Y. H., & Stormont, M. (2012). Factors associated with South Korean early childhood educators' observed behavior support strategies. *Journal of Positive Behavior Interventions, 14*(2), 78–86. https://doi.org/10.1177/1098300711421009

Kim, Y. H., & Stormont, M. (2016). Korean early childhood educators' self-reported versus observed strategies for addressing challenging behaviors: An exploratory study. *International Journal on Disability and Human Development, 15*(1). https://doi.org/10.1515/ijdhd-2014-0029

Kim, U., Triandis, H. C., Kagitcibasi, C., Choi, S.-C., & Yoon, G. (1994). Introduction. In U. Kim, H. C. Triandis, C. Kagitcibasi, S.-C. Choi, & G. Yoon (Eds.), *Individualism and collectivism: Theory, method, and applications* (pp. 1–19). Sage.

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th). The Guilford Press.

Korean Educational Statistics Service. (2020). *Haengjeongguyeokbyeol seollipbyeol hakgyosu [The number of schools by region, by types]*. Korean Educational Statistics Service. https://kess.kedi.re.kr/mobile/stats/school?menuCd=0101&cd=5005&survSeq=2020&itemCode=01&menuId=m_010108&uppCd1=010108&uppCd2=010108&flag=A.

Kotaman, H. (2016). Turkish early childhood teachers' emotional problems in early years of their professional lives. *European Early Childhood Education Research Journal, 24*(3), 365–381. https://doi.org/10.1080/1350293X.2014.970849

Labor Standards Act. (2019). https://elaw.klri.re.kr/kor_service/lawView.do?hseq=50315&lang=ENG.

Lee, H. J., & Kim, N.-H. (2017). The effects of early childhood teachers' difficulties in both organizational and parent-teacher communication on their emotional labor. *The Journal of Korea Open Association for Early Childhood Education, 22*(5), 163–186.

Lee, N.-Y., Kook, J.-Y., & Kim, Y.-O. (2014). The mediating effect of emotional labor on the relationship between child care teachers' burnout and teacher- young

children interaction. *Korea Journal of Child Care and Education, 89*, 341–359.
Lee, K.-R., & Moon, H. J. (2016). The effects of infant care teacher's adult attachment, emotional regulation ability and teacher efficacy to teacher-infant interaction. *Korea Journal of Child Care and Education, 100*, 1–23.
Maslach, C., Jackson, S. E., & Leiter, M. P. (1997). Maslach burnout inventory: Third edition. In C. P. Zalaquett, & R. J. Wood (Eds.), *Evaluating stress: A book of resources* (pp. 191–218). Scarecrow Education.
McCormick Center for Early Childhood Leadership. (2016). *The influence of center climate on teachers' emotional support of children*. McCormick Center for Early Childhood Leadership, National Louis University.
McLean, C., Austin, L. J. E., Whitebook, M., & Olson, K. L. (2021). *Early childhood workforce index – 2020*. Berkeley: Center for the Study of Child Care Employment, University of California. https://cscce.berkeley.edu/workforce-index-2020/report-pdf/.
McMullen, M., Elicker, J., Wang, J., Erdiller, Z., Lee, S.-M., Lin, C.-H., & Sun, P.-Y. (2005). Comparing beliefs about appropriate practice among early childhood education and care professionals from the U.S., China, Taiwan, Korea and Turkey. *Early Childhood Research Quarterly, 20*(4), 451–464. https://doi.org/10.1016/j.ecresq.2005.10.005
Mearns, J., & Cain, J. E. (2003). Relationships between teachers' occupational stress and their burnout and distress: Roles of coping and negative mood regulation expectancies. *Anxiety, Stress & Coping, 16*(1), 71–82. https://doi.org/10.1080/1061580021000057040
Menard, S. (1995). *Applied logistic regression analysis*. Sage.
Mill, D., & Romano-White, D. (1999). Correlates of affectionate and angry behavior in child care educators of preschool-aged children. *Early Childhood Research Quarterly, 14*(2), 155–178. https://doi.org/10.1016/S0885-2006(99)00007-1
Ministry of Education, & Ministry of Health and Welfare. (2019). *2019 gaejeong nurigwajeong haeseolseo [manual for 2019 revision of nuri curriculum]*. Ministry of Education & Ministry of Health and Welfare. https://www.moe.go.kr/boardCnts/view.do?boardID=312&boardSeq=79419&lev=0&searchType=null&statusYN=W&page=1&s=moe&m=0301&opType=N.
Ministry of Education, Science and Technology, & Ministry of Health and Welfare. (2013). *3-5se yeollyeongbyeol nurigwajeong haeseolseo [Manual for Nuri Curriculum for 3 to 5-year-olds by age]*. Ministry of Education, Science and Technology & Ministry of Health and Welfare.
Ministry of Health and Welfare. (2013). *Je3cha eorinijim pyojunboyukgwajeong gyosayong jichimseo [teachers' manual for 3th standard curriculum for Childcare centers]*. Ministry of Health and Welfare & Korea Institute of Child Care and Education. http://repo.kicce.re.kr/handle/2019.oak/1452.
Ministry of Health and Welfare. (2019). *Boyuktonggye: 2019nyeon 12wol mal gijun [Childcare statistics: As of the end of december 2019]*. Ministry of Health and Welfare. https://www.kcpi.or.kr/upload/board/15_1_20200703150211.pdf.
Ministry of Health and Welfare. (2020). *Je4cha eorinijim pyojunboyukgwajeong haeseolseo [manual for 4th standard curriculum for Childcare centers]*. Ministry of Health and Welfare. https://central.childcare.go.kr/ccef/community/data/DataImgSl.jsp?flag=Sl&BBSGB=42&BID=385944&clsfccode=&offset=.
Ministry of Health and Welfare. (2021). *2021nyeondo boyuksaeobannae [2021 guideline for child care programs]*. The Ministry of Health and Welfare. http://www.mohw.go.kr/react/modules/download.jsp?BOARD_ID=5900&CONT_SEQ=363107&FILE_SEQ=322337.
Morris, C. A. S., Denham, S. A., Bassett, H. H., & Curby, T. W. (2013). Relations among teachers' emotion socialization beliefs and practices and preschoolers' emotional competence. *Early Education & Development, 24*(7), 979–999. https://doi.org/10.1080/10409289.2013.825186
National Center on Early Childhood Quality Assurance. (2016). *Early learning standards and guidelines*. Office of Child Care, Administration for Children and Families, Department of Health and Human Services. https://childcareta.acf.hhs.gov/sites/default/files/public/state_elgs_web_final_2.pdf.
National Survey of Early Care and Education. (2013). *Number and characteristics of early care and education (ECE) teachers and caregivers: Initial findings from the National Survey of Early Care and Education (NSECE)*. Office of Planning, Research and Evaluation, Administration for Children and Families, U. S. Department of Health and Human Services.
O'Sullivan, C., Ryan, S., & O'Sullivan, L. (2021). Teacher well-being in diverse school and preschool contexts. In T. R. N. Murphy, & P. Mannix-McNamara (Eds.), *International perspectives on teacher well-being and diversity: Portals into innovative classroom practice* (pp. 163–187). Springer.
Park, J. O., & Seo, Y. S. (2010). Validation of the perceived stress scale (PSS) on samples of Korean university students. *The Korean Journal of Psychology: General, 29*(3), 611–629.
Park, N.-S., & Song, S.-M. (2019). The influence of child care teacher's self-care on teacher-child interaction: The mediating effect of psychological burnout. *Early Childhood Education Research & Review, 23*(6), 105–124. https://doi.org/10.32349/ECERR.2019.12.23.6.105
Park, C., & Yang, M. (2017). An analysis of kindergarten and childcare center teacher's perception of the Nuri Curriculum based on curriculum autonomy and diversity. *Korean Journal of Child Care and Education Policy, 11*(1), 209–237.
Paterson, A. D., Babb, K. A., Camodeca, A., Goodwin, J., Hakim-Larson, J., Voelker, S., & Gragg, M. (2012). Emotion-related parenting styles (erps): A short form for measuring parental meta-emotion philosophy. *Early Education & Development, 23*(4), 583–602. https://doi.org/10.1080/10409289.2011.569316
Penttinen, V., Pakarinen, E., von Suchodoletz, A., & Lerkkanen, M.-K. (2020). Relations between kindergarten teachers' occupational well-being and the quality of teacher-child interactions. *Early Education & Development, 31*(7), 994–1010. https://doi.org/10.1080/10409289.2020.1785265
Pianta, R. C., Cox, M. J., Taylor, L., & Early, D. (1999). Kindergarten teachers' practices related to the transition to school: Results of a national survey. *The Elementary School Journal, 100*(1), 71–86. https://doi.org/10.2307/1002162
Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2008). *Classroom Assessment scoring system (CLASS)*. Paul H. Brookes.
Pines, A. M., & Aronson, E. (1988). *Career burnout: Causes and cures*. Free Press.
Pochtar, R., & Vecchio, T. D. (2014). A cross-cultural examination of preschool teacher cognitions and responses to child aggression. *School Psychology International, 35*(2), 176–190. https://doi.org/10.1177/0143034312471471
Richards, J. M., & Gross, J. J. (2000). Emotion regulation and memory: The cognitive costs of keeping one's cool. *Journal of Personality and Social Psychology, 79*(3), 410–424. https://doi.org/10.1037/0022-3514.79.3.410
Rothbaum, F., Nagaoka, R., & Ponte, I. C. (2006). Caregiver sensitivity in cultural context: Japanese and U.S. Teachers' beliefs about anticipating and responding to children's needs. *Journal of Research in Childhood Education, 21*(1), 23–40. https://doi.org/10.1080/02568540609594576
Rous, B., Hallam, R., McCormick, K., & Cox, M. (2010). Practices that support the transition to public preschool programs: Results from a National Survey. *Early Childhood Research Quarterly, 25*(1), 17–32. https://doi.org/10.1016/j.ecresq.2009.09.001
Ryan, R. M., & Deci, E. L. (2000). *Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being* (Vol. 11). American Psychologist.
de Schipper, E. J., Riksen-Walraven, J. M., Geurts, S. A. E., & de Weerth, C. (2009). Cortisol levels of caregivers in child care centers as related to the quality of their caregiving. *Early Childhood Research Quarterly, 24*(1), 55–63. https://doi.org/10.1016/j.ecresq.2008.10.004
de Schipper, E. J., Riksen-Walraven, J. M., Geurts, S. A. E., & Derksen, J. J. L. (2008). General mood of professional caregivers in child care centers and the quality of caregiver–child interactions. *Journal of Research in Personality, 42*(3), 515–526. https://doi.org/10.1016/j.jrp.2007.07.009
Sheridan, S., Giota, J., Han, Y.-M., & Kwon, J.-Y. (2009). A cross-cultural study of preschool quality in South Korea and Sweden: ECERS evaluations. *Early Childhood Research Quarterly, 24*(2), 142–156. https://doi.org/10.1016/j.ecresq.2009.03.004
Son, H. H. (2009). *A study on the difficulties with parent-teacher communication perceived by kindergarten teachers*. Master's thesis. Pusan National University.
Steed, E. A., Noh, J., & Heo, K. H. (2014). A cross-cultural comparison of positive behavioral interventions and supports in early childhood classrooms in the United States and South Korea. *Infants & Young Children, 27*(1), 30–42. https://doi.org/10.1097/IYC.0b013e3182a4ec46
Swartz, R. A., & McElwain, N. L. (2012). Preservice teachers' emotion-related regulation and cognition: Associations with teachers' responses to children's emotions in early childhood classrooms. *Early Education & Development, 23*(2), 202–226. https://doi.org/10.1080/10409289.2012.619392
Triandis, H. C. (1995). *Individualism and collectivism*. Westview Press.
Van de Mortel, T. F. (2008). Faking it: Social desirability response bias in selfreport research. *Australian Journal of Advanced Nursing, 25*(4), 40–48.
Wagner, S. L., Forer, B., Cepeda, I. L., Goelman, H., Maggi, S., D'Angiulli, A., Wessel, J., Hertzman, C., & Grunau, R. E. (2013). Perceived stress and Canadian early childcare educators. *Child and Youth Care Forum, 42*(1), 53–70. https://doi.org/10.1007/s10566-012-9187-5
Whitaker, R. C., Dearth-Wesley, T., & Gooze, R. A. (2015). Workplace stress and the quality of teacher–children relationships in Head Start. *Early Childhood Research Quarterly, 30*, 57–69. https://doi.org/10.1016/j.ecresq.2014.08.008
White, J. (2020). *Supporting teachers' mental health and wellbeing: Evidence review*. NHS Health Scotland.
Wimmer, L., Stockhausen, L.von, & Bellingrath, S. (2019). Improving emotion regulation and mood in teacher trainees: Effectiveness of two mindfulness trainings. *Brain and Behavior, 9*(e01390), 1–13. https://doi.org/10.1002/brb3.1390
Zinsser, K. M., Bailey, C. S., Curby, T. W., Denham, S. A., & Bassett, H. H. (2013). Exploring the predictable classroom: Preschool teacher stress, emotional supportiveness, and students' social-emotional behavior in private and Head Start classrooms. *VDE dialog. Zeitschrift für VDE-Mitglieder, 16*(2), 90–108.
Zinsser, K. M., Christensen, C. G., & Torres, L. (2016). She's supporting them; who's supporting her? Preschool center-level social-emotional supports and teacher well-being. *Journal of School Psychology, 59*, 55–66. https://doi.org/10.1016/j.jsp.2016.09.001