

RESEARCH BRIEF

TEACHER-CHILD INTERACTIONS AND CHILDREN'S RESPONSES TO STRESS

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This study found evidence that supportive teacher-child interactions promote kindergarten children's stress response regulation. Children in classrooms with high levels of teacher emotional and instructional support experience less physiological stress during their school day.

The kindergarten is a complex social environment and children respond with increased stress when navigating the cognitive and social-emotional challenges. Children consistently demonstrate higher cortisol levels, a biomarker of stress, at kindergarten than at home. Cortisol levels normally peak in the early morning hours and then decline throughout the day. While short spurts of increased arousal are unharmed and may facilitate learning, prolonged, chronic activity of the stress response system negatively impacts learning and health. For these reasons, it is important to define the factors that contribute to children's stress response regulation at an individual level within the classroom. A crucial factor is the quality of interactions between teacher and students in the classroom. In line with the UAE's educational mission to provide developmentally appropriate, high-quality instruction in kindergarten classrooms, the purpose of this study was to identify indicators of teacher-child interactions that relate to kindergarten children's stress. This research may help develop an understanding of how different types of classroom interactions relate to children's stress response regulation and ultimately to children's capacity to develop skills they need to succeed in school.

The study

First, the quality of teacher-child interactions in kindergarten classrooms in the UAE is described using the Classroom Assessment Scoring System, a widely used observation tool (Pianta, Hamre, & La Paro, 2008). Second, the relationship between the indicators of teacher-child interactions and kindergarten children's stress response regulation (in the form of fluctuation of cortisol levels) is examined.

Participants were 138 five-years old children in 27 classrooms across the UAE. All teachers had a Western background. Five children from each classroom participated in the study. Teacher-child interactions were observed during four 20-minute periods across the school day. Children's cortisol levels were assessed three times across the school day: after arriving in the morning, mid-morning, and before the school day ended.

Relevant aspects of **positive and supportive teacher-child interactions** include the emotional climate of the classroom, the quality of instructional procedures, and classroom management and organization (Hamre et al., 2013).

Emotional Support

Emotional support reflects the overall emotional tone of the classroom and teachers' efforts to provide a predictable, consistent, and positive environment.

Instructional Support

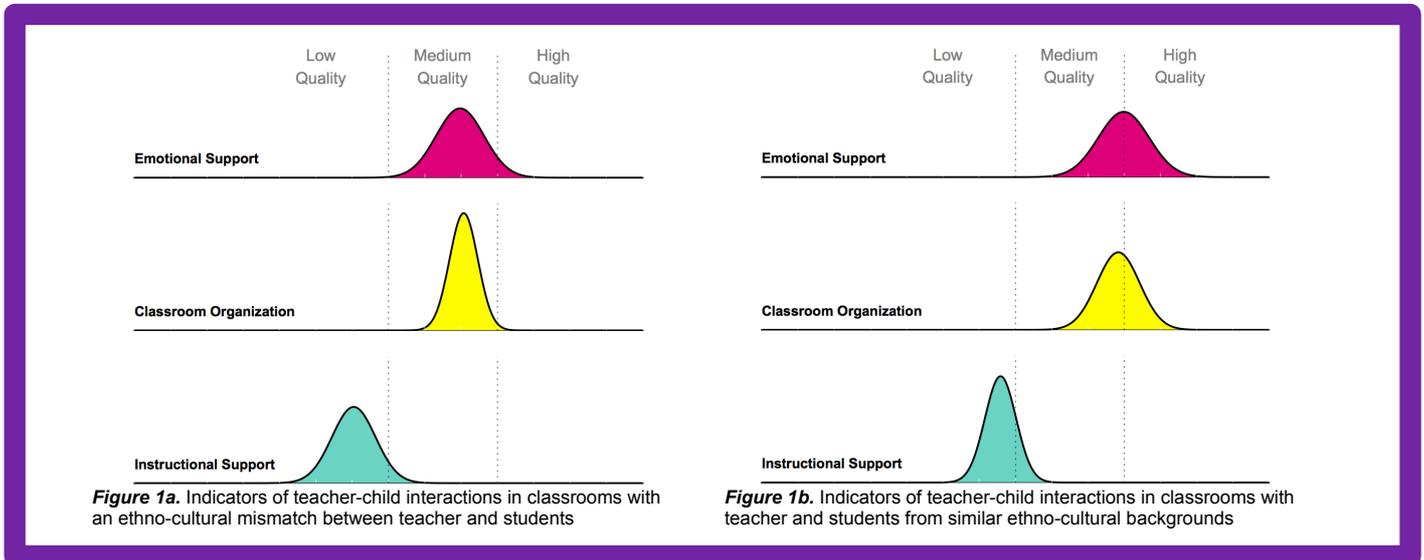
Instructional support describes the degree to which the teacher uses instructional discussions and activities to stimulate students' creative and reasoning skills, provides high-quality language-stimulation and feedback that expands students' learning and understanding.

Classroom Organization

Classroom organization encompasses teachers' abilities to use effective methods and strategies to prevent and redirect misbehavior, manage instructional time, and maximize students' engagement and ability to learn.

Findings

Describing teacher-child interactions: The quality of teacher-child interactions varied widely across classrooms. In general, the overall level of *Emotional Support* and *Classroom Organization* was moderate while the overall level of *Instructional Support* was low. When comparing classrooms with different ethno-cultural composition, however, we found that the quality of teacher-child interactions was lower in classrooms in which teachers work with students who are mostly from a different ethno-cultural background than the teacher. Moreover, the observed differences in the quality of teacher-child interactions were relatively stable over the morning.



Relations to children's stress response regulation: In all classrooms, indicators of teacher-child interactions predicted fluctuation in children's cortisol level. Specifically, children in classrooms with higher levels of teacher *Emotional Support* and *Instructional Support* had lower total cortisol levels indicating lower stress. In addition, in these classrooms children displayed a greater decline in cortisol from morning to early afternoon. Together, this suggests that a positive classroom environment might support children's ability to regulate behavior and stressors.

Implications

Consistent with evidence from U.S. and European studies, the results suggest that few children are exposed to high-quality classroom environments. Moreover, teachers who interacted with students of cultures more similar to their own were better at creating a positive classroom climate and were more sensitive to students' needs. Teacher-student cultural compatibility was associated with proactively and effectively reducing misbehavior. These findings support previous research in the UAE which showed lower teaching self-efficacy among foreign educated teachers, suggesting that cultural adaptation may influence efficacy (McKinnon, Moussa-Inaty, & Barza, 2014).

Overall, these results suggest that teacher-student ethno-cultural mismatch poses a challenge for teachers. Practically, mitigating the differences in culture seems important for ensuring high-quality teaching. Supporting teachers to adapt and apply their teaching strategies with students who are ethno-culturally different from them might help to facilitate positive teacher-child interactions. Although most professional development focuses on instructional pedagogy and curricula, results of this study underscore how more emphasis on creating a sensitive and supportive emotional environment is essential for children's stress response regulation and ultimately children's learning and development.