



# Resource Article

*Inside this edition  
"Partnering With Child Care To  
Support Children & Families In  
Early Intervention"*

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Given the large numbers of young children attending child care settings, it could be interesting to see how their stress hormones respond to the challenges they face throughout the day at these settings. Salivary cortisol levels provide one indicator of how a child responds to the demands and associated conditions within the child care setting. Unlike the home environment, child care settings provide exposure to the possibility of more social interactions, peer interaction, and separation from primary care providers. Watamura, Donzella, Alwin, & Gunnar sought to determine the degree to which cortisol fluctuated throughout the day in child care settings for infants and toddlers. The results of their study was published in the article, 'Morning-to-Afternoon Increases in Cortisol Concentrations for Infants and Toddlers at Child Care: Age Differences and Behavior Correlate' (2003).

Cortisol, a stress hormone, is present in even the youngest of children. There are data to suggest that the production of this hormone follows the body's natural circadian

rhythm; more specifically that it peaks approximately 30 minutes after waking in the morning, decreasing significantly over the next two hours, then slowly decreases for the remainder of the day. Only 10-15% of adults show an aberration, a flat-lined pattern of cortisol production (Stone, Cooper, DeHart, 1992). Even though small increases in cortisol are not proven to have deleterious results in the development for young children, tracking cortisol levels can give us insight into the stress reactions of those young children.

The researchers collected data from 67 children, 25 infants (aged 2-16 months; 13 female and 12 male) and 42 toddlers (aged 16-28 months; 26 female and 16 male) attending designated child care classrooms for at least a month and for at least 30 or more hours per week. Children included did not have developmental delays and did not exhibit illness or use any medication on the sampling days. Children providing enough saliva on sampling days totaled 55 (32 female and 23 male) and families of 36 of the children (23 female and 13 male) also provided home data.

## Resource Article (continued)

Child care centers were evaluated for quality using the Early Childhood Environment Rating Scale (ECERS), (Harms & Clifford, 1980). A median score of 5.34, with a range of 4.2 to 6.8, was determined, indicating that one classroom scored in the average range, while the other classrooms scored in the good to excellent range. Four full-day child care centers, with study participants enrolled in 1 of 7 infant rooms and 1 of 6 toddler rooms, served as the research sites. Classroom ratios for the infant room consisted of 2-4 adults with 4-9 infants; the toddler room consisted of 2-4 adults with 12-15 toddlers. The infant room was largely unstructured; the toddler room had a structured schedule, including meals and snacks, toileting, play, and nap times. Lead teachers in the classrooms completed shortened versions of either the Infant Behavior Questionnaire (1981) or the Toddler Behavior Assessment Questionnaire (1996); both of which address temperament. Additionally, subject classroom behavior during two minute intervals was coded by one of two trained coders in the infant room and two of five trained coders in the toddler room. Designated behaviors targeted for observation included: distress, amount of peer play, and complexity of peer play.

Saliva samples were collected individually or in small group settings by having children mouth cotton rolls. Collection times at child care centers took place at approximately 10:00 am, during the indoor free play time, and again at 4:00 pm, after nap but before snack time. Parents for the home samples were asked to collect at the same times, however they were asked not to wake children for collections. If collections happened near nap times they were instructed to collect 45 minutes after waking or to collect prior to nap times.

Results suggested that midmorning levels of cortisol were similar in both the child care setting and in the home, midafternoon levels, however, were not. At child care settings, cortisol levels increased throughout the day in 35% of infants and 71% of toddlers, with peak levels occurring in toddlers between the ages of 24-36 months. Most infants did not show increased cortisol levels throughout the day. In child care settings, at mid-morning and mid-afternoon, play was negatively correlated with play with peers. Toddlers who engaged in play with peers were more likely to have lower cortisol levels; those children engaging in less play with peers had higher levels of cortisol. Teacher ratings of Social Fear was positively associated with midafternoon cortisol and the change of cortisol across the day. It should be noted that none of the levels of cortisol documented in this study reached pharmacological levels.

While we know that minor increases in cortisol do not harm development, knowing that social fear is associated with increased cortisol could suggest the need to attend more to children demonstrating fear related behaviors (e.g., not engaging with peers, lack of exploration, avoidance behaviors). Furthermore, the evidence is clear that children engaging in peer play had lower cortisol levels; this underscores the need of child care providers to facilitate play between children. Not only is peer play good for development, it seems to temper the stress hormone, cortisol.

Watanabe, S. E., Donzella, B., Alwin, J., & Gunnar, M. R. (2003). Morning-to-Afternoon Increases in Cortisol Concentrations for Infants and Toddlers at Child Care: Age Differences and Behavior Correlates. *Child Development*, 74(4), pp. 1006-1020.

# What do the data say?



## What impact does child care have on children's development?

As more and more children participate in child care there is increased interest to understand the impact child care has on children's development. Of course studying this relationship comes with challenges, such as controlling for the varied child care experiences and the unique circumstances of children and their families. To tackle this challenge the National Institute of Child Health and Human Development (NICHD), a part of the National Institutes of Health (NIH), began a longitudinal study in 1991. The researchers collected information about families and children and their use of and participation in non-material child care arrangements. The major goals of the NICHD study were to understand how child care experiences related to children's development.

The study included more than 1,000 diverse children that spent an average of 27 hours a week in non-material child arrangements. The study was conducted in four phases. Phase I occurred during 1991 and 1994 and included children ages 0-3 years. Phase II took place between 1995 and 1999 and involved children through first grade. Phases III and IV took place in 2000-2004 and 2005-2007 respectively and involved children through sixth and then through ninth grade.

The results of this longitudinal study, published in 2006, identified several findings regarding child care and children's development: (NICHD, 2006, p. 1)

- "Children who were cared for exclusively by their mothers did not develop differently than those who were cared for by others."
- "Children in higher quality non-maternal child care had somewhat better language and cognitive development during the first 4 ½ years of life. They were also somewhat more cooperative than those who experienced lower quality care during the first 3 years of life."
- "Children who attended child care centers had somewhat better cognitive and language development, but also showed somewhat more behavior problems in child care and in kindergarten classrooms than children who experienced other non-maternal child care arrangements."
- "Parent and family characteristics were more strongly linked to child development than were child care features."

Additionally, correlations with child care quality and child development were identified. (NICHD, 2006, p. 15)

- "The quality of child care is modestly linked to the cognitive development of children across the infant, toddler, and preschool years."
- "Quality is also modestly linked to social development during the infant and toddler years."
- "Children who receive higher quality care show slightly more positive outcomes than do those in lower quality care."

Other findings about family features indicated the following:

"Many family features are more strongly and more consistently linked to child development outcomes than are child care features for children up to age 4 ½ (and even into kindergarten). The following characteristics predicted children's cognitive/language and social development: parents education, family income, and two-parent family compared to single-parent family; mother's psychological adjustment and sensitivity; and the social and cognitive quality of the home environment." (NICHD, 2006, p. 25).

This comprehensive study included a significant number of data points and further analysis and research was conducted to understand the complexities included in the question about the impact of child care on children's development. However, it is also important to note that the information was collected over several years and provide a historical view which might not be the same today.

NICHD Early Child Care Research Network. (2006). The NICHD Study of Early Child Care and Youth Development. U.S. Department of Health and Human Services National Institutes of Health National Institute of Child Health and Human Development. Accessed from [https://www.nichd.nih.gov/publications/pubs/documents/seccyd\\_06.pdf](https://www.nichd.nih.gov/publications/pubs/documents/seccyd_06.pdf)



# Consultation Corner

From August 2017 through January 2018 we are excited to have **Dr. Weglarz-Ward** as our Consultation Corner expert. During this series Jenna will address a variety of questions that will help us understand more about ***partnering with child care to support children and families in early intervention.***

Over the past issues, we have discussed how professional collaboration is vital to supporting child and family outcomes. By developing comprehensive personnel preparation and professional development programs, policy processes, and community resources, professionals across early childhood programs supporting children and families, can achieve meaningful inclusion. Through my research and experience, understanding how other people view inclusion and collaboration has been a consistent factor that can make or break collaboration. Making assumptions about other's beliefs, knowledge, roles, and goals can disrupt the teaming process. To work collaboratively together, it is important to understand the similarities and differences in how people approach situations.

## Beliefs about Inclusion and Collaboration

Our beliefs guide our practice therefore it is important to take time to examine and reflect on our own beliefs and gain knowledge on the current recommendations in the field (Bruns & Mogharrenban, 2007; Buysse, Wesley, and Keyes, 1998). Professionals across early childhood programs indicated that one of the strongest possible supports to inclusion is *staff show through their actions and practices that all children are valued regardless of differences*. Therefore, it is also important to reflect on how our beliefs are expressed in our practice and interactions with others (as recommended in past issues related to developing personal and program philosophies and seeking education and professional development). Returning to our study with child care and early intervention (EI) providers, overall, child care and EI providers believed inclusion of young children with disabilities in child care settings as important. Participants in the study, responded very positively

to the following statements:

- Children with disabilities should receive services in early childhood settings along with their same age peers.
- Children without disabilities are positively affected by playing and learning alongside their peers with disabilities.
- All children can learn.
- Children are more alike than different.

This agreement about the value of inclusion can act as a foundation or common ground for collaboration. Furthermore, they agreed that *positive working relationships among people from different agencies, programs, and professions and special services and therapies are planned together with family and other caregivers* were the strongest supports to inclusion. Both groups also reported difficulty in preparing and implementing intervention strategies and adaptations necessary to assist a child with a disability. This demonstrated that taking our beliefs of inclusion into practice is challenging.

When we asked professionals about the factors that support and hinder the inclusion of infants and toddlers in child care settings and professional collaboration among child care and EI providers, although both groups identified many factors, there were differences in their responses particularly about their perceptions of the other group of professionals. When looking at the results listed below, you can see that each group perceived the opposite group differently. For example, child care providers were more likely to report that EI providers needed more training than child care providers and vice versa. Child care providers were more likely to report more resistance for inclusion from EI providers than they reported for themselves and vice versa.

## Consultation Corner (continued)

Table 1. Factors that Hinder Inclusion of Infants and Toddlers in Child Care Settings	Child Care Providers Mean (SD)	EI Providers Mean (SD)	
Not enough training to prepare child care providers to effectively work with young children with disabilities who are enrolled in child care programs.	5.81 (1.72)	6.23 (1.18)	***
Not enough training to prepare early intervention providers to effectively provide services to young children with disabilities in child care programs.	5.34 (1.87)	4.84 (1.91)	***
Resistance among early intervention providers.	4.59 (1.95)	4.09 (2.02)	***
Resistance among child care providers.	5.02 (1.85)	5.42 (1.42)	***
Differences between child care providers and early intervention providers in their views and teaching practices.	4.99 (1.70)	5.30 (1.36)	**

Note: Significant differences are indicated (\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ).

Interestingly, when asked if the differences among professionals' views was a barrier, EI providers reports this as a greater barrier than child care providers. When asked about the benefits of providing EI services in child care settings, all professionals thought it was very beneficial for children and their families. However, child care providers reported it was far less beneficial for themselves as professionals than EI providers. This may be due to the fact that most child care providers did not see themselves in an active role in the EI process.

All of these results indicate that professionals value inclusion and can agree on factors that support inclusion. Professionals identify many, many barriers to inclusion and collaboration and see different barriers being stronger than others. In practice, this means that professionals need to communicate and identify not only common barriers but also understand other professionals' perceived barriers in order to develop strategies to overcome them. Allowing barriers to persist, will impact not only professional respect and joint planning but also child and family outcomes.

In conclusion, we must remember again that inclusion of young children with disabilities in community settings is challenging yet highly rewarding. Collaboration among child care and EI providers can support meaningful inclusion for these children and their families. Collaboration needs to be given attention and intention to be successful. For us to implement family-centered practices within daily routines as recommended by the Division for Early Childhood [<http://www.dec-sped.org/dec-recommended-practices>] and the Office of Special Education Programs [[http://www.nectac.org/~pdfs/topics/families/Principles\\_LooksLike\\_DoesntLookLike3\\_11\\_08.pdf](http://www.nectac.org/~pdfs/topics/families/Principles_LooksLike_DoesntLookLike3_11_08.pdf)], we must consider:

- facilitating joint planning;
- creating inclusive philosophies and missions;
- training and education for providers in teaming;
- defining each professional's roles;
- building feasible communication systems;
- respecting each other as professionals; and
- understanding our own and each other's perspectives.

Bruns, D. A., & Mogharrenban, C. C. (2007). The gap between beliefs and practices: Early childhood practitioners' perceptions about inclusion. *Journal of Research in Childhood Education*, 21, 229-241. doi: 10.1080/02568540709594591

Buyse, V., Wesley, P. W., & Keyes, L. (1998). Implementing early childhood inclusion: Barrier and support factors. *Early Childhood Research Quarterly*, 13, 169-184.

Weglarz-Ward, J. M., & Santos, R. M. (2015-2017). *Project Collaborative Care: How Child Care and Early Intervention Providers Support Infants and Toddlers with Disabilities in Child Care*.



## On the WWW

CONNECT The Center to Mobilize Early Childhood Knowledge provides a variety of online modules describing effective practices for supporting children with disabilities.

The free course “Foundations of Inclusion” introduces key aspects of quality inclusion, defines inclusion, identifies actions providers can take to facilitate inclusion,

and provides information about the legislative requirements related to inclusion.

The course aligns with the 2014 DEC Recommended Practices and offers a free 1 hour worth of training. To learn more about this free course and others visit the following link:

<http://connect.fpg.unc.edu/connect-courses/courses>



## Continuing Education for KIT Readers

The Comprehensive System of Personnel Development (CSPD) is offering a continuing education opportunity for KIT readers.

In line with the focus on Partnering With Child Care To Support Children and Families in Early Intervention, readers are invited to receive continuing education contact hours for reading the monthly KIT publications (August—December 2017 and completing a multiple-choice exam about the content covered in these KITs.

KIT readers will receive the exam in January 2018. There is no need to register for the CEUs.

Rather, if you are interested, complete the exam online at [www.edis.army.mil](http://www.edis.army.mil)

Upon successful completion of the exam, you will receive a certificate of non-discipline specific continuing education contact hours.

KIT Newsletters  
are available  
online at  
[www.edis.army.mil](http://www.edis.army.mil)

*Thank you for your continued interest in the KIT.*

