

[Home](#) [About](#) [Legal](#) [Contact](#) [Shop](#) [What's new](#)

Menu

[Babies](#) [Preschoolers](#) [School-Age Kids](#) [Parenting](#) [Behavior](#) [Learning](#) [Play](#) [Sleep](#) [Well-Being](#) [What's New](#)

## How daycare centers change the stress response system (and what we can do about it)

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Numerous studies report a link between daycare centers and stress.

The more time young children spend in childcare facilities, the more likely they are to develop abnormal stress hormone profiles.



What's normal? Typically, the body produces high levels of the stress hormone cortisol in the early morning. As the day wears on, cortisol levels decline.

But for [kids who spend time in daycare centers, the pattern is different](#). Their cortisol levels tend to rise as the day goes on. Instead of peaking in the early morning, these kids experience higher levels of cortisol in the afternoon (Geoffroy et al 2006; Vermeer et al 2006; Sims et al 2005).

The pattern is linked with trouble. Kids with morning-to-afternoon increases in cortisol are rated by their teachers as more socially fearful (Watamura et al 2003). In addition, sleep researchers have found that kids with higher afternoon cortisol levels get less sleep at night (El-Sheikh et al 2008).

It's also possible that these early daycare experiences have lasting effects.

### Teen cortisol levels are linked with time spent in daycare centers

In a recent study, researchers led by Glenn Roisman of the University of Illinois collected morning cortisol samples from a group of 15-year old kids (Roisman et al 2009). The teens had been tracked from infancy by the National Institute of Child Health and Human Development (NICHD). As a result, researchers had extensive information about the quality and quantity of center-based childcare each teen had experienced before the age of three.

When the cortisol samples were analyzed, researchers found a link between the teenagers' morning cortisol levels and their early childcare experiences. Teens who had spent more time in daycare centers before the age of three had lower early morning cortisol levels.

### Unclear implications

#### Don't panic

Roisman and colleagues note that the **effect was small, and the study didn't determine if the teens with depressed morning cortisol levels were any more likely to suffer health problems.**

Nevertheless, the results suggest that early childcare experiences may reprogram a child's stress response system.

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Why is daycare stressful? That's not yet clear. Roisman's study controlled for the effects of maternal sensitivity, as well as socioeconomic factors, like maternal education level and the family's income-to-needs ratio. Nor is it about time spent away from Mom. Cortisol levels weren't affected by the amount of time kids spent in non-maternal care—not if the childcare involved a nanny or family babysitter.

Moreover, this isn't just a problem for low-quality childcare. High-quality childcare centers—defined as facilities which offered intellectual stimulation and sensitive, responsive teachers—were also linked with atypical cortisol rhythms.

Perhaps the stress comes from interacting with other kids. Roisman and colleagues speculate that children in center-based childcare may have poorer peer experiences. They might also be subjected to more chaos.

Or maybe the answer concerns attachment theory. Richard Bowlby argues that young children in daycare can avoid stress if they develop a lasting, secondary attachment to one of the center's caregivers (Bowlby 2007).

## Solutions

The stress-related effects of daycare centers seem to be dose-dependent. The longer the hours in daycare, the greater the impact.

### **So simply reducing the numbers of hours in daycare may make a difference.**

Employed parents might manage this in a variety of ways—by drawing on family babysitters, working from home, or hiring childcare helpers. Two-parent families might also try rescheduling their work shifts so that one parent is home when the other is away (Feighery 2005).

### **In addition, parents can help by staying “tuned in” to their children’s needs.**

In the teen cortisol study, Roisman's team found that maternal sensitivity was an independent predictor of abnormal cortisol patterns: Teens with low morning cortisol levels were more likely to have had moms who were emotionally unsupportive, hostile, or disrespectful of their children's needs for autonomy and independent exploration.

### **Finally, it makes sense to look for childcare centers with**

- low enrollment
- low child-to-staff ratios, and
- warm, sensitive, consistently-available caregivers.

### **It also makes sense to find teachers who enforce fairness and respect your child’s individual abilities and cultural background.**

Research confirms our intuitions. Daycare kids get more affection, attention, and stimulation when they are in smaller groups (Clarke-Stewart et al 1994).

They also develop greater social competence and more secure attachments to caregivers when the child-to-staff ratio is low (Clarke-Stewart et al 1994; Howes et al 1988)

And an Australian daycare study has found that kids were more likely to experience healthy, declining cortisol levels in centers where caregivers promoted fairness and were sensitive to children's individual and cultural differences (Sims et al 2005).

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#### **Content of "Daycare Centers and Stress" last modified 7/9**

[Attachment](#)

[Attention deficits](#)

[Babies](#)

[Breastfeeding](#)

[Crying](#)

[Diet and nutrition](#)

[Empathy](#)

[Friendships](#)

[Intelligence](#)

[Odds and Ends](#)

[Parenting styles](#)

[Praise](#)

[Preschool rationality](#)

[Preschool math](#)

[Preschool science](#)

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[Science education](#)

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[Sleep](#)

[Social skills](#)

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[Stress](#)

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