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Children's coping strategies and stress regulation during the transition from home to child care

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INTRODUCTION

For some years, students of behavioral development have acknowledged early childhood as a period during which the main coping strategies in life develop in order to regulate negative emotions. Whilst experimental research in laboratories shows whether and how, young children cope with evoked frustrations or irritations, much less is known about how children deal with significant situations that occur naturally in their daily lives. The present study therefore aims to investigate how children cope when they are taken into child care, wondering whether specific behavioral patterns could be identified that aid children in their struggle to cope with the new environment and how these coping strategies influence the physiological stress regulation as reflected in diurnal cortisol patterns.

SAMPLE

In the present study, 50 children ranging from 17 to 32 months (♀= 25), who experienced out-of-home care for the first time in child care centers in Vienna, Austria, were examined. We videotaped these children at child care entry two weeks after mothers stopped accompanying the child into the group. Two different situations were videotaped: the separation behaviors during and immediately after the drop off and the play behaviors later on the same day.

METHODS

Behavioral patterns in order to identify coping strategies

We used the computer-based software "Interact", by Mangold (2008), in order to describe children's behaviors in the drop-off situation and later in the day during play time. Thereby, a coding system was developed including different behavioral patterns of the child, for instance: play activity, positive and negative emotions, physical contact with the care provider, asking for the mother, sucking on fingers or pacifier, carrying familiar objects and fumbling on own clothes. The drop-off situations regularly reflected low play activity levels and high stress levels, whereas play situations reflected higher play activity and lower stress levels, which blind observers had confirmed. We thus concluded that frequently occurring behavioral patterns at drop-off, and not at play, would be those used for coping.

Diurnal cortisol patterns in order to establish a link to stress regulation

We collected saliva cortisol to examine the physiological stress regulation: saliva samples were taken at 8 a.m., 11 a.m., 14 p.m. and 18 p.m. These four samples during one day in child care represent the daily cortisol profile of a child. Decreasing cortisol profiles indicate optimal stress regulation, whereas increasing profiles indicate a high stress response.

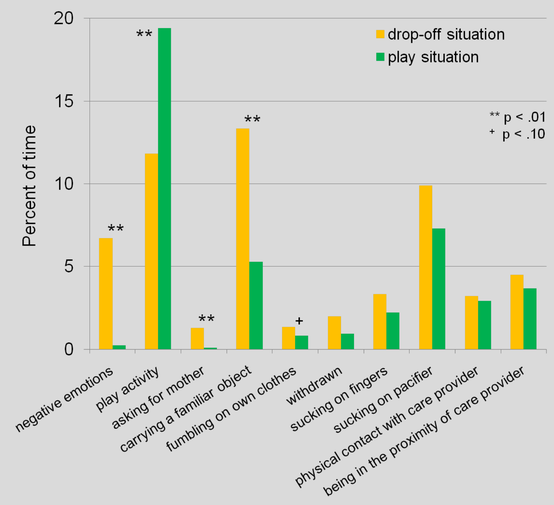

Figure 1: Behavior patterns in the drop-off vs. play situation

Question I: Which behavioral patterns describe coping behavior?

Firstly, t-Tests for paired samples showed that the children show significantly more negative emotions in the drop-off situation [M_1=6.73 vs. M_2=0.25, t(49)=3.14, p<.01] and significantly higher play activity in the play situation [M_1=11.83 vs. M_2=19.40, t(49)=-3.69, p<.01]. Furthermore, asking for the mother [M_1=1.30 vs. M_2=0.06, t(49)=3.12, p<.001], carrying a familiar object [M_1=13.35 vs. M_2=5.30, t(49)=2.97, p<.001] and fumbling on own clothes [M_1=1.34 vs. M_2=0.83, t(49)=1.39, p<.10] appear to be significantly higher in the drop-off-situation. Withdrawn behavior, sucking on fingers or a pacifier, physical contact with the care provider and being in the proximity of the care provider were also higher in the drop-off-situation, but unfortunately missed the significance level (see figure 1).

Question II: Which general coping strategies can be identified?

Table 1: Results of the Principle Component Analysis*

	Object-favored	Self-related	Person-related
Carrying familiar objects	**,837**		
Using a pacifier	**,802**		
Being withdrawn	**,677**	,571	
Sucking on finger		**,821**	
Asking for mother		**,526**	,443
Fumbling on clothes			**-,693**
Physical contact with the care provider			**,548**
Being in tge proximity of care provider			**,571**
Eigenvalue	*2.10*	*1.40*	*1.23*

* Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization
KMO = .46; Bartlett-Test χ^2 (28, N = 50) = 65.70, p < .001

To identify general coping strategies, we used a principle component analysis with Varimax rotation and we included the behavioral patterns that were higher in the drop-off situation than in the play situation. Three different factors with *Eigenvalue<1* were extracted explaining 59.11% of the total variance: (1) *self-related soothing strategies*, (2) *object-favored strategies* and (3) *person-related strategies* (see table 1). Children using self-related soothing strategies suck on their fingers and ask for their mothers, whereas children using object-favored strategies show withdrawn behavior, carry familiar objects and use a pacifier. Children using person-related strategies stay within the proximity of the care provider and seek their physical contact. The highest amount of the factor scores was used to assign each child to one coping strategy: 14 children with self-related, 18 children with person-related and 18 children with object-related strategies were identified. A one-way ANOVA showed that these coping strategies are related to child's age [F(2;47)=5.89, p<.01], with younger children seeking contact with the care provider more frequently. Furthermore, the coping strategies did not differ with regard to gender [χ^2 (2, N=50)=0.51, p=.776].

Question III: How does the coping strategy influence the regulation in cortisol over the day?

A pre-analysis showed that 13 children missed one cortisol sample. To complete their cortisol profile, we replaced the missed cortisol value by using the grand mean of the sample. Nine children were excluded from further analysis because they had less than 3 cortisol samples.

Regarding the stress regulation, we used a one-way repeated measurement ANOVA with the coping strategy as the factor and the child's age as the covariate [F(1;37)=.456, n.s, Eta²=.01]. Results show an expected effect in cortisol regulation over the day [F(3;35)=2.52, p<.10, Eta²=.18] with decreasing cortisol from morning to evening. The interaction effect of cortisol response over the day and coping strategies [F(6;72)=2.69, p<.05, Eta²=.18] show that the coping strategy influences the cortisol response: children using self-related (n=13) and object-favored coping strategies (n=14) have decreasing cortisol profiles over the day. Children using person-related coping strategies (n=14) show increasing cortisol profiles during the afternoon (see figure 2). Post-hoc tests show significant differences between children favoring self-related strategies and children favoring person-related strategies, with regard to cortisol response (p<.05).

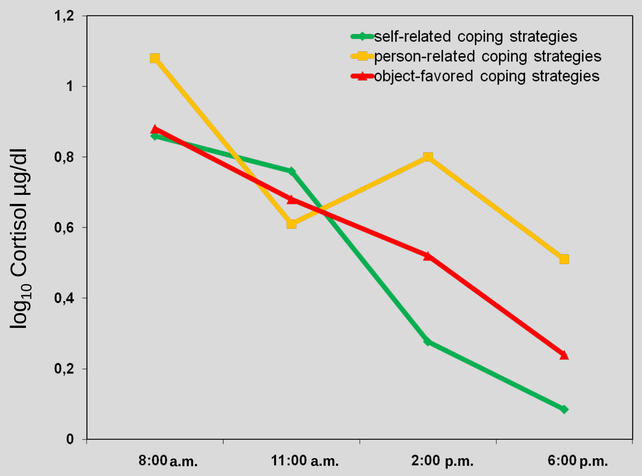

Figure 2: Child's coping strategies and stress regulation over the day

CONCLUSION

Two weeks after child care entry, children may still be stressed during the drop-off and show negative emotions when the mother or father leaves the child care center. In such situations, children use different behavioral patterns for soothing: (a) self-related strategies, e.g. sucking on fingers, (b) object-favored strategies, e.g. to carry a familiar object and (c) strategies relating to the care provider. These coping strategies influence the stress regulation of the child differently: self-related and object-favored coping strategies seem to support child's stress regulation and adaptation process most effectively. Children using only the care provider as a coping strategy were less able to downregulate cortisol levels, specifically in the afternoons. Thus, after two weeks of child care entry, this coping strategy appeared to be ineffective. This could mean that the adaptation during the transfer from the mother to a sensitive care provider was unsuccessful or that a care provider requires much more time to replace the mother in this new environment.

References
Mangold (2008). INTERACT Quick Start Manual V1.3. www.mangold-international.com

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