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Behaviour patterns in daily mother–child separations: possible opportunities for stress reduction

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Despite the abundance of research on attachment and on the effects of separation, very little research examines the actual processes of separation occurring daily when mothers leave their children (age 6–18 months) in out-of-home group care. In the current study, this everyday process of separation was observed for three months (September–November), starting with the first day in daycare. Typical patterns of mother–child, mother–child–caregiver, mother–caregiver and child–caregiver interactions were identified, each including behaviours that could either relieve or aggravate stress. Separation processes initiated by the mother that included repeated patterns of ceremony and ritual were identified as reducing stress. In addition, infants and toddlers who cried more following separation received more attention distracting responses, whereas those who cried less received more empathic responses. More crying was observed when mothers remained to talk to the caregiver after separation.

Keywords: mother–infant separation; adjustment to daycare; separation ceremonies; infant mental health; mother–infant–caregiver interactions

One of the most problematic aspects of out-of-home care was and still is the separation between the child and the persons with whom he or she is most closely attached, for long hours, five to six days a week (Provence, 1977). Long hours of separation from the parents, and the need to reorganise security seeking behaviour around multiple adults, have been recognised as possible causes of stress for young children (Dettling, Gunnar, & Dinzella, 1999). These realities impose stress upon both the young child and the parents and may have an effect on their relationship, on the parents' development as parents, and on the child's own development (Dettling et al., 1999; Gunnar, Larson, Hertsgaard, Harris, & Brodersen, 1992; Provence, 1977).

Despite the abundance of research on separation and its effects on infants and children, relatively little research has focused on the specific elements constructing repeated processes of daily separation of infants and toddlers from their parents, primarily mothers bringing them to daycare or any other form of non-maternal setting (Ahner & Lamb, 2003; Leavitt, 1994; Pawl, 1990). Changes in infants' behaviour related to hours of stay in daycare have been linked to an increase in cortisol levels in the blood (Dettling et al., 1999; Tout, de Haan, Campbell, & Gunnar, 1998). Cortisol is a hormone associated with feelings of stress (Watanura, Donzella, Alwin, & Gunnar, 2003). During the period of initial adjustment to daycare at the beginning of the academic year, infants' levels of cortisol were linked with levels of anxious behaviour such as crying, clinging and other expressions of

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sadness and irritability. Interestingly, infants who were with their parents during the initial transition to daycare had lower levels of cortisol as compared to infants who were not with their parents during this period (Ahnert, Gunnar, Lamb, & Barthel, 2004). In addition, separation from mother was found to be related to children's thresholds for cortisol production, as well as size of cortisol increase in response to a stressor (Gunnar, Mangelsdorf, Larson, & Herstgaard, 1989). These findings suggest that daily separation from the mother and transition to out-of-home group care may lead to changes in infants' behaviour as well as to physiological changes in blood hormones, including cortisol, which may have negative effects on the child's immune system and nervous system (Cacioppo, 1994; Luecken & Lemery, 2004).

There is no question that separation is a complex process affected by a delicate yet complex interplay between parent, child and caregiver variables. Infants and toddlers are sensitive to nuances of emotional variations reflected by their parents' behaviour in general and during the brief period of daily separation in particular, when they feel insecure and vulnerable. Field et al. (1984) found that some parents tend to give their infants many verbal explanations during the separation episode and that the latter confuses the children. She identified two other behaviours associated with infants' higher frequencies of distress and anxiety: the parent's 'quick escape' from the room when the child is distracted by someone or something else, or the reverse, namely, staying in the room for 'too long'.

General consensus exists that warm, affective, sensitive and responsive mothering provides the basis for secure mother-child attachment and is associated with fewer expressions of separation anxiety, better relations to another caregiver and more engagement in exploration and play (Ahnert et al., 2004; Ainsworth, Blehar, Waters, & Wall, 1978; Frodi, Bridges, & Grolnick, 1985; Sorce & Emde, 1981). Several studies showed that children in insecure attachment relationships show more evidence of cortisol elevations than do securely attached children (Ahnert et al., 2004; Nachmias, Gunnar, Mangelsdorf, Hornik-Parritz, & Buss, 1996; Spangler & Grossman, 1993).

In order to understand separation in the context of out-of-home care, parent, child and caregiver variables should all be considered, as well as the nature of their mutual interactions. Many caregiver variables, such as level of education, training and theories of child rearing, perceptions of the ideal child and of the objectives of their own role as caregivers, were found to predict caregivers' relations with the infants under their care (Berk, 1985; Miller, 1988). A sensitive, responsive alternative caregiver can reduce separation anxiety (Gunnar et al., 1992). With regard to infant variables, most studies about separation relate to age, maturity and physiological variables (health, temperament and gender) as well as to children's life history (age of entry to daycare, quality of care and type of mother-child attachment (Bates & Wachs, 1994; Chess & Thomas, 1991).

Available research has separately investigated each of the three partners in the separation episode; however, as indicated earlier, little research has targeted the actual sequential process occurring during the brief period of mother-child separation occurring each day throughout the initial period of adjustment to the new non-maternal care environment. Exploring this ubiquitous process of separation may help unravel its components, leading to new insights into how adults can ease young children's experience of separation and foster the children's regulation of emotions in this distressing everyday situation. The current study explored the basic components of daily separation episodes between Israeli parents and their infants for their first three months in daycare, with a focus on the behaviours of each partner and on the nature of their interactions.

Method

Participants

Participants were 24 parent–infant dyads recruited from three daycare centres in a middle-class, urban area in central Israel, and the daycare personnel in these centres. The participating child care centres were randomly chosen by the head of the leading childcare centre organisations in the country. The researcher met with the principals of the centres and they all agreed to participate in the study ‘on separation’. Letters were sent to parents of all infants in each centre, asking for their permission to observe and film them during separation from their infant. Parents and caregivers were informed that the objective of the study was to learn about infants’ adjustment to daycare. About 85% of the mothers responded and agreed to participate in the study with their infants. The participating infants were randomly chosen from each of the participating centres. Infants were 12 boys and 12 girls, ranging in age between 6 and 18 months ($M = 12.4$, $SD = 4.6$). Most children ($n = 89\%$) had intact families. In the remaining families, parents were divorced and the infants lived with their mothers.

Most parents ($n = 19$) had at least 1–2 years of college education. Mothers had an average of 14.5 years of education ($SD = 2.3$) and fathers had an average of 14.7 years of education ($SD = 2.5$). Seventy percent of the parents were native born, 20% were immigrants from the former USSR and 10% had immigrated from the USA or Canada. All infants were born in Israel (their families have been in Israel at least five years). The infants were mostly first born (67%), 20% were second children and the remaining children were either third or fourth born. All families of the participating infants lived in an area rated by the Israeli National Census Burou as middle-class, based on criteria of average income and housing conditions.

The childcare personnel were mostly second generation Israeli, from families that have immigrated to Israel from Yemen, Iraq and Tunisia (75%) and 25% from families who have emigrated from Russia in the past 10–15 years. All of them had high school education and two had two years of academic studies. All of them had the basic training course in child care required by law for caregivers.

Procedure

This study was carried out in two stages. Using ethnographic research methods combined with videotaping, the second author with one additional graduate student, observed the process of separation between each of four mothers and their children as they arrived at two daycare centres and interacted with the caregivers, for three hours daily (7:00–10:00 am) for a period of three months (September–November). These observations were carried out for two mother–infant dyads in each of two child care centres. In each centre the observations were carried out on alternating days, changing randomly from week to week. The researchers sat in a corner of the room with visual access to the centre’s entrance, videotaped and took notes pertaining to the daily separation episodes. Sony SE1400 digital camera on a tripod was used (to focus on the entrance door in combination with a mobile digital camera (carried by the researcher). The observations of the first four infants interacting with their mothers and caregivers were open ended, following no preset directions or assumptions. Following the observations, the researcher occasionally spoke to the mothers and caregivers about their experiences.

Analysis of this initial data set for four dyads revealed a repeated pattern of maternal behaviour during daily separation from their infants and toddlers. To examine the validity of this pattern, five graduate students in early childhood education underwent training to perform the observations and were assigned to replicate the findings with 20 additional mother–child dyads, four dyads each. The observers were trained using a series of 20

videotaped separation episodes, followed by observations of four 'live' (not taped) sessions of separation. The rate of inter-rater reliability achieved following the training was .87 for the parent-child interaction, .91 for the caregiver-child interaction, .75 for the parent-caregiver interaction and .85 for the parent-child-caregiver interaction. The inter-rater reliabilities were calculated based on the number of agreements divided by the number of agreements plus disagreements, multiplied by 100, to give a percent agreement.

The observers were instructed to describe the parent, child and caregiver interactions using a semi-structured format focusing on four categories of interaction: parent-child, parent-child-caregiver, caregiver-child and caregiver-parent. Each of the observers carried out and analysed the observations of their four triads independently. These observations were then analysed by another researcher and disagreements were discussed by a team of four observers until agreement was reached.

The current article reports data for all 24 infant-mother-caregiver triads. Only findings that were confirmed as reappearing in at least 80% of the separation episodes were presented as general statements regarding the separation process.

Results

Basic separation process

Despite apparent differences in separation process styles within different parent-child-caregiver triads, a basic pattern or sequence of activities could be clearly identified in most (85%) separation episodes. Mothers or fathers arrived between 7:30 and 9:00 in the morning carrying their infants or walking with them, holding their hand. As they entered, one of the caregivers approached them smiling and greeted the child, saying 'good morning' and greeting the child by name. Mother (or father, in 10% of the observations) and infant then moved to the personal cupboard/drawer area, where the parent placed the child's personal items and then returned to the open play area at the centre. Parent transferred the infant to the caregiver's arms, kissed the child, said goodbye and left, often looking back to see how the child was reacting.

Major components of the separation process

Analysing this process more carefully revealed four major components: (1) reception of mother and child by the caregiver, (2) mother storing her child's personal belongings, (3) the 'separation ceremony', and (4) mother leaving. Each of these components included specific characteristics that varied somewhat across different parent-child dyads, different caregivers and different physical daycare settings.

- (1) *Reception of mother and child by the caregiver.* Caregivers greeted the children and related to their mothers, inquiring about events occurring during the preceding day or night, i.e. in relation to children's health, a family holiday or celebration, any visible change in children's appearance (e.g. new shoes, a scraped knee, or a haircut). Most parents reported in the post observation interview that they were aware of the caregiver's warm reception each morning and appreciated it.
- (2) *Mother storing her child's personal belongings.* Most mothers (85%) carried the child with them on the way to storing their items in their cupboard or personal drawer. Others placed the child in the caregiver's arms or on the floor next to them before they went to store the belongings.
- (3) *The 'separation ceremony'.* A sequence of behaviours was typically formed and repeated preceding mother's leaving the child at the centre. These behaviours

constituted the 'separation ceremony', occurring at some time between the mother and child's arrival and the mother's exit.

- (4) *Mother leaving*. This component of the separation occurred at the very end of the process, immediately before the child was left 'alone'. It involved variables such as duration (How long did mother stay or otherwise express her goodbye?) and finality (Did she return to complete something she had not said or done?).

The four types of observed interactions

The entire process of separation typically began with the triangular interaction of mother–infant–caregiver, but the other three types of interaction did not necessarily appear in a fixed sequential order.

Triangular mother–infant–caregiver interaction

In the major triangular interaction observed, the mother indicated verbally or non-verbally that she was about to leave, the caregiver approached, and the mother either transferred the child to her or placed the child on the floor next to her.

A change emerged over time in the mother's announcement of her impending exit and in the duration of the separation process: During the first few weeks in daycare, the parent (most commonly the mother) announced that it was time for her to leave. This announcement was directed towards the caregiver, and it often signalled the caregiver to approach the mother and her child and to take the child from the mother. Later in the year, such announcements to start the triangular interaction declined in frequency. Moreover, the time spent between arrival and mother's departure was reduced (from an average of 16 minutes, $SD = 7.5$ minutes, in September, to an average of 3.3 minutes, $SD = 2.1$, at the end of November) with the parent initiating the triangular interaction almost immediately following arrival at the daycare centre. In those cases the mother initiated the separation by handing the child to the caregiver.

Although in most cases the mother initiated the beginning of the triangular interactions, on some occasions the caregiver stretched out her arms and signalled to the mothers to begin transfer of the child. The latter occurred mostly at the beginning of the year when mothers hesitated to leave and appeared to be confused or uncertain about the timing of the separation, or later in the year when the caregivers had the impression that separation had become a well-established routine in which they had a well-defined role. Such caregiver initiation of the triangular interaction emerged as ineffective inasmuch as it resulted in long episodes of crying on the part of the children and reports of uneasy feelings among the parents. In the interviews three mothers clearly expressed their belief that the infants needed to adjust to separation at their own pace and their own wish to be left to initiate transfer of their infant to the caregiver when they felt it most appropriate.

Another form of triangular caregiver–child–mother interaction occurred when the mother began walking towards the door. The caregiver most frequently held the child facing the mother, saying 'good bye mommy', and waving good bye either for or with the child.

Parent–child interaction

The dyadic interaction within the separation ceremony typically began following the triangular interaction when the mother announced her intention to leave and transferred the child to the caregiver. At this point, when the infant was being held by the caregiver or placed next to her, the mother faced her child and said 'goodbye, sweetie' or 'goodbye,

Danny'. Then she waved in front of her child's face, came closer, kissed or patted the child's face or head and moved towards the door.

Three elements were commonly viewed in this dyadic episode: (1) mother said good-bye and waved, (2) mother kissed child, and (3) mother patted child and embraced him/her. These elements' sequence of appearance varied from parent to parent. Some parents revealed a fixed sequence for these behaviours, whereas others demonstrated daily changes in sequence, often in response to their child's expressions of discomfort (which most frequently included crying). The pattern of these behaviours changed over time from the early separations during the first few weeks in daycare to later separations.

Parents and infants seemed to go through a learning and adjustment period, during which they gradually developed strategies and patterns for coping with separation. About one month following the initial episodes of separation, these basic behavioural components formed a relatively stable pattern that was noted in most parent-child interactions. Stable patterns of behaviour were frequently associated with more calm and secure separation episodes. For example, there were fewer infants crying during separation (a reduction of 85% of the frequency of crying and a reduction in duration of crying). In September crying continued for over an hour and at times throughout the day, whereas at the end of November, crying episodes seemed to end briefly (an average of three minutes after mother left). Infants seemed more interested in contact with the caregiver, other children in toys and almost all of them seemed occupied in either play (70%) or social interactions.

Some strategies for separation appeared to have good outcomes, whereas others did not. The pattern of separation was at times disrupted following suggestions by the centre staff, who, for example, instructed parents to shorten their stay at the centre in order to minimise the separation episode and supposedly reduce the child's crying and distress. The latter often led to the opposite consequences, namely, more crying and expressions of distress, apparently because the mother and her child did not have a chance to complete the sequence of behaviour composing their own separation ceremony.

One basic strategy found effective in this study was when the mother initially remained in the daycare centre with the child for a few days, engaging in play with the child and creating a relaxed positive emotional climate for interaction with the caregiver and other children. Based on our observations, separation was easier if preceded by a few days in which parents and children came and left the centre together until their child learned that the new environment was safe, loving and interesting and until the parent felt more relaxed about separation.

An ineffective strategy during the initial period of adjustment to the daycare centre emerged when parents interpreted their child's involvement in play as an indication that they were free to leave. However, at this initial stage, parental exit while the child was playing or distracted frequently resulted in frantic crying and subsequently could have led to feelings of mistrust which were expressed through behaviours suggesting more pronounced separation anxiety (i.e. more frantic crying, clinging, kicking, shouting). Developing a sense of security and familiarity seemed to involve repeated, safe, positive and interesting experiences. Formation of such feelings took time and could not be rushed by leaving the child quickly before any separation ceremony was established.

Caregiver-child interaction

In the final stage of the separation process, the mother handed the child to the caregiver and started to leave. The following behaviours were commonly observed in most caregiver-child interactions during separation:

- (1) Caregiver held infant in her arms.
- (2) Caregiver attempted to distract infant by calling attention to something or someone else in the room (e.g. 'look at the doll ...' 'See what Daniel is doing' or taking the child to look at the backyard).
- (3) Caregiver showed facial expressions or other physical signs of empathy and positive affect towards the child (e.g. a hug or a kiss).
- (4) Caregiver used verbal communication to distract the child or to express positive emotions ('I love you, you are so sweet').

One of the most interesting findings on caregiver–child interactions during separation involved differences in the caregiver's behaviour as related to the child's level of stress (i.e. crying). When an infant showed excessive or prolonged crying, the caregiver tended to use more strategies aimed at distracting the infant's attention from the separation. When the infant showed less crying, caregivers tended to show more physical and verbal positive affect. As a result, infants who were the most distressed during separation tended to receive the fewest expressions of affect and empathy from the daycare staff. Distracting the infants and toddlers by focusing their attention on other people or interesting objects in the environment may have helped stop their crying for a brief moment, but they tended to resume crying shortly afterwards, promoting the caregivers' repeated use of the distraction technique that seemingly worked before, albeit briefly, rather than using strategies of consoling or expressing empathy.

Caregiver–parent interaction

Parents most frequently initiated verbal interactions with the caregivers, although these conversations differed considerably among parents. Mothers tended to give caregivers information on several subjects: their child's health and well-being (e.g. how he/she felt, the need to administer medicine, whether the child was tired, hungry, or upset), logistical information (e.g. who would be coming to pick him/her up and when) and information related to current events in the family. In addition, some small talk (e.g. shopping opportunities) was exchanged between the adults. However, the timing of these conversations was crucial. The common denominator of most of these interactions was that when they occurred following the parent–child interaction (transfer of the child to the caregiver), the caregiver–parent interactions often led to exacerbated distress and crying. On the other hand, earlier exchanges of information with the caregiver did not have such an impact, suggesting the need to maintain a very short caregiver–parent interaction at the end of the separation sequence, ending with the child as the main target of mothers' expressions of affect and concern and avoiding prolongation of the distressing goodbye.

Demographic factors

Three of the children in the present study who had the greatest difficulties separating (i.e. cried intensively for the longest periods of time) were children for whom entry to daycare coincided with another dramatic event in their lives: moving to a new home for two children and the birth of a new sibling for one child. This finding underscored the important influence of additional environmental stressors on the separation process. Excessive tension or confusion in any of the individuals who participated in these interactions appeared to complicate separation.

Summary and recommendations

Infants' and toddlers' daily separations from their mothers were found in the current study to be a complex process involving mother-child, mother-child-caregiver, mother-caregiver and child-caregiver patterns of interaction. Despite variability in the separation process due to child, parent and caregiver variables, certain 'separation ceremony' patterns emerged over the course of time, which helped both mothers and infants through the difficult experiences of separation.

Altogether, separations observed during the initial part of the year differed from separations occurring later. The period following entry into out-of-home care constitutes a very stressful period of time for the mother, the infant and the caregiver. In time, within the three months of this study, most mothers learned to understand and adjust to their infant's needs in the process of separation. They formed a more cohesive pattern of separation representing a more coherent separation agreement between the partners, i.e. between the parent, the child and the caregivers.

During the first months of adjustment to daycare, some strategies for separation emerged as more effective than others. In line with Collins' early findings (1984), it was found in the current study that 'a quick escape' when the child was distracted and 'staying too long' in the room led to more distress and anxiety in the infant. However, in the current study it was found that mothers' perceptions of their own role seemed to influence their behaviour. Mothers' quick escape was led by their belief that their objective was to help their child begin to play. Thus, when their child expressed interest in something, the mothers felt free to make a quick escape. In contrast, mothers who perceived their role in the separation process as 'creating a positive feeling of comfort, trust, security and interest in the new environment' did not feel that their child's momentary distraction or brief engagement in play was a sufficient cue for them to leave. They felt obligated to stay with their children long enough to mediate to them their own trust and positive feelings towards the caregivers, familiarise them with some of the toys and children and complete the separation ceremony.

'Staying too long' was also identified in the current study as especially disturbing when mothers continued to converse with the caregivers after having kissed their infant or toddler goodbye and thus having completed the separation ceremony. We therefore recommended that the caregiver-parent interaction be kept to a brief minimum at the end of the separation sequence. However, caregivers' frequent recommendation that mothers shorten the process of separation to avoid 'staying too long' was often unhelpful, particularly when mothers appeared confused and helpless or when children manifested considerable difficulty separating from them (i.e. persistent crying, clinging, etc.). Parents often responded to the caregiver's recommendation by bringing their child into the centre, delivering her directly to the caregiver and immediately thereafter leaving the room – almost as if running away. This seemed to reflect their interpretation of 'short separation'. Apparently, these parents considered only one aspect of the recommended separation process: its speed (i.e. short and quick). Parents reported the entire situation to be confusing, when they were witnessing their child crying and expressing distress. A significant insight of the current study was the need to enhance parents' awareness about the importance of the separation ritual and ceremony, as behavioural elements that reduce anxiety, and the importance of finality. Mothers' return to the room following separation complicated the separation process. In those cases, children may have been required to experience separation again and may also have learned that crying brought the mother back. In such cases, more persistent crying and expressions of anxiety would result.

Another finding concerning a mismatch of parent and caregiver expectations emerged regarding the caregiver's signals to transfer the infant (i.e. outstretched arms). When one of the final steps in the separation process, i.e. transferring the infant to the caregiver, was initiated by the caregiver before the mother was ready for it, more difficult episodes of separation followed.

Infants who cried intensively were found to receive more caregiver responses geared to distract their attention and fewer expressions of empathy and consolation. When infants cry, distracting them with other things may be momentarily helpful, but to reduce stress and ease separation in the long run, expressions of empathy are more helpful.

Preparing to ease the process of separation calls for a careful consideration of all aspects of infants' and toddlers' lives and those of their parents and caregivers as well as characteristics of the interaction between them. If at all possible, infants' entry to daycare should not coincide with another dramatic event in their lives (i.e. toilet training, birth of a sibling, divorce, moving to another home).

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