



The development of Japanese mother–infant feeding interactions during the weaning period



Noriko Toyama*

Department of Human Environmental Sciences, Faculty of Human Sciences, Waseda University, Mikajima 2-579-15, Tokorozawa, SAITAMA, 359-1192, Japan

ARTICLE INFO

Article history:

Received 10 June 2013
Received in revised form
12 December 2013
Accepted 24 January 2014
Available online 5 March 2014

Keywords:

Solid food
Mother–infant interaction
Weaning
Synchrony
Infant nutrition

ABSTRACT

During the weaning period, infants are not skilled at self-feeding and caregivers play a prominent role in feeding. Solid feeding is therefore an inherently collaborative and interactive process between infants and caregivers. The present study examined how caregivers and infants coordinate their solid feeding interactions, based on naturalistic longitudinal observations of three Japanese mother–infant dyads. The main results were as follows. Four or five months after weaning (about 10–11 months of age), children's mouth movements and mothers' arm movements became more synchronized, and the success or failure of coordinated feeding became independent on children's gaze behavior. During this same period, both mothers' and children's body movements accelerated. Specifically, children's food-intake motions and mothers' food-carrying movements became faster together, although before 10–11 months fluctuations of these motions were not as correlated. Finally, at 9–11 months of age rhythmic body movements became frequent. From the first day of weaning, all three mothers swayed their bodies rhythmically while feeding, and about 2–3 months later their children also began to sway as they ate, at first infectiously but later spontaneously. These observations indicate how specific behavioral development contributes to mother–infant coordination in feeding.

© 2014 Elsevier Inc. All rights reserved.

1. Introduction

1.1. Feeding interactions

Most newborn babies in many societies, including Japan, are fed exclusively with milk; from about 5–6 months of age, they gradually begin to eat solid food, and weaning methods differ widely across and within societies (Parkinson & Drewett, 2001). Although formation of feeding habits during the weaning period is essential for subsequent infant and child nutrition (e.g., Harrison et al., 2011; Lindberg, Bohlin, & Hagekull, 1991), there has not been sufficient research on eating behavior in this important period (van-Dijk, Hunnius, & Geert, 2012).

During solid feeding, infants do not yet have self-feeding skills, and caregivers, therefore, play a prominent role in the weaning process. At the start of solid feeding, infants are entirely reliant on their caregivers. Babies consume the food, but caregivers choose, pick up, and carry food to the child's mouth. Thus, caregivers and infants each have a role in feeding. Caregivers are in charge of their use of arm motions, while infants are in charge of moving their mouths. For the feeding to succeed, mutual collaboration and responsiveness are required of both caregivers and infants. Because of infants' rapid

* Tel.: 81-4-2947-6741.

E-mail address: toyama@waseda.jp

acquisition of oral motor skills and self-feeding abilities, caregivers also must adapt to such rapid development, and coordinate their body movements with children's changing behavior. In early infancy, caregivers also infer their pre-verbal infants' states, e.g., appetite, food preferences, and other desires. Feeding problems often result from a mismatch between infants' cues and caregivers' interpretations of these cues. Thus, we can understand that feeding is an inherently caregiver–infant collaborative and interactive process (Negayama, 1993; Van-Dijk, Hunnius, & Van Geert, 2009, 2012).

1.2. Synchrony

Previous studies on mother–infant feeding interactions in Japan have reported that when feeding children, mothers often opened their mouths, although they did not eat food themselves. Negayama (1993) observed seven mother–infant dyads longitudinally through the middle of the second year of life, during daytime feeding of both milk and solids, and found that mothers showed non-intentional eating-like mouth movements, with a peak frequency when infants were 9 months of age. In a subsequent study that compared feeding interactions in Japan and Scotland (Negayama, 2000), Japanese mothers' eating-like mouth behavior was more frequent than that of Scottish mothers. Similar to Negayama (1993, 2000), Toyama (2013) examined longitudinal, observational data of naturalistic feeding interactions for three Japanese mother–infant dyads and found that mothers' eating-like mouth movements were frequent.

Mothers' eating-like mouth movements display a kind of synchrony. Synchrony, defined as a temporal coordination of nonverbal behaviors such as body movements, gaze and vocalizations, is a key concept of early caregiver–child interaction (Feldman, 2007). The mutual regulation involved in synchrony provides a foundation for communication (Kaye, 1982), social cognition (Rochat & Striano, 1999), and self-regulation (Feldman, Greenbaum, & Yirmiya, 1999).

The structure and function of synchrony change from early infancy through childhood. During the first 3 months of life, the interaction process is marked by synchrony of non-verbal cues such as mutual gazing and co-vocalizations (Stern, 1985). At around 3 months, infants begin to engage in face-to-face interaction and co-occurrence of social gaze and vocalizations emerge. After that, ongoing substantial developments proceed, e.g., an increase of shared attention to objects and pair-specific sequences (Feldman, 2007). From around 9 months of age, because of infants' ability to coordinate attention between people and objects through “joint attention” or “triadic social skills,” infants and caregivers increase in their mutual responsiveness. The development of this synchrony brings about a crucial change in dyadic relationships and facilitates social, emotional, and cognitive growth (Harrist & Waugh, 2002).

The development of synchrony in mother–infant interactions may be related to the achievement of collaboration of solid feeding. In Japan, for about one year from the start of solid feeding, most caregivers feed their children (Toyama, 2013). Both mothers and infants, with development, become expert in their respective roles as feeder and eater. Toyama (2013) suggests that mothers' eating-like mouth movements function to coordinate their body movements with their infants' behavior. Other aspects of synchrony between mothers and children may also be observed, as related to coordinated feeding between mothers and infants. The present study focused on the timing, tempo, and rhythm of mothers' and children's body movements, and examined how each contributes to the coordination of feeding behavior.

1.3. Data

This study examined data for the same three Japanese mother–infant dyads as in Toyama (2013), which consisted of longitudinal observations from the first day of solid feeding for about one year. Toyama (2013) focused her analyses on mothers' non-fluid arm movements and their eating-like mouth movements. Mothers' non-fluid arm movements indicated that the mother's arm suddenly stopped, tracked back, or departed from its usual path. Such movements were most frequently observed after two or three months post-weaning. This non-fluidity was associated with rapid changes in the movement patterns of the mother's arms and the child's mouth. At the beginning of weaning, the mother tended to stop her arm to press a spoon to the infant's mouth, and the infants usually wiggled their mouths in order to take the food from the spoon.

However, during the first three months, movement patterns changed drastically. Infants became able to take foods in one bite, and mothers began to take the spoon from infants' mouths swiftly. Throughout the observations, the movement patterns of the mothers' arm and children's mouths corresponded well. Specifically, when a mother pressed a spoon to her infant's mouth (pressing), the infant wiggled his/her mouth (wiggling). Soon thereafter, the infant became able to take food without wiggling his/her mouth (suspending). Then the mother began to pull out the spoon from her infant's mouth slowly (slowly pulling). Finally, both mothers' and infants' movements became more rapid (gulping–quickly pulling). Since mothers put food into their infants' mouths, it is natural that their movements are constrained by one another, and thus, patterns of the mothers' arm movements and children's mouth movements were well matched.

Concerning mothers' eating-like mouth movements, it was shown that while feeding infants, mothers often moved their mouth as if they were eating. Frequencies of this behavior differed by feeding styles. When mothers exclusively fed children, they often moved their mouths. However, when mothers first scooped food by spoon, later gave the spoon to the infants, and the infants finally carried the food on their own, eating-like mouth behavior was seldom observed. In other words, the frequency of mothers' eating-like mouth movements depends on the need for coordination between mothers and infants, suggesting that eating-like mouth movements play a practical role in regulating feeding behavior. Based on these findings, it was assumed that when mothers produce the desired mouth movements for their children, they would be able to easily coordinate the feeding behavior of their infants.

Download English Version:

<https://daneshyari.com/en/article/917184>

Download Persian Version:

<https://daneshyari.com/article/917184>

[Daneshyari.com](https://daneshyari.com)