Do toddlers learning to spoon-feed seek different information from caregivers' hands & faces?

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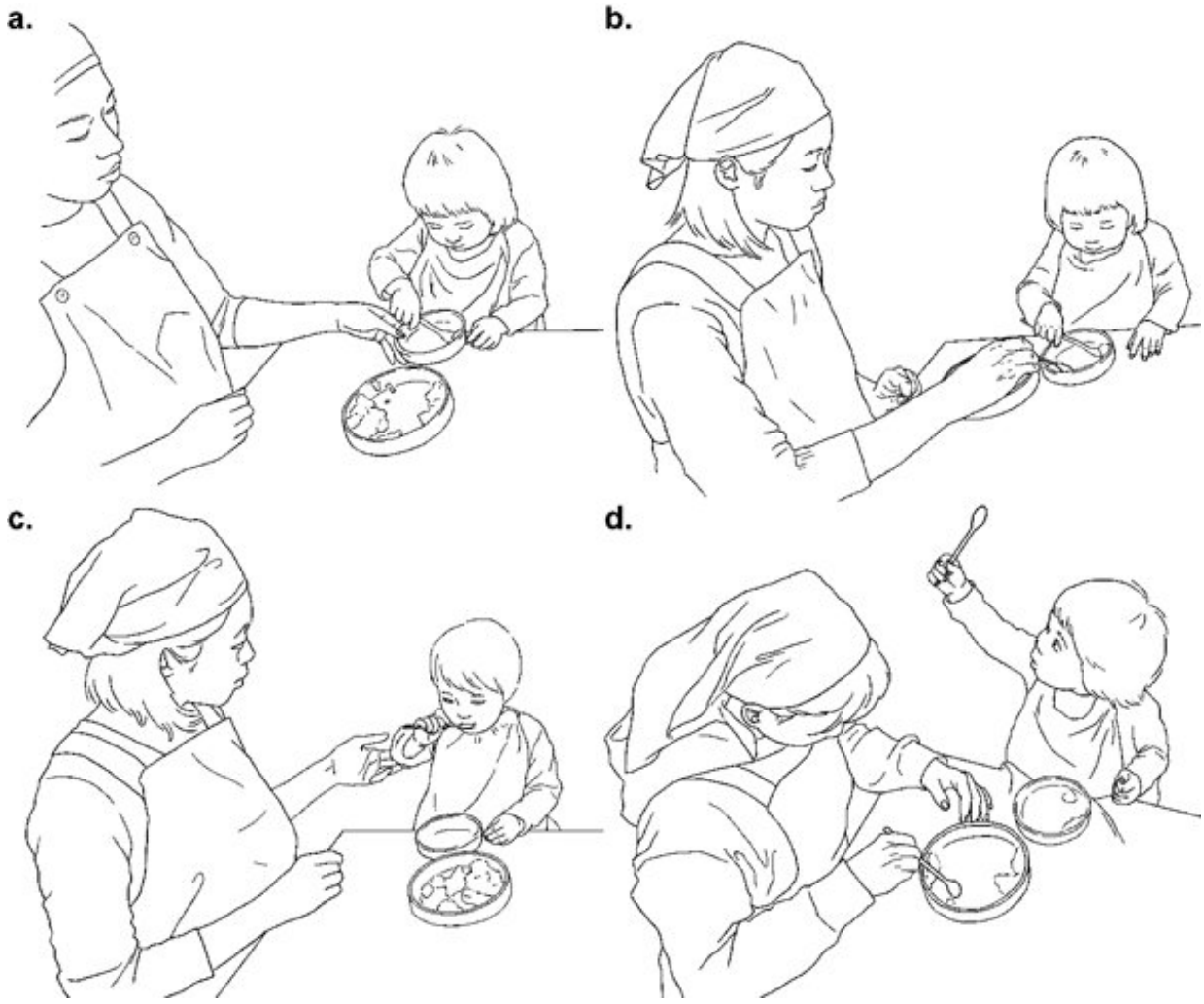

Illustrated examples of the behavior of a toddler learning to use a spoon and the caregiver's assistive actions. A. A toddler moving their spoon towards the food in

a dish that the caregiver is holding. B. The caregiver moving the food on the plate so that the toddler can reach it with their spoon more easily. C. The caregiver supports the elbow of a toddler holding a spoon with food on. D. A toddler plays with the spoon in a manner unrelated to eating. (Illustrations by MATSUMURA Minami). Credit: Kobe University

When toddlers begin to use a spoon to eat by themselves, what kind of interactions occur between them and their caregiver to facilitate this behavior?

An international research collaboration led by Kobe University's Professor NONAKA Tetsushi (Graduate School of Human Development and Environment) and the University of Minnesota's Professor Thomas A. Stoffregen investigated the interactions between toddlers learning to use a spoon and their caregivers during mealtimes at a daycare center in Japan.

The research findings were published in *Developmental Psychobiology* on December 11, 2020.

Research Findings

A 10-month longitudinal observation of 12 toddler-caregiver dyads during mealtimes was carried out at a daycare center in Japan. The onset of independent spoon-feeding was identified for each toddler (mean age: 17.88 months). The researchers then investigated the temporal relationship between the following terms in the video data of mealtimes immediately after this onset: 1. The caregiver's assistive actions, 2. The toddler's spoon usage, and 3. The toddler's gaze towards the caregiver.

Analysis of the results showed that toddlers were more likely than

chance to move their spoons towards the food immediately after the caregiver had changed the position of the plates or the food on them in order to give the toddler the opportunity to try to feed themselves. The researchers also found that the amount of time that toddlers spent looking at the caregiver's hands was significantly longer than the time spent looking at their face. Moreover, toddlers were 8 times more likely to look at the caregiver's hands than perform any other action when the caregiver was moving items around on the table.

In addition, the researchers found a clear difference between the circumstances in which toddlers looked at the caregiver's face and the circumstances in which they looked at the caregiver's hands. Toddlers were most likely to look at the face in order to check whether or not the caregiver was watching their behavior, either after the toddler had fed themselves with the spoon or after they had played with the spoon in a manner unrelated to eating. These incidences of toddlers' checking caregiver reactions were too numerous to be chance occurrences.

These results show that during mealtimes, toddlers' gazes towards the hands and gazes towards the face have different roles in communication. The emergence of the toddler's ability to appropriately use a spoon to eat by themselves is the result of the following reciprocal interactions involving the caregiver's behavior and the toddler's attention: 1. The caregiver's manipulation of the surroundings and the toddler's attention to the caregiver's hands, and 2. The reaction of the caregiver to the toddler's behavior and the toddler's attention to the caregiver's face.

More information: Tetsushi Nonaka et al, Social interaction in the emergence of toddler's mealtime spoon use, *Developmental Psychobiology* (2020). DOI: 10.1002/dev.21978

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