

OLFACTORY PREFERENCES IN INFANTS: WHAT IF IT ALL STARTED IN THE MOTHER'S WOMB?

The first sensory experience occurs very early in life, when the foetus discovers the aromas of maternal nourishment present in the amniotic environment. It continues after birth during breastfeeding, since the aromas of the mother's diet can also be found in breast milk. Another key step in the development of the infant's sensory repertoire is the weaning phase, which begins around the age of 5-6 months. This is characterized by the gradual introduction of solid foods (the well-known fruit and vegetable purees...). The question raised in this study is whether early sensory exposures experienced in utero as well as during the breastfeeding and weaning phases have an effect on the subsequent olfactory preferences of the infant. In other words, is there such a thing as an early sensory memory?

To answer this question, CSGA researchers asked 300 mothers to keep a food diary and record all the food and beverages consumed during late pregnancy and breastfeeding. The mothers also had to describe their infant's diet at the beginning of the weaning phase. Food diaries allowed the researchers to determine the infant's degree of exposure to foods that were *a priori* liked (strawberry, peach, apricot, apple, vanilla) and foods that were *a priori* not liked (fish, strong-flavoured cheese, pepper, garlic). At the age of 8 months, the infants came to the laboratory and carried out an olfactory test. This test consisted in observing their behaviour towards objects odorized with the smells described above *versus* non-odorized objects. Regarding the foods that were *a priori* not liked, results showed a positive correlation between child's early exposure to certain flavours (cheese, pepper, fish) and his/her subsequent attraction to these flavours. No correlation was observed for the foods that were *a priori* liked. To conclude, this study points out that early exposure of a child to foods that are *a priori* not liked could contribute to a better acceptance of their smell later on.



Photo credits: S. Monnery-Patris©

Contact

Sandrine Monnery-Patris, sandrine.monnery-patris@inra.fr

To know more

Wagner S, Issanchou S, Chabanet C, Lange C, Schaal B & Monnery-Patris S (2019). Weanling Infants Prefer the Odors of Green Vegetables, Cheese, and Fish When Their Mothers Consumed These Foods During Pregnancy and/or Lactation. *Chemical Senses*. <https://doi.org/10.1093/chemse/bjz011>

Key words

Olfaction; preferences; infant; child; amniotic liquid; breastfeeding; weaning; perinatal exposure.