



Food socialization in early childhood

Simon Reitmeier, Kulmbach

Summary

The extent to which the mother's diet has an influence on the prenatal and postnatal taste development of the child is not clear. However, research agrees that taste imprinting begins in the womb. It is a development process that begins with the foetus and continues throughout the person's entire life span. The emotional factor and the emotional bond must also play an important role in the question of whether we enjoy eating or are indifferent or hostile to the consumption of food and see it more as a necessity than an opportunity for enjoyment. The mother-child bond and the first experiences of pleasure and food in infancy and childhood must therefore be fundamental and formative. How the diet of adolescents and adults tangibly develops, what ends up on the plate and what is preferred, remain significantly dependent on the surrounding culture, the position in the social sphere and the resulting habitus as well as the conditions and attitudes in the family.

Keywords:

Food socialization, taste, sociology of food, nutritional habits, habitus, emotion, food culture, sociology

Introduction

The first phase of socialization – primary socialization in infancy and early childhood – is particularly important, as the child's basic personality structures are developed at this time.

Primary socialization takes place almost exclusively within the family, in the child's direct exchange with the parents [1]. At this point, certain values, standards, beliefs and expectations are conveyed to the child by the family, which are also influenced by social background [2].

Through everyday interaction, imitation and familiarization, the child takes on the parents' patterns of thought and action, the habitus, which manifests itself in language, posture, manners and taste preferences, and thereby experiences structured imprinting [3]. In terms of diet, this means that children also imitate, internalize and take on the taste preferences and food habits of parents. And it seems as if these processes of taking on the parental taste pattern begin in the womb.

Prenatal and postnatal taste development

The foetus takes on a variety of flavours in the womb via the amniotic fluid, which are also influenced by the mother's diet. The American biologist Julie MENELLA, among others, demonstrated the importance of the prenatal and postnatal taste experiences of the foetus and the child with

regard to its later taste development. Her research showed that the child's swallow rate rises with sweet-tasting amniotic fluid and falls when the amniotic fluid tastes bitter [4]. For the child has an innate, genetic preference for the sweet taste, which is interpreted as an evolutionary advantage: sweet foods are a rapid energy source and most natural toxins taste bitter, rarely sweet [5]. In addition, later taste preferences

and definitely not all flavours pass into the mother's milk. No flavour of fish was transferred to the milk of women, who had consumed fish oil capsules [9]. Whereas certain flavourings transfer to the mother's milk, others appear to change as part of the metabolism in the womb, so that they either do not transfer at all or only transfer in the form of metabolites [10, 11].

The extent to which the mother's

„Through everyday interaction, imitation and familiarization, the child takes on the parents' patterns of thought and action, the habitus, which manifests itself in language, posture, manners and taste preferences...“

seem to be influenced by the composition of the amniotic fluid and the flavours contained therein. Evidence was found in experiments that newborns develop preferences for certain flavours, such as for example aniseed when the mother consumes aniseed flavours during pregnancy [6]. These familiarization processes also continue after birth. Certain flavours, such as garlic, pass into the mother's milk one or two hours after consumption [4].

The infant takes on flavours via the mother's milk and seems to develop corresponding preferences, as MENELLA was able to show in a well-known and much-discussed experiment. Infants whose mothers consumed carrot juice during pregnancy as well as infants whose mothers consumed carrot juice during breastfeeding, later had preferences for cereal mush flavoured with a carrot taste during the switch to solid food [7]. These effects are not limited to the mother's milk. Such familiarization effects were also demonstrated in tests with flavoured milk replacement food [8].

In their own research, BÜTTNER et al. were able to show that only certain

diet has an influence on the taste development of the child is therefore not resolved. However, it is certain that taste imprinting begins in the womb. It is a development process that begins with the foetus, continues in infancy and does not end in childhood.

Taste and socio-cultural background

As mentioned at the start, food socialization in infancy and childhood is particularly important. In this phase the child is introduced to the cultural taste pattern and experiences culture and class-specific imprinting through participation in the dietary practice of parents and siblings.

How and what we eat is strongly dependent on the position of the family in the social sphere, according to BOURDIEU's habitus theory. BOURDIEU also demonstrated how different tastes arise from social differences: lower classes have a different body image, eating habits and taste preferences, and therefore a different food habitus to the more wealthy classes [2]. What BOURDIEU was able to prove for

Citation:

Reitmeier S (2014) Food socialization in early childhood. *Ernährungs Umschau* 61(7): 116–122

This article is available online
DOI: 10.4455/eu.2014.021



The child's tastes are supposedly influenced in the womb – through the flavours in the amniotic fluid.

France in the 1960s and 1970s is also applicable in Germany today. As demonstrated by the *Nationale Verzehrstudie* (NVS) II (National Consumption Study II), people from lower social classes consume more fat, meat and sausage products and more lemonade, beer and spirits. In contrast, wealthier classes have a higher consumption of fruit, vegetables, fish and shellfish and drink more water, sparkling wine and wine [12].

It is interesting that this not only applies to adults, but also, with the exception of alcoholic drinks, to small children. The GRETA Study, which looked at the dietary behaviour of small children between the ages of 1 and 3, showed that the same class-specific differences are already found among young children as among adults. Hence small children from lower classes eat more meat and sausage products, whereas small children from upper classes consume significantly more fruit [13].

This indicates that the socially-imprinted taste shapes the preferences and dislikes of social classes across the generations and is extraordinarily stable.

The culture-specific preferences of certain regions, countries or cultural circles are thus also passed on through the generations. The processes of habitualization have exactly this purpose: to transfer certain food habits, behaviours and preferences from the parental generation to that of the children [14].

Evolutionary biology programmes: mere-exposure effect and neophobia

A good insight into how the habitus is formed and what roles are played by familiarization and repetition is offered by the mere-exposure effect, established by Robert ZAJONC [15]. ZAJONC found that new situations, people or things were rated more positively, the more often the experiment participants were confronted with them. This effect is not only used in the advertising industry, but also in the food sector to establish food preferences. Children, who are repeatedly offered a meal at certain time intervals, develop a more or less distinctive preference for it under certain conditions. Correspondingly this effect was deemed appropriate to establish new foodstuffs among children or even to form targeted taste preferences [16].

Here, however, the mere-exposure effect was overestimated, as it was also subject to substantial limitations. One premise of the cognitive emotion theories is the assumption that every emotion, therefore in terms of food every dislike or preference, is preceded by a subjective assessment. It is therefore not the presentation of a stimulus or a dish, but the previously made assessment of the same, which is responsible for

the emergence of emotions, therefore of dislike or appreciation. This assessment can also occur unknowingly: This explains on the one hand, why the mere-exposure effect is then detectable, when the presentation of a stimulus is so short that it lies under the threshold of perception, and why different people react to the same stimulus with different emotions [17]. Taste preferences therefore do not randomly develop, as the mere-exposure effect only arises when there is not a strongly negative assessment upon initial contact – for whatever reason, known or unknown. This could even be the case for example, when the offered food exhibits an external similarity to a food already perceived as negative and rejected according to taste. If a child vehemently rejects a food, repeated offering does not help. However, in the case of neophobia that frequently occur in childhood, repeated offering of new dishes can be entirely helpful [18].

Neophobia is the fear of the new, the unknown. Neophobic tendencies towards unknown foods often arise in childhood, above all between the ages of 18 and 24 months, and are often interpreted as a natural protective mechanism in the face of unknown and potentially toxic foods.

Food socialization in the family

Food and emotion – the pleasure of eating is imprinted early on

An important, but often little considered, aspect of food socialization is the emotionality factor, perhaps because it is difficult to record and prove scientifically. Prenatal and postnatal influences or food habitus show how certain food preferences or dislikes establish and strengthen,

¹ Emotion theories are concerned with the question of how emotions arise and take effect.

but not how the emotional relationship with cooking and eating and the affinity with issues of diet, food origin and preparation develop. Whether people feel that eating and drinking are enjoyable and the accompanying activities of food preparation and cooking are appealing and pleasurable, or whether they tend to experience them as neutral or even burdensome, is a question whose answer depends on the early childhood emotional imprinting around eating.

The first need that the infant has after birth is the satisfaction of its hunger craving at the mother's breast. What matters here is not just the physical satiation of the infant, but also the experience of pleasure and social bonding. Hunger is stilled and, at the same time, the child feels that food consumption at the mother's breast is pleasurable and thereby forms a close bond with the mother. The common occurrence of this triad of satiation, pleasure and bond is the very first experience of the child.

Fundamental to the psychoanalytical theory is the assumption that the simultaneous experience of pleasure, bonding and food consumption in the first months of life is of particular importance [19].

It is thought that these early experiences of pleasure and bonding in the context of food consumption have a formative effect on the child's later bonds and relationships. It is therefore reasonable to assume that these first experiences influence and long-lastingly imprint the later diet and later relationship to eating and drinking in particular as well as to diet and food in general. Food consumption and pleasure are connected, or, as expressed by PRAHL and SETZWEIN, the "primary adoption is shaped by the secondary

adoption of enjoyment" [20]. Oral satisfaction is accompanied by satiation, food consumption is enjoyed. The close link between pleasure and eating is even revealed in our colloquial language: "the way to the heart is through the stomach" and "you're good enough to eat".

The causes of eating disorders, for example, are certainly varied and complex, yet the reasons for these disorders are often seen in early childhood socialization, in the family environment and their relationship structures in general and in the relationship between the mother and child in particular [14, 20, 24, 25]. Therefore, if eating disorders have their origin, at least in part, in the relationship network between the mother and child, it can also be assumed from the hypothesis that, aside from extreme contexts like eating disorders, early childhood bonding also imprints "normal" eating habits in later life. The experiences of pleasure and orality felt by the infant and small child can also be found in adults in their enjoyment of food consumption [21]. In summary, this means that infants and small children, who experience the consumption of food in a desirable and enjoyable way – i. e. they are regularly, reliably, caringly and patiently fed by their attachment figure (by breast or bottle) – will also experience food consumption as positive and enjoyable as adults.

In contrast, infants and small children, who do not experience food consumption as satisfactory and pleasurable, also later feel eating and drinking to be less enjoyable. If the mother is stressed (for psychological reasons, time pressure or other), feeding is hectic, impatient or even forceful, and food consumption must be experienced as less satisfactory. This applies even more if the child suffers from feeding disorders, if it generally consumes food poorly or only slowly and in small amounts and if it is often sick and

does not receive sufficient time, attention or empathy from the carer.

Irrespective of how the mother-child relationship develops in the first stage of life, whether positively or negatively, pleasurable or unsatisfactorily, it must have a significant formative effect on the later relationship to food.

Influence of family and instances of socialization

During, but above all after, infancy, the conscious part of socialization, the upbringing, is added to the family's unconscious approach to food and food consumption. A participative style of upbringing, which takes into account the specific needs and requirements of the child, leads to an appropriate interaction with food, rather than an authoritative food upbringing, which principally operates with prohibitions, or the so-called *laissez-faire* methods of upbringing, which end in disorder [26].

*„the way to the heart
is through the stomach”
and “you’re good
enough to eat”*

Naturally there are also many other factors which have an influence on the socialization of the child. As the early childhood phase ends and the child increasingly takes part in family life, the importance of other family members, peers and authority figures from the circle of acquaintances, nursery or school increases. Siblings, relatives, friends or teachers can then become role models.

Here too there seems to exist, alongside familiarization and habitualization, a type of emotional so-

cialization, which occurs not only via imprinting, but also via identification. Psychological approaches assume that the emotional attitudes, interests and relationship models are established in childhood and early adolescence primarily in the interaction with the family, external role models and peers. In addition, the way in which a person interacts with things, plants, animals and

from them, as well as his/her interaction with it, have a formative effect on the child. Appreciation of a meal eaten together, preferences and dislikes for certain product groups, for traditional or ecological methods of origin as well as for different preparation methods: the child identifies itself with the preferences of the parents, with their proximity or distance to food issues.

„It can also be assumed that the food involvement of the child's attachment figure, understood as the affinity and connection to food, to cooking and eating... and to foodstuffs, has a formative effect on the child.“

tasks often seems to operate according to the same patterns that were adopted in early years [22]. Likewise it can be assumed that the food involvement of the child's attachment figure, understood as the affinity and connection to diet, to cooking and eating, to animals, plants and the foodstuffs produced

“Why we like what we eat” – a study on food socialization

Interview study

As part of the study entitled “Why we like what we eat” [23], interviews were carried out by the instigator

with 12 people aged between 19 and 67. The aim was to record the food biographies of the interviewees and the accompanying process-based changes. The difficulty therein was that experiences of taste and food are a set of issues that take place every day and mostly unconsciously. Purely narrative interviews are not suitable to record such routine everyday processes. Therefore, elements of the narrative interview were combined with those of the episodic interview (♦ Box 1). Participants were recruited mainly by the instigator, who procured interviewees with a low-income background from a social club. Sampling criteria included gender, age, social background and family situation, in order to record and show as many different food biographies as possible.

Results: Emotional bond to food in childhood is formative

All interviewees of the “idealist” type, characterized by a high food involvement, had a close emotional connection to food issues from an early age irrespective of their class, as the following quote illustrates:

“As a child I always had to pick the barley, because there were still small stones and suchlike in the barley, which was not quite clean. That was my task, or shredding the beans and suchlike with the machine. I also liked doing that. I therefore was already engaged with food, not consciously, but simply engaged because I was encouraged and because I liked it.” [23, S.138]

Role models play an important role among all interviewees with a high food involvement; in the most part it is the mother or grandmother that is mentioned, who likewise had a close bond to food, eating and cooking. In contrast, for the “indifferent” type there was no participation in shopping, processing and preparing of food; these processes were done by others:

“There was a real division of labour among the children within the family. We had to run the entire household.



A participative style of upbringing leads to an appropriate interaction with food

And for me it was always cleaning and laundry. So I rarely went into the kitchen. Except to clear up the mess." [23, S.139]

In this case, food remained connected more with burden than with pleasure.

Conclusion

It can be assumed that emotionally based assessment patterns emerge in the early years, which formatively influence the interaction with food and decide whether the preparation and consumption of food is experienced as emotionally satisfactory and enjoyable. Further studies on food socialization in infancy and early childhood are desirable as a critical window on to the emergence of lifelong habits.

Dr. Simon Reitmeier
Kompetenzzentrum für Ernährung
Hofer Str. 20, 95326 Kulmbach,
E-Mail: simon.reitmeier@kern.bayern.de

Conflict of Interest

The author declares no conflict of interest according to the guidelines of the International Committee of Medical Journal Editors.

Literatur

1. Berger PL, Luckmann T. *Die gesellschaftliche Konstruktion der Wirklichkeit. Eine Theorie der Wissenssoziologie*. 21. Auflage, Fischer-Taschenbuch-Verlag, Frankfurt am Main (2007), S. 141
2. Bourdieu P. *Die feinen Unterschiede. Kritik der gesellschaftlichen Urteilskraft*. Suhrkamp, Frankfurt am Main (1982)
3. Zimmermann P. *Grundwissen Sozialisation. Einführung zur Sozialisation im Kindes- und Jugendalter*. 2. Aufl., Leske + Budrich, Opladen (2003), S. 56
4. Mennella JA, Beauchamp GK. *The early development of human flavor preferences*, in: Capaldi ED. *Why we eat what we eat. The psychology of eating*. American Psy-

BOX 1: INTERVIEWS AND EVALUATION

Interviews:

Narrative interview = open interview method, based on Fritz SCHÜTZE, where the interviewee is encouraged to freely relate his subjectively-experienced (food) biography [27].

Episodic interview = interview method based on Uwe FLICK, which attempts to combine the advantages of the narrative interview with the advantages of a structured guideline interview. Everyday actions and routines are recorded by means of specific questioning. However, this method reduces the biographical account [27].

Evaluation:

As the survey was carried out with a combination of narrative and episodic interview methods, a method triangulation was required in the evaluation. The interviews were evaluated with a combination of biographical case reconstruction, according to Gabriele ROSENTHAL [28], and thematic coding, according to Uwe FLICK [27], and case analyses were produced. On this basis, four food types were typologized among the interviewees: the "idealist", the "pragmatic", the "status-oriented" and the "indifferent", characterized by a different food involvement (♦ Box 2).

BOX 2: THE FOUR FOOD TYPES

1. **Idealist:** They are characterized by a high emotional connection and affinity to the subjects of food, cooking and enjoyment. In this respect they have also gathered positive participative childhood experiences. For them, eating and drinking has an enjoyment function; they enjoy cooking and attach importance to a regional and seasonal meal plan. The high interest in food is also implemented in practice.
2. **Discerning pragmatic:** Similarly to the idealists, they have a relatively high interest in food, however they do not succeed in transferring this interest to everyday situations. If there is opportunity and time, the interest is transferred – if not, the enjoyment function of eating fades into the background and they resort to convenience foods. Food involvement in childhood is less marked than with the idealists.
3. **Status-oriented:** They present themselves as ambivalent. Interest, enjoyment, pleasure and delight in eating, drinking and cooking are bound to the associated status expectations. If consumption promises status, it is celebrated with high interest and exclusivity. Exclusive consumption is regarded as the performance of one's own good taste. However, if the components lack status, interest, the enjoyment function and delight in eating rapidly decrease. Food involvement in childhood among this type is low.
4. **Indifferent:** For the indifferent type, food is not a term with positive associations. Neither status nor pleasure and delight are produced by food. Eating, drinking and cooking are rather regarded as a necessary burden, which is preferably carried out without effort and with convenience products. There were no positive, participative childhood experiences with parents or grandparents.

- chological Association, Washington D.C. (1996), S. 83-112
5. Ellrott T (2007) Wie Kinder essen lernen. In: Ernährung – Wissenschaft und Praxis (4), S. 167-173
6. Schaal B, Marlier L, Soussignan R (2000) Human fetuses learn odours from their pregnant mother's diet. *Chem. Senses* 25: 729-737
7. Menella JA, Jagnow CP, Beauchamp GK (2001) Prenatal and postnatal flavour learning by human infants. *Pediatrics* 107 (6): e88
8. Menella JA, Forestell CA, Morgan LK et al. (2009) Early milk feeding influences taste acceptance and liking during infancy. *Am J Clin Nutr*, 90 (supplement): 780-788
9. Sandgruber S, Much D, Amann-Gassner U et al. (2011) Sensory and molecular characterization of human milk odour profiles after maternal fish oil supplementation during pregnancy and breastfeeding. *Food Chem.* (128): 485-494
10. Kirsch F, Horst K, Röhrig W et al. (2013) Tracing metabolite profiles in human milk: Studies on the odorant 1,8-cineole transferred into breast milk after oral intake. *Metabolomics* (9): 483-496
11. Kirsch F, Beauchamp J, Buettner A (2012) Time-dependent aroma changes in breast-milk after oral intake of a pharmacological preparation containing 1,8-cineole. *Clin. Nutr.* (31): 682-692
12. Max Rubner-Institut (Hg.) (2008), Ergebnisbericht der Nationalen Verzehrstudie II – Teil 2. Bundesforschungsinstitut für Ernährung und Lebensmittel. Online verfügbar unter http://www.was-esse-ich.de/uploads/media/NVSII_Abschlussbericht_Teil_2.pdf Zugriff 07.02.2014
13. Hilbig A, Alexy U, Drossard C et al. (2001) GRETA: Ernährung von Kleinkindern in Deutschland. *Aktuelle Ernährungsmedizin* 36 (4): 224-231
14. Pudel V, Westenhöfer J. Ernährungspsychologie. Eine Einführung. Hofgrefe Verlag für Psychologie, Göttingen (1991), S. 30
15. Zajonc RB (1968) Attitudinal effects of mere exposure. *Journal of Personality and social Psychology* 9(2): 1-27
16. Diehl JM, Ernährungspsychologie. In: Kutsch T (Hg). *Ernährungsforschung – interdisziplinär*. Wissenschaftliche Buchgesellschaft, Darmstadt (1993), S. 68-97
17. Faullant R. Psychologische Determinanten der Kundenzufriedenheit. Der Einfluss von Emotion und Persönlichkeit. Universitätsverlag (2007), S. 55ff.
18. Benton D (2004) Role of parents in the de-termination of the food preferences of children and the development of obesity. *International Journal of Obesity* 28(7), 858-869
19. Rudolf G, Entwicklungsgeschichtliche Grundlagen. In: Rudolf G, Cierpka M. *Psychotherapeutische Medizin und Psychosomatik. Ein einführendes Lehrbuch auf psychodynamischer Grundlage*. 6. Aufl. Thieme, Stuttgart (2008), S. 30-54
20. Prah HW, Setzwein M. *Soziologie der Ernährung*. Leske + Budrich, Opladen (1999)
21. Rudolf G. Motiviertheit – die Grundbedürfnisse des Menschen. In: Rudolf G, Cierpka M. *Psychotherapeutische Medizin und Psychosomatik. Ein einführendes Lehrbuch auf psychodynamischer Grundlage*, 6. Aufl. Thieme, Stuttgart (2008), S. 73-83
22. Toman W, Psychoanalytische Erklärungsansätze in der Familienforschung. In: Nave-Herz R, Marckfeld M (Hg). *Handbuch der Familien- und Jugendforschung*, Bd. 1, Luchterhand (1989), S. 81-93
23. Reitmeier S. Warum wir mögen, was wir essen. Eine Studie zur Sozialisation der Ernährung. transcript, Bielefeld (2013)
24. Zeeck A. *Essstörungen. Wissen, was stimmt*. Herder, Freiburg (2008), S. 74f.
25. Groß G. Verhaltenstherapeutische Modellvorstellung. In: Herpertz S, Zipfel S, Zwaan M (Hg). *Handbuch Essstörungen und Adipositas*. Springer Medizin Verlag, Berlin, Heidelberg (2008), S. 54-58
26. Hurrelmann K. *Einführung in die Sozialisationstheorie*. 9. Aufl. Beltz, Weinheim (2006), S. 156ff.
27. Flick U. *Qualitative Sozialforschung*. rowohlt, Hamburg (2007)
28. Rosenthal G. *Interpretative Sozialforschung. Eine Einführung*. 2. Aufl. Juventa, Weinheim, München (2008)
28. Flick, Uwe. *Qualitative Forschung. Theorie, Methoden, Anwendungen in Psychologie und Sozialwissenschaften*. 2. Aufl. Rowohlt Taschenbuch Verlag, Reinbeck bei Hamburg (1996)

DOI: 10.4455/eu.2014.021