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Mealtime interactions: the role of sensitive parental feeding behavior in the first years of life

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6



Chapter 6

General Discussion

General Discussion

Summary

The aim of the present dissertation was to examine the relation between sensitive parental feeding behavior and health outcomes in infants and toddlers up to 24 months. In the current chapter, the main findings are summarized and integrated, and future directions for research and practice are considered.

Mother-infant interaction during the very first bites

In the first empirical study described in **Chapter 3**, mother-infant interactions were studied during the start of complementary feeding. Observations of a feeding situation were performed on two consecutive days, during which infants received their very first bites of solid food. Results showed some stability of all measured constructs of both mother and child behavior from the first to the second feed. In addition, the study was the first to show that maternal behavior during feeding is associated with infant vegetable intake and liking of the very first bites of solid food. More specifically, sensitive and positive maternal feeding behavior was found to be positively associated with both infant vegetable intake and liking. Moreover, the fact that this was mostly the case during the second feed and not the first, suggests that the dyad was more attuned during the second feeding experience than during the first. In addition, infant vegetable liking during the first feed was found to predict maternal sensitive feeding during the second feed, while maternal sensitive feeding during the first feed was not found to predict vegetable intake or liking during the second feed. This underlines that it is important to consider that child behavior might as well influence parental behavior, and that it is of great importance to take bi-directionality into account when studying parent-infant interactions.

Maternal sensitivity during mealtime and free play

In **Chapter 4** we described the results of our second empirical study that examined whether observed maternal sensitivity towards 18-month-old children differed between mealtime and free-play. A second aim of the study was to explain possible differences between the two situations by studying moderating effects of children's eating behavior. Mothers were found to show lower levels of sensitivity during mealtime than during free play. In addition, observed child eating behavior was related to maternal sensitivity during mealtime, with more food enjoyment being associated with higher levels of sensitivity, and more challenging child behavior with lower levels of sensitivity. Finally, when children showed a high degree of challenging behavior during the meal, there was more discrepancy between sensitivity during mealtime and free play. Findings suggest that it is important to be aware of the challenges that parents might experience around mealtimes, especially during toddlerhood. Moreover, parental behavior might be

expressed differently across situations, which underlines the importance of taking context into account when observing parental sensitivity.

What vs. How: Intervention effects on maternal feeding behavior and child health outcomes

The results of the overarching RCT study testing interventions on vegetable exposure (*What*) and sensitive feeding (*How*) were described in **Chapter 5**. Our interventions, aimed at fostering healthy eating habits in children, showed no effects on child vegetable intake and child self-regulation. Although the proportion of children with overweight was significantly lower in the condition that received advice on both *what* and *how*, this finding needs to be cautiously interpreted due to the small number of infants with overweight and non-significant effects on the continuous measure of BMI-z. Finally, our sensitive-feeding intervention VIPP-FI was effective in enhancing sensitive maternal feeding behavior, mostly at 18 months. Our follow-up measurement at 36 months will shed more light on the longer-term effects of our interventions.

Integration of findings

Sensitive feeding and child health outcomes: theoretical framework

Parents are found to play a large role in their children's development, which is extensively described within attachment theory. This theory states that a parent's positive affect and behavior, including sensitivity and responsiveness, contributes to a child's adaptive development and emotion regulation (Bowlby 1988; Bretherton, 1991; Schore, 1994). The idea that the quality of interactions between parents and their children affect child outcomes, can be applied to the feeding context as well. The first evidence for this hypothesis was found by Bowlby's co-founder of attachment theory, Mary Ainsworth (Ainsworth and Bell, 1969). In her feeding observations during the first year of life, she observed that mothers who fed on demand, who adapted their feeding pace and who promptly responded to their infant during feeding had infants who cried less in early infancy and demonstrated greater attachment to their mothers at the end of the first year.

The assumption that parental responsiveness may contribute to child health outcomes such as vegetable intake and self-regulation of energy intake, is also underlined by another theory on child development closely related to attachment theory: the theory on compliance, developed by Kochanska and colleagues (Kochanska & Aksan, 1995; Kochanska et al., 2001). Kochanska proposed a motivational distinction between situational and committed compliance: children who show situational compliance are externally motivated to comply, and solely accept and follow caregivers' rules when they are closely monitored, while children who show committed compliance are internally motivated to comply. Parental responsiveness has been found to play a central role in the development of this committed compliance in children, because children who have

warm and sensitive parents would more easily embrace their parents goals and rules (Braungart-Rieker, Garwood, & Stifter, 1997; Crockenberg & Litman, 1990; Kochanska, Barry, Aksan, & Boldt, 2008; Kochanska, Woodard, Kim, Koenig, Yoon, & Barry, 2010). The sensitive discipline strategies we incorporated in our VIPP-FI intervention have been shown to promote a child's committed compliance (Feldman and Klein, 2003), and were therefore expected to benefit healthy child eating behavior in our trial.

Sensitive feeding and child health outcomes: present findings

However, contrary to these underlying theories and our expectations, in the present dissertation we did not find proof of a causal relation between sensitive maternal feeding behavior and healthier child outcomes. As described in **Chapter 5**, our VIPP-FI intervention did enhance sensitive maternal feeding behavior, but did not show effects on child health outcomes. Two other large longitudinal trials incorporating advice on parental responsive feeding behavior did find some positive effects on child health outcomes, i.e. child weight (Daniels et al., 2012; Savage et al., 2016). However, these trials did not find any effects on other health outcomes such as vegetable intake, and differences found on child weight were small and not consistently present over time. Moreover, in these trials advice on responsive feeding was embedded in a multicomponent intervention program, focusing on other topics as well, such as portion size, exercise, or sleep. Therefore, it is unclear if and in what way responsive feeding behavior contributed to the positive effects (Daniels et al., 2012; Savage et al., 2016). It should be noted, however, that we *did* find an effect in favor of our combined intervention group on child overweight. Although the effect at this point is too uncertain to interpret because of the small numbers of overweight children, it is promising, and may be supported through analysis of our data assessed at 36 months of age.

From child behavior to parental behavior?

In **Chapter 3**, we did not find maternal feeding behavior to predict child eating behavior the next day. In fact, the relations that we found pointed in the direction of child characteristics influencing parental feeding behavior, a direction of effects that is studied less often. Infant vegetable liking during the first day of complementary feeding was associated with maternal feeding behavior the next day, while we did not find this relation the other way around. Further, in **Chapter 4**, mothers were found to be less sensitive during mealtime than during free play, and this discrepancy was larger when children showed challenging behavior during the meal. Although causality cannot be confirmed in this study, this finding implies that challenging child behavior during the meal may impair sensitive parental responding.

Taken together, the present dissertation found some indications that child behavior may influence parental behavior, but no support for a causal relation from parental to child

behavior. In the feeding context, these findings are in line with the findings of a large twin study in the UK, where infant weight and infant appetite were found to be predictive of parental feeding behavior, but not the other way around (Fildes et al., 2015; Van Jaarsveld, Llewellyn, Johnson, & Wardle, 2011). Because feeding is such a goal-oriented task, it makes sense that a parent's responses are partly dependent on the child's eating behavior, such as appetite or food refusal. If this behavior does not match the parent's expectations, insensitive feeding behavior may arise. Moreover, parents are likely driven by long-term goals like optimizing or maintaining the child's health and growth, so some forms of insensitive feeding behavior such as mild pressure to eat is understandable. It is important for researchers as well as professionals to be aware that child behavior is not always a consequence of parental behavior, but that child behavior affects parental behavior as well.

Sensitive feeding and child health outcomes: explanation of findings

The fact that we were not able to show the influence of sensitive feeding on child health outcomes implied by attachment theory and the theory on committed compliance, does not necessarily mean this influence does not exist. Our sample had a relatively high vegetable intake, which may have left too little room for improvement. Therefore, it is plausible that our interventions are more effective regarding child health outcomes in a study population where improvements are actually needed. Examples of such populations are children who already have difficulties eating vegetables, or picky eaters in general. Parents who struggle with feeding their children might especially benefit from video-interaction training. This way, they can learn how to maintain a positive atmosphere despite the picky eating behavior, and how to deal with it in a positive and sensitive way, avoiding coercion. This in turn may increase the child's feelings of security at the table, his/her confidence, and positive associations with mealtimes, which might result in the child's willingness to try healthy foods somewhat more. With respect to the general population, it might also be that positive effects of VIPP-FI on maternal feeding behavior will indeed affect child health outcomes, but only in the longer term. Our follow-up measurement at 36 months will shed more light on this matter. Moreover, it would be interesting to have another follow-up at for example 6-7 years of age, when the food neophobia/picky eating phase has ended for most of the children that experienced it. With respect to vegetable intake, another study involving repeated exposure during the first year of life, found long-term effects at 3 and 6 years of age, yet no effects at 15 months (Maier-Nöth et al., 2016). This suggests that it is possible to lay a solid foundation at the beginning, which may only pay off at a later age. In addition, VIPP-FI might have contributed positively to child characteristics that are likely to be a consequence of a mother that is more attuned to the child's needs but that we did not analyze in the present dissertation, such as a child's positive affect during a meal or more specifically enjoyment of food. Finally, it is also

possible that VIPP-FI in the current form is not suitable to positively affect child behavior, and that adaptations to the protocol are needed.

Taken together, more research regarding the effects of VIPP-FI and sensitive feeding behavior in general is warranted. In addition, when studying feeding interactions, it is important to realize that the relation between parental behavior and child behavior is most often bidirectional, and that both directions need attention in research and practice.

Challenges around mealtime during toddlerhood

Picky eating, a phase of food fussiness and food rejection that emerges in many children between the ages of 1 and 6 years, may pose a daily challenge to parents and may in turn impact parental feeding behavior (Dovey et al., 2008; Taylor et al., 2015). In **Chapter 4**, we found some indications for such an effect. Maternal sensitivity towards 18-month-old children was found to be lower during mealtime than during free play, and this discrepancy was related to the level of challenging child behavior during mealtime, suggesting that challenging child behavior during the meal may impair parental sensitive responding. Moreover, in **Chapter 5** we found child vegetable intake to decline from 18 to 24 months, while we also found maternal sensitive feeding behavior to decline, and pressuring techniques to increase. These changes may be explained by the onset of picky eating and food neophobia in this age group. The fact that VIPP-FI was only found to be effective regarding outcomes at 18 months and not 24 months, might also be explained by mealtimes becoming more challenging for parents at age 24 months. This indicates that parents may need more support from the end of the second year onwards, by providing them with information on picky eating and more tools on how to deal with this behavior.

Indeed, as soon as children start showing more food-related fussy behavior by rejecting food they used to like before, chances increase that parents start using more negative and strict discipline strategies which may in turn result in increasingly difficult and challenging child behavior. Such cycles of negative parental and child behavior are defined as ‘coercive cycles’ according to Patterson’s coercion theory (Patterson, 1982). This theory fits into social learning theory as first described by Bandura (1977), which states that parents who exhibit negative behavior socialize their children to exhibit similar behavior. Such coercive cycles are likely to occur more often during the picky eating phase, for example because parents start pressuring their child to eat. The theory states that instead of rewarding negative child reactions by giving (negative) attention to difficult child behavior, parents should reinforce children’s positive behaviors and set rules and limits in adequate ways. The intervention VIPP-SD, which our intervention VIPP-FI is based on, uses this principle by teaching parents such positive disciplining techniques to deal with challenging behavior. Indeed, at 18 months, VIPP-FI effectively increased sensitive feeding behavior, and decreased pressuring techniques. However, although we informed parents on positive

disciplining techniques during our final two sessions at 13 and 16 months, most feeding interactions we videotaped and discussed during those sessions were not that negative. In addition, VIPP-FI contained some general information on the onset of the picky eating phase during the session at 16 months, when most parents had not yet experienced any picky eating behavior. In order to change parental as well as child behavior during the picky eating phase and prevent coercive cycles during mealtime, it might be more effective and desirable to intervene during the age of 2-4 years, so parents can be supported at the time when they actually have to deal with this more challenging eating behavior. Because our video-feedback intervention was effective in increasing sensitive feeding behavior at age 18 months, it is plausible that it might be effective during toddlerhood as well if sessions are more specifically aimed at the picky eating phase.

Practical challenges

Because of the complexity of longitudinal trials like BFB, we think it is useful to discuss some practical challenges that we encountered during the research process, with the aim to inform future research. Three major challenges we experienced were, a) the large number of home visits that had to be carried out for the purpose of data collection and interventions, b) the coding of a large amount of video material, and c) comparing two active interventions while making sure the advice given was unique for each intervention. With respect to the first challenge, home visits started when the child was offered its very first bite of solid food at 4-6 months and ended at the age of 36 months. All families started with a 19-day feeding schedule for their baby, with home visits that had to be planned on the first, second, eighteenth and nineteenth day of the schedule. This meant that we had to visit the families on four different days of the week, including weekends in most cases. Because most of the mothers had started working again during that period, and because life with a baby is busy, it was very challenging to conduct the home visits on these specific days within three weeks. Quite some home visits had to be planned after 5 PM, which typically is not the ideal time of day for an infant. In addition, the first bite had to be offered in between two regular milk feeds, so we had to adjust the home visit to the schedule of mother and baby, sometimes changing the order of tasks performed during the home visits.

Moreover, half of the families were randomized into a group receiving VIPP-FI, which meant that two extra home visits had to take place within those 19 days. For mothers receiving the intervention on vegetable intake, these two sessions were conducted through telephone calls, which was more flexible but these also had to be planned. To illustrate, a participant in the combined intervention group, had to a) follow the feeding schedule, b) have the researchers come over on four measurement days, c) have the VIPP-FI intervener come over for two more appointments, and d) have two more telephone calls with another intervener, all within 19 days. The study was designed this way, because we extended a

repeated exposure intervention that had been tested before, which included this 19-day feeding schedule as well (Barends et al., 2013). However, that particular study included lab visits and only concerned vegetable intake, while our study concerned sensitive feeding behavior as well, which we thought could more validly be assessed in a natural home setting. Although assessing and comparing both *What* and *How* within the same study was innovative, it was quite challenging to execute. Moreover, this intensive schedule in the first phase of the project has likely made some families decide not to participate in the study, which might have led to selection bias that possibly resulted in a somewhat higher educated sample. Future studies may need to make some other choices, making such multiple-arm RCT trajectories somewhat less time intensive to both researchers and participants. A possible solution, for home visits as well as video-feedback interventions such as VIPP-FI, could be to have participants videotape their own feeding interaction. Although this may come with some technical challenges and would ask more effort of participants, participants could plan the recording whenever convenient for them, and it might cause such observational studies to become more feasible. Finally, because of the time-demanding nature of the intervention, and because a 'well-functioning' sample such as ours did not seem to need an intervention, a video-feedback method might be more suitable for families that actually need assistance with feeding their child, and less suitable for families that do not encounter any problems.

A second challenge concerned the coding of the collected video material. Within the BFB study, almost 4,000 videos were collected, which all had to be coded. The majority of the videos concerned mealtimes, causing the video duration to be quite long in most cases (varying from 5 to 45 minutes). In total, we trained 35 students on coding either mealtime or free play, of whom 16 became a reliable coder after intense training. It was necessary to use this many coders, because most students only stayed with us for one year, and also because we wanted our data to be coded independently, which meant that we did not want the same coder to code a family on multiple time points during the study. However, although we monitored intercoder reliability within the time points, the large number of coders might have increased error in our measurements. For the mealtime videos, we coded many constructs at once, which meant the training process was quite demanding. As a consequence, only about half of the students became a reliable coder after intensive training, which is why the coders who did become reliable had to code many videos. In addition, we aimed to have 15% of the videos coded by two coders, in order to assess intercoder reliability and prevent coder drift. However, even though the coding-process is not without difficulty and is time-consuming, it is worth the effort because observed parent-child interactions represent such valuable information. In the future, it might be feasible to have some constructs coded automatically using certain algorithms, such as positive or negative affect. In addition, coding behavior on a micro level might also be possible to perform automatically. However, more global behavioral constructs, such as

parental sensitivity, will still have to be coded by human beings. In sum, with techniques getting more and more advanced, researchers may think of ways to have some of their behavioral coding work automatized in the future.

A third challenge was to make sure the two intervention programs, one focusing on vegetable intake (what), and the other on sensitive feeding practices (how), were indeed executed as two entirely different interventions, in order to measure a 'clean' effect when comparing their effectiveness. In practice, parents who received the intervention on vegetables often wanted to know for example how long they should persist when feeding their child, or what they should do when their child refused to eat anything. However, we were not allowed to answer these questions under the conditions of the treatment protocol because these questions concerned the 'how'. Similarly, parents who received the intervention on sensitive feeding regularly asked questions about what kind of vegetables they could offer their child at a certain age, or how they could increase their child's vegetable intake, which we could not answer because these questions concerned the 'what'. Although this procedure was inevitable for the purposes of our study, it made us realize that integrating the different types of advice into one program would probably be more effective and more helpful to parents. When we asked parents to evaluate the interventions, some parents in the combined intervention group indeed suggested to incorporate advice on vegetable intake within the VIPP-FI program. Moreover, such a more integrated program could use video-feedback to not only promote sensitive feeding, but could also be specifically aimed at the promotion of healthy food intake.

Future research directions

Samples 'at risk'

The first important implication of our study is that future studies should test parenting interventions in a sample that consists of families selected for needing assistance regarding their child's eating behavior and health. Examples are families with children with low vegetable intake, parents who show high levels of pressure to eat, or toddlers who show picky eating behavior. Our study suggests that there might be a considerable percentage of families in the general population that do not particularly need advice on healthy food intake, at least not during the first years of life. Moreover, unhealthy eating habits are mostly found to arise or at least increase after these first years of life. For example, food consumption studies show that sugar intake (based on food as well as beverages) substantially increases with age (e.g., Plaza-Díaz, Pastor-Villaescusa, Rueda-Robles, Abadia-Molina, & Ruiz-Ojeda, 2020; Wang, Guglielmo, and Welsh, 2018). Therefore, in the general population, intervention efforts might be more usefully targeted at somewhat older children. Severe eating problems during the first years of life may only concern a smaller, more specific group; this group perhaps *could* benefit from the interventions we tested in our trial. If one would focus on such families that already need guidance,

intervention efforts may benefit the child more. Several studies have already proven the effectiveness of such targeted secondary prevention programs for behavioral problems in young children (e.g. ADHD (Feil et al., 2016), or aggression (Mytton, DiGuseppi, Gough, Taylor, & Logan 2007)). Moreover, VIPP-SD (the intervention that VIPP-FI was based on) has also been shown to be effective in improving child outcomes in risk groups, i.e. children with externalizing problems (Bakermans-Kranenburg et al., 2008; Juffer & Steele, 2014; Van Zeijl et al., 2006), so it seems fruitful for future studies to further examine the effectiveness of VIPP-FI on children with more severe eating problems.

However, before VIPP-FI is suitable to be tested in a sample with for example severe picky eaters, a few adaptations are suggested. First, additional sessions should be designed around toddlerhood, when picky eating behavior is likely to develop and increase. Second, because mealtimes with children who frequently show picky eating behavior can be challenging, it may be important to have sessions with less time in between than was the case in our study (e.g. 2-3 weeks, similar to VIPP-SD). Finally, parents should be provided with more tools on how to deal with things like food refusal. For example, the general advice through VIPP-FI is to avoid pressure, but for children that show severe pickiness, a certain level of positive stimulation could be beneficial. Moreover, because we wanted to separate the effects of *what* and *how*, VIPP-FI did not include advice on vegetable intake, while it could be fruitful to include such practical tips as well and maybe even videotape their implementation, such as offering multiple vegetables to choose from, involving the child when cooking the meal, or modeling consumption of healthy food. Parents who received the intervention on vegetable exposure, that was not found to be effective in improving child health outcomes, did receive such practical tips, but only on paper. It might be more powerful to actually practice these strategies with parents and to discuss their effect by means of video feedback. Finally, although we were not able to prove positive effects of VIPP-FI on child behavior at 18 and 24 months, video feedback may still be a powerful method in the first year of life. In the present dissertation, no effects were measured in the first year, but it would be fruitful to further examine its effects on parent and child during the infancy period. Through video feedback, parents can be taught how to sensitively feed their infant from the first bites onwards. To conclude, because in the current trial VIPP-FI promoted sensitive maternal feeding behavior, it is useful to further examine its effectiveness in other samples, such as infants with feeding problems, or toddlers with high levels of food fussiness. Video feedback seems a promising method to provide insight in a feeding interaction, to teach parents to correctly interpret the behavior of their child, and respond while respecting the child's wishes and needs, thereby increasing positive experiences in both parent and child.

Broader context

The fact that we did not find VIPP-FI to be effective in changing child health outcomes may also suggest that parental behavior is not the sole influencer of child behavior, but is only one pathway in a larger, complex system. This is in line with Bronfenbrenner's *social ecological model* (Bronfenbrenner, 1979). As described in **Chapter 1**, it is important to consider that several factors may influence the feeding process and child health outcomes, such as child factors (e.g., genetic taste capabilities, appetite, temperament), care by others (day care, grandparents), or the broader culture (e.g., the socio-economic context, food availability, food culture), and that these often result in a complex interplay that differs across dyads. Although there are many studies on these individual pieces of the puzzle, it would be interesting to design more overarching studies that include more of these elements, and to examine and compare their contribution to the feeding process. For example, there are studies that suggest little malleability in child eating behavior due to genetic influence (Llewellyn, Van Jaarsveld, Johnson, Carnell, & Wardle, 2010; Llewellyn et al., 2012), studies that indicate that child temperament is involved in the etiology of eating behavior (Steinsbekk, Bjørklund, Llewellyn, & Wichstrøm, 2020), or studies on how cultural attitudes and norms influence dietary patterns (Larson & Story, 2009). Unfortunately, studies looking at the bigger picture that examine and integrate parent and child correlates on individual level (e.g. genetics or temperament), interpersonal level (e.g. parent-child interaction) as well as socio-cultural level (e.g. socio-economic context) are lacking. Such insights are needed to determine what is required to improve dietary patterns, and what approaches to improving healthy eating behavior are likely to succeed. Consistent with ecologic models of behavior, improvements in eating behavior are probably most likely to result from interventions that succeed in making changes on more than one level, and it is important for researchers to think about how to achieve this (Booth et al., 2001; Bronfenbrenner & Morris, 2006).

Replication

Another recommendation for future studies is to include fathers as well. Because mothers are usually the ones who take care of feeding their child during the first year, it made sense for the BFB study to only focus on mothers to be able to optimally compare the families and the effectiveness of interventions. However, earlier studies imply that mothers and fathers may approach child feeding differently (Tan, Domoff, Pesch, Lumeng, & Miller, 2020). With respect to sensitive feeding behavior, some studies found fathers to use more insensitive feeding practices compared to mothers (Orrell-Valente et al., 2007; Tschann et al., 2013; Wendt et al., 2015), while others found fathers to report less insensitive feeding practices (Walton et al., 2019), or no differences at all (Haycraft & Blissett, 2008). More research involving the role of fathers regarding child feeding practices is needed. Moreover, interventions may be more likely to have positive effects on the child when both parents are actively involved in the process, instead of solely the mother. When performing video

feedback, videos could be discussed with both parents, to enhance their positive feeding strategies and align their approach towards the child.

Similarly, more research involving non-Western cultures is warranted. Studies have revealed several differences in feeding practices across cultures, such as the use of pressure to eat, restriction, modelling, or the parents perception of a healthy weight (Blissett & Bennett, 2013; Blissett & Jaylani, 2018; Gu, Warkentin, Mais, & Carnell , 2017; Van Eijsden, Meijers, Jansen, de Kroon, & Vrijkotte,, 2015). Moreover, there is evidence that several ethnic minority groups in Western countries are at higher risk of developing childhood overweight and obesity (Brug et al., 2012; Pollestad Kolsgaard et al., 2008; Saxena et al., 2004; Singh, Siahpush, & Kogan, 2010; Will, Zeeb, & Baune 2005). In the Netherlands, a recent study showed that 19.6% of nonwestern migrants were overweight, compared to 11.4% of the ethnic Dutch (Seidell & Halberstadt, 2020). Therefore, it is important to evaluate intervention programs in these particular groups.

Finally, to be able to compare advice on what and how and answer the main question of the present trial, it is important to replicate the present study. For our combined intervention group, one intervention containing the elements of what and how could be designed and evaluated, instead of two separate interventions. When replicating our study, researchers should aim to include a sample that represents the general population even better, for example in terms of socio-economic position or ethnicity, or by including fathers as well.

Implications for practice

One of the most important outcomes in the present dissertation is that VIPP-FI was effective in enhancing sensitive maternal feeding behavior, even in our generally already well-performing sample. When considering all positive effects of other VIPP modules so far, it is plausible that VIPP-FI is an effective method to at least promote a positive atmosphere during a very important daily routine activity - the family meal – even if it does not promote more healthy eating. Future studies should aim to replicate the positive findings on sensitive feeding behavior, further test effects on child health outcomes, and specifically evaluate VIPP-FI in samples at risk.

A second implication for practice that flows from this dissertation, is that when observing general parent-child interaction, it is important for practitioners to observe multiple situations that reflect the variety of behavior in daily family life. **Chapter 4** showed that when children show challenging behavior in a certain situation, it is more difficult for parents to respond in a sensitive way, which complicates the interaction. It is important for scientists, practitioners as well as parents to be aware that certain daily life situations are more challenging than others, and that parents are not alone when struggling with certain parenting situations. It is also important for practitioners to be aware that an

observation of parental behavior in a certain context is not necessarily generalizable to parental behavior in another context, let alone to the general quality of parental behavior. To better understand parent-child dynamics and to support parents more effectively, it is important for future studies to focus on how parent-child interaction can be expressed differently across situations.

A final suggestion for practice would be to start screening infants for more severe feeding problems during the first years of life, for example at child welfare centers, to be able to provide support to families that encounter difficulties at an early stage. For example, a Dutch study evaluated a screening instrument specifically designed to detect problems during the transition to solid food in the first year of life (Van der Heul, Lindeboom, & Haverkort, 2015). Such an instrument might be useful to detect feeding problems early.

Conclusion

Mealtimes are daily interactions that can be challenging to both parent and child, especially during toddlerhood. The present dissertation showed that video feedback can increase parental sensitive feeding behavior during the period of complementary feeding, although more research is needed to see if this method is beneficial to children's wellbeing as well. When positive experiences can be created during the first few years, they are likely to set the tone for future feeding interactions, enabling children to develop healthy eating habits and behaviors. However, positive feeding interactions are only one piece of the puzzle that needs to be solved to increase healthy eating habits and decrease the prevalence of obesity. Collaboration in research and practice, involving parents, children, daycare, schools, community and government is essential to ultimately create an even healthier society.