Abstract

Supporting positive childhood eating behaviours is a central and ongoing priority for healthcare providers, encompassing both health outcomes for typical eaters and best practice in relation to pediatric feeding challenges. Building on existing work, this perspective draws on literature from multiple fields to recommend the use of Self-Determination Theory as a framework for responsive feeding. Additionally, it contributes to the definition and conceptualization of responsive feeding. The three basic needs proposed by Self-Determination Theory (autonomy, relatedness and competence) have significant implications for both professional practice and the direction of future research.

INTRODUCTION

Nearly half of young children struggle with eating at some point,[1] with avoidant eating and weight concerns increasingly being brought to the attention of health care providers such as pediatricians and dietitians. This paper proposes that Self-Determination Theory (SDT) can provide a unifying psychosocial framework for a responsive approach to child feeding in the context of both typical and atypical eating. Such an approach is supportive of intrinsically motivated eating guided by internal cues of hunger and fullness. SDT has been previously applied to eating in areas such as binge eating,[2] obesity[3] and motivation in anorexia nervosa,[4] as well as in relation to fruit and vegetable consumption in high school[5] and preschool[6] populations. Recently, Zimmer-Gembeck et al.[7] developed the Parent Socioemotional Context of Feeding Questionnaire by applying SDT to parental social and emotional contributions to the feeding environment.

The current paper builds on previous work by exploring child feeding through the lens of SDT by way of a detailed examination of the child feeding literature. Furthermore, it explores what SDT may mean for pediatric feeding difficulties, including Avoidant Restrictive Food Intake Disorder (ARFID). While the pediatric literature provides multiple labels for feeding challenges,[8] the term *avoidant* will be used to encompass the spectrum of typical picky eating to severe avoidance, low intake and limited variety. Childhood eating

behaviours and experiences influence a person's relationship with food into adulthood,[9,10] therefore, child feeding practices have implications across the lifespan.

SDT

Self-Determination Theory [11,12] has been researched for nearly half a century[13] in areas as diverse as physical education,[14] the workplace[15] and health.[16] SDT scholars argue that humans are innately disposed towards psychological growth and that this can be either thwarted or nurtured by social environments.[17] This seeking of new experiences and learning has been termed *intrinsic motivation*, described as the positive potential inherent in human beings.[18] According to SDT, social environments that facilitate psychological growth and wellbeing are characterised by the meeting of a person's need for *autonomy*, *competence* and *relatedness*.[6] [19] This aspect of SDT has been termed Basic Needs Theory.[20]

Responsive feeding and self-regulation

It is widely accepted that infants regulate their energy intake through complex hunger and satiety cues. Optimal infant feeding practices are based on an attuned and appropriate response to the infant's signals of hunger and fullness.[21] This regulatory capacity continues into childhood, with self-regulation occurring in response to foods at a given meal as well as through adjustments over the course of several sequential meals and snacks.[22,23] An emphasis on trusting children's ability to self-regulate is at the heart of Satter's pioneering clinical work and widely embraced model of childhood feeding known as the Division of Responsibility (sDOR).[24] "The division of responsibility outlines in detail the responsive feeding relationship in which parents are responsible for the developmentally appropriate structure and routine of feeding (the what, when, and where of eating) and the child is responsible for how much and whether or not to eat what the parent provides".[25]

The conceptual underpinnings of Responsive Feeding (RF) are located in the theoretical framework of responsive parenting,[26] aligned with overlapping fields including attachment and socialisation.[27] The term first appeared in worldwide research in the early 2000s.[28] Described in several papers in 2011,[26,29,30] RF recognises the importance of supporting innate skills of self-regulation through the parental establishment of an

appropriate context for eating. It is considered best practice feeding by the American Academy of Pediatrics[31] and the World Health Organization.[29] According to Black and Aboud,[26] RF entails parental acknowledgment of - and respect for - children's signals of hunger or satiety, followed by a response appropriate to their developmental stage. This is distinct from non-responsive feeding whereby parents remain under-involved or adopt controlling feeding practices such as *restriction* or *pressure to eat*. Such practices can interrupt self-regulation and contribute to avoidant eating,[32] weight dysregulation[33] and eating disorders.[31] Conversely, a focus on the three fundamental needs of autonomy, relatedness and competence supports RF and inborn skills of self-regulation, which is associated with more stable body mass index across the lifespan.[36] The basic needs can, therefore, guide parents to embrace positive feeding practices, potentially preventing problematic weight dysregulation.[37]

DISCUSSION

Each of the three basic needs will be defined and explored in relation to the child feeding and child development literature.

Autonomy

Autonomy refers to acting in a way that is volitional, congruent and self-endorsed.[38] Children may have varying degrees of need for autonomy, reacting differently to parental pressure to eat. Self-regulation of energy intake can be seen as the embodiment of autonomy in the feeding context. When eating is directed by parents in relation to what and how much should be consumed, autonomy is compromised and self-regulation is hampered.

The literature on controlling feeding practices focuses primarily on restriction (e.g. obesity literature) and pressure to eat (e.g. avoidant eating literature).[39] Controlling approaches to feeding are often adopted because of parental anxiety or socially perpetuated, but erroneous, beliefs such as pressuring a child to eat beyond fullness due to a lack of understanding of fluctuating caloric requirements[40] or a misperception of underweight or risk of underweight.[32] Children may also be coerced to eat available food in the face of food

insecurity,[41] or experience restriction due to parental fear of overweight.[42] It has been argued that pressure to eat makes avoidant eating worse,[39] invites conflict[43] and reduces eating enjoyment,[44] creating conditions that have a negative impact on eating. Equally, overt restriction leads to increased eating in the absence of hunger cues.[33]

Self-Determination Theory underscores the critical goal of maintaining autonomy around eating whenever possible. When mealtimes are characterised by conflict and power struggles, parents may be pushing an agenda that the child either cannot or will not comply with, due, for example, to sensory-motor or anatomical challenges[45] or simply because the child has eaten to the point of satiety or dislikes the offered food.[44] A societal shift towards an understanding that autonomy is an inherent aspect of a positive relationship with food, and should, therefore, be nurtured, could have far-reaching implications for health outcomes and the facilitation of relaxed and enjoyable mealtimes.

Competence

Competence refers to a felt sense of efficacy[20] which is undermined by a lack of control over outcomes or a task being too difficult or too easy.[38] It has long been known that types of foods offered and methods of feeding should align with children's level of maturation and developmental stage.[46] If foods and feeding methods are beyond a child's capabilities, they may begin to feel incompetent and frustrated. To optimize skill acquisition, children need to remain in their Zone of Proximal Development (ZPD)[47] where they feel competent, are appropriately challenged and where learning opportunities match their developmental stratum. The adult's role is to facilitate the child's progression from their current to their potential skill level.[48] In the context of feeding, if a child is expected to eat foods that are either excessively or insufficiently challenging, this will move them out of their ZPD and their learning may be hampered. An emphasis on the child's sense of competence may, therefore, help parents and practitioners structure feeding goals that are neither too difficult nor insufficiently challenging.

Relatedness

Relatedness has been defined as a feeling of belonging and connection with others; it involves a sense of self-worth, mutual caring and significance in human relationships.[49] Attachment theorists suggest that infants' explorations are healthier when they experience a secure attachment to a parent, and, conversely, if the adult ignores the child's attempts to interact, the child displays little intrinsic motivation.[18]

Eating is inherently communal, and much has been written on the value of the family meal for a child's developing relationship with food, as well as for overall wellbeing.[50] Family meals provide a rich opportunity for parental modelling, including exposure to a wide variety of foods, known to significantly influence children's eating behaviors.[51] Equally, parental mealtime connection and engagement is linked to increased food enjoyment in children[52] and may reduce the risk of eating disorders.[53] The link between eating and belonging stretches beyond the nuclear family to the child's extended social environment, such as daycare, where both peers' and adults' eating behaviors affect children's eating.[54]

There is increasing awareness that the feeding relationship is critical to positive eating behaviors. Scholars in feeding pathology have suggested a link between dysfunctional interactions between mother and child, and childhood feeding problems[55] and early work on childhood feeding disorders drew on the attachment literature.[56] It has been proposed that avoidant eating could be conceptualised as a primarily relational issue,[57] or, at a minimum, is embedded within the inescapable bi-directional relationship between child eating behaviours and parental feeding practices.[58] An emphasis on the parent-child relationship fits with contemporary thinking about the vital role of attunement and responsivity in the parenting literature,[59] and refutes interpretations that locate feeding challenges exclusively in the child or define them as non-compliant.

IMPLICATIONS FOR PRACTICE AND FUTURE RESEARCH

Clinical and parental consideration of the extent to which each of the three basic needs are being met is essential to children thriving and growing into their best selves around food. In this section we explore each need in turn.

Autonomy

The central role of autonomy in feeding has long been stressed by two key specialists in the field. According to Satter, for children "to become competent with eating" they "require both structured opportunities to learn and personal autonomy within that structure."[60] Similarly, in Chatoor's view, "autonomy vs dependency has to be negotiated daily during parent-infant feeding interactions".[61] This tension continues as parents support independence in stage-appropriate ways through to adulthood. An example would be the popular *no thank you bite*, whereby children are required to taste each food offered. Clinical experience suggests that some children happily, or at least cooperatively, take the bite. Others protest, eventually taking the bite. Still another subset of children approach the task with gagging or tantrums. These children may be experiencing extreme discomfort due to their autonomy being compromised, perhaps coupled with (or exacerbated by) existing underlying challenges. An awareness that children have differing levels of need for autonomy will help professionals champion RF by sharing the message that attunement is key and *one size does not fit all*.

Autonomy must be upheld in developmentally appropriate ways. One may ask a six year-old typical eater if they would prefer peas or carrots with dinner. Parents could try asking a child to have a small taste of a novel food on a cracker or preferred food, assessing the child's resistance, accepting "no" for an answer and discontinuing the practice if it results in conflict or upset. Children who have experienced coercive feeding or therapy may need to be reassured that their autonomy will be respected with phrases such as: "You do not have to eat or taste anything you do not want to." The role of compromised autonomy would be an interesting area for future research in relation to avoidant eating behaviors and their treatment.

Relatedness

Offering parents support and advice that strengthens relationships and decreases conflict is likely to improve both eating and wellbeing. Helping parents value the feeding relationship over the short-term goal of getting in a few bites of vegetables can support the development of a positive relationship with food. A focus on relatedness can help clinicians share the

message that harmony, love and connection are more important than vegetables, and are likely to help with the long-term goal of raising a child who enjoys eating them. This bi-directional trust holds space for even the most cautious child to try new foods at their own pace, leading to increased variety in the long term.

Competence

Cognizance of the child's competence when tackling feeding challenges can help parents and clinicians appropriately gauge what level of difficulty and stimulation to offer through foods and food-related activities. Adult awareness of the ZPD helps children gain skills and reinforces inborn abilities of self-regulation with appropriately challenging next steps. For example, for a four-year-old, this may entail cutting watermelon chunks with a butter knife, while a teen learns to master a chef's knife. A child with oral-motor difficulties may chew slivers of peeled apples that they spit out before they swallow, moving on to eat apple slices with the peel before taking a bite from a whole apple. An anxious eater may peel and slice a banana, becoming more familiar with the smell, sight and touch, before tasting a banana muffin. While coercive feeding is problematic, an absence of opportunities to progress is also detrimental to optimal development. For example, only giving a one-year-old purees may hamper the acquisition of sensory-motor skills due to under-stimulation.

The three needs in concert

When promoting activities known to foster greater confidence with food, clinicians and educators can highlight how the basic needs come into play. For example, gardening projects, helping with cooking and allowing children to serve themselves from family foods at mealtimes all involve autonomy, competence and relatedness. To take advantage of the internal drive for autonomy ("I do it!"), young children may spread butter with a butter knife or dip foods into sauces, cut with a blunt knife or peel corn. Learning these skills fosters a sense of competence. Doing so in the company of an engaged adult provides a sense of relatedness. Appropriate autonomy and trusting relationships provide a safe base for exploration and gaining in competence and confidence.

Feeding therapy and SDT

There is currently a wide array of approaches utilized in the treatment of feeding and eating disturbances in children (such as ARFID), with some being more responsive than others. A consideration of the basic needs while weighing the risks and benefits of certain therapies would be an important area of study. *Escape extinction* is an example of a commonly used technique in the Applied Behavioral Analysis approach that is inconsistent with RF principles. Food avoidance expressed through turning away the head, pushing the feeder's hand away or shutting the mouth is viewed as *inappropriate behavior* to be extinguished.[62] Gagging or vomiting in response to presented foods may be interpreted as an attempt to avoid eating or to get attention. During escape extinction, expelled foods (spit out or possibly swallowed and brought back up) are commonly *re-presented* (fed back to the child).[63] Refusal to open the mouth may be addressed by inserting a rubber-coated spoon between the child's teeth and twisting to open the mouth,[64] while a c*hin prompt* (upward pressure on the lower jaw and lip) may keep the child from spitting food out in the clinical setting.[65] Above all, the goal of escape extinction is to prohibit escape of the unpleasant task – eating.

These commonly used behavioral feeding therapy tactics are potentially problematic. According to Bachmeyer, treatment fidelity with escape extinction "may be compromised as a result of the child's size or strength".[66] In other words, as the size and strength differential between adult and child diminishes, the method is less successful. Parents may struggle to comply, as one mother revealed, "trying to force [the child] to eat was "too stressful" in the face of the child's "whining, crying, arching her back, and vomiting."[67] Escape extinction is inconsistent with SDT because of the potential sacrifice of autonomy, relatedness and the child's sense of competence, in the pursuit of short-term goals.

In contrast, feeding therapies consistent with a responsive approach exist, although further research is needed. An example is the *role reversal treatment* method[68] for children with early-onset feeding disorders wherein parents are successfully coached to replace pathological feeding practices with RF. This facilitates child autonomy and supports the drive to eat, thus establishing optimum cycles of hunger and satiety. Responsive therapies view avoidant behaviours as reactions to early or ongoing negative associations with eating or

digesting. Efforts must be made to understand and address why a child is reluctant or anxious around eating, including a consideration of past treatment experiences.

Towards a definition of RF

While RF is a term used increasingly beyond infancy among clinicians and academics, it has not been consistently defined. It is suggested that an emphasis on autonomy, competence and relatedness builds on Black and Aboud's[26] description of RF. Critical to RF is the adult's attunement to the child and subsequent assessment of cues, including expressions of hunger, fullness, pleasure, comfort, or distress. This interplay necessarily prioritizes the child's autonomy and builds their sense of themselves as a capable eater. All of this happens in the context of the adult-child relationship. Highlighting the three basic needs to champion RF flexibly informs interactions between parents and children around mealtimes and food, from infancy throughout the lifespan.

Summary

With SDT as a guiding framework, healthcare providers and researchers can ground their work in the driving human need for autonomy, competence and relatedness when evaluating potential nutrition interventions and RF support. RF can be seen as means of maintaining innate intrinsic motivation to eat by supporting a child's natural ability to self-regulate. Further research exploring feeding in relation to the three needs would enhance understanding of how SDT can be used to improve outcomes for children.

REFERENCES

1. Cardona Cano S, Tiemeier H, Van Hoeken D, et al. Trajectories of picky eating during childhood: a general population study. *Int J Eat Disord*. 2015;48(6):570–579.

2. Verstuyf J, Vansteenkiste M, Soenens B, Boone L, Mouratidis A. Daily ups and downs in women's binge eating symptoms: the role of basic psychological needs, general self-control, and emotional eating. *J Soc Clin Psychol*. 2013;32(3):335-361.

3. Hughes SO, Power TG, Beck A, et al. Strategies for effective eating development - SEEDS: design of an obesity prevention program to promote healthy food preferences and eating self-regulation in children from low-income families. *J Nutr Educ Behav*. 2016;48(6):405-418.e1.

4. Thaler L, Israel M, Antunes JM, Sarin S, Zuroff DC, Steiger H. An examination of the role of autonomous versus controlled motivation in predicting inpatient treatment outcome for anorexia nervosa. *Int J Eat Disord*. 2016;49(6):626-629.

5. Girelli L, Hagger M, Mallia L, Lucidi F. From perceived autonomy support to intentional behaviour: testing an integrated model in three healthy-eating behaviours. *Appetite*. 2016;96:280-292.

6. Shim JE, Kim J, Lee Y, et al. Fruit and vegetable intakes of preschool children are associated with feeding practices facilitating internalization of extrinsic motivation. *J Nutr Educ Behav*. 2016;48(5):311-317.e1.

7. Zimmer-Gembeck MJ, Joyce J, Kerin J, Webb H, Morrissey S, McKay A. Self-determination theory and food-related parenting: The Parent Socioemotional Context of Feeding Questionnaire. *J Fam Psychol*. 2019;33(4):476-486.

8. Taylor CM, Wernimont SM, Northstone K, Emmett PM. Picky/fussy eating in children: Review of definitions, assessment, prevalence and dietary intakes. *Appetite*. 2015;95:349-359.

9. Batsell R, Brown AS, Ansfield ME, Paschall GY. "You will eat all of that!": a retrospective analysis of forced consumption episodes. *Appetite*. 2002;38(3):211-219.

10. Liechty JM, Lee M-J. Longitudinal predictors of dieting and disordered eating among young adults in the U.S. *Int J Eat Disord*. 2013;46(8):790-800.

11. Deci EL, Ryan RM. *Intrinsic Motivation and Self-Determination in Human Behavior*. New York: Plenum; 1985.

12. Deci EL, Ryan RM. *Handbook of Self-Determination Research*. New York: University of Rochester Press; 2004.

13. Vansteenkiste M, Niemiec CP, Soenens B. The development of the five mini-theories of self-determination theory: an historical overview, emerging trends, and future directions. In: Urdan TC, Karabenick SA, eds. *Advances in Motivation and Achievement*. Vol 16. Bingley, UK: Emerald Group Publishing Limited; 2010:105-165.

14. Ntoumanis N. A self-determination approach to the understanding of motivation in physical education. *Br J Educ Psychol*. 2001;71(2):225-242.

15. Deci EL, Olafsen AH, Ryan RM. Self-determination theory in work organizations: the state of a science. *Annu Rev Organ Psychol Organ Behav*. 2017;4(1):19-43.

16. Ryan RM, Patrick H, Deci EL, Williams GC. Facilitating health behaviour change and its maintenance: interventions based on self-determination theory. *Bull Eur Health Psych Soc.* 2008;10(1):2-5.

17. Deci EL, Ryan RM. The importance of autonomy for development and well-being. In: Sokol BW, Grouzet FM, Muller U, eds. *Self-Regulation and Autonomy*. Cambridge: Cambridge University Press; 2013:19-46.

18. Ryan RM, Deci EL. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *Am Psychol*. 2000;55(1):68-78.

19. Vansteenkiste M, Ryan RM. On psychological growth and vulnerability: basic psychological need satisfaction and need frustration as a unifying principle. *J Psychother Integr*. 2013;23(3):263-280.

20. Ryan R, Deci E. Overview of self-determination theory: an organismic dialectical perspective. In: Deci E, Ryan R, eds. *Handbook of Self-Determination Research*. New York: University of Rochester Press; 2002:3-36.

21. Bahorski JS, Childs GD, Loan LA, et al. Self-efficacy, infant feeding practices, and infant weight gain: an integrative review. *J Child Health Care*. 2019;23(2):286-310.

22. Birch LL, Johnson SL, Andresen G, Peters JC, Schulte MC. The variability of young children's energy intake. *New England J Med*. 1991;324(4):232-235.

23. Birch LL, Deysher M. Conditioned and unconditioned caloric compensation: evidence for self-regulation of food intake in young children. *Learn Motiv*. 1985;16(3):341-355.

24. Satter E. Feeding dynamics: helping children to eat well. *J Pediatr Health Care.* 1995;9(4):178-184.

25. Danaher C, Fredericks D. Responsive feeding and the division of responsibility. *J Nutr*. 2012;142(1):134-134.

26. Black MM, Aboud FE. Responsive feeding is embedded in a theoretical framework of responsive parenting. *J Nutr*. 2011;141(3):490-494.

27. Landry SH, Smith KE, Swank PR, et al. Responsive parenting: establishing early foundations for social, communication, and independent problem-solving skills. *Dev Psychol*. 2006:627–642.

28. Ha PB, Bentley ME, Pachón H, et al. Caregiver styles of feeding and child acceptance of food in rural Viet Nam. *Food Nutr Bull*. 2002;23(4_suppl2):92-98.

29. Engle PL, Pelto GH. Responsive feeding: implications for policy and program implementation. *J Nutr*. 2011;141(3):508-511.

30. Hurley KM, Cross MB, Hughes SO. A systematic review of responsive feeding and child obesity in high-income countries. *J Nutr.* 2011;141(3):495-501.

31. American Academy of Pediatrics. Is your baby hungry or full? Responsive feeding explained. HealthyChildren.org (from the AAP). http://www.healthychildren.org/English/ages-stages/baby/feeding-nutrition/Pages/Is-Your-Baby-Hungry-or-Full-Responsive-Feeding-Explained.aspx. Published 2017. Accessed October 22, 2019.

32. Gregory JE, Paxton SJ, Brozovic AM. Pressure to eat and restriction are associated with child eating behaviours and maternal concern about child weight, but not child body mass index, in 2- to 4-year-old children. *Appetite*. 2010;54(3):550-556.

33. Birch LL, Fisher JO, Davison KK. Learning to overeat: maternal use of restrictive feeding practices promotes girls' eating in the absence of hunger. *Am J Clin Nutr*. 2003;78(2):215-220.

34. Steiner H, Kwan W, Shaffer TG, et al. Risk and protective factors for juvenile eating disorders. *Eur Child Adolesc Psychiatry*. 2003;12(0):1-1.

35. Loth KA, MacLehose RF, Fulkerson JA, Crow S, Neumark-Sztainer D. Are food restriction and pressure-to-eat parenting practices associated with adolescent disordered eating behaviors? *Int J Eat Disord*. 2014;47(3):310-314.

36. Van Dyke N, Drinkwater EJ. Relationships between intuitive eating and health indicators: literature review. *Public Health Nutr*. 2014;17(8):1757-1766.

37. Rollins BY, Savage JS, Fisher JO, Birch LL. Alternatives to restrictive feeding practices to promote self-regulation in childhood: a developmental perspective. *Pediatr Obes*. 2016;11(5):326-332.

38. Ryan R, Deci E. Self-determination theory and the role of basic psychological needs in personality and the organization of behavior. In: *Handbook Of Personality: Theory and Research*. New York: Guildford Press; 2008:654-678.

39. Ventura AK, Birch LL. Does parenting affect children's eating and weight status? *Int J Behav Nutr Phys Act*. 2008;5(1):15.

40. Leung AK, Marchand V, Sauve RS. The 'picky eater': The toddler or preschooler who does not eat. *Paediatr Child Health*. 2012;17(8):455-457.

41. Daniel C. Economic constraints on taste formation and the true cost of healthy eating. *Soc Sci Med*. 2016;148:34-41.

42. Blissett J, Meyer C, Haycraft E. Maternal and paternal controlling feeding practices with male and female children. *Appetite*. 2006;47(2):212-219.

43. Fiese BH, Foley KP, Spagnola M. Routine and ritual elements in family mealtimes: Contexts for child well-being and family identity. *New Dir Child Adolesc Dev.* 2006;2006(111):67-89.

44. van der Horst K. Overcoming picky eating. Eating enjoyment as a central aspect of children's eating behaviors. *Appetite*. 2012;58(2):567-574.

45. Kerzner B. Clinical investigation of feeding difficulties in young children: a practical approach. *Clin Pediatr*. 2009;48(9):960-965.

46. Barness L, Dallman P, Anderson H, et al. On the feeding of supplemental foods to infants. *Pediatrics*. 1980;65(6):1178-1181.

47. Vygotsky LS, Cole M, John-Steiner V, Scribner S, Souberman E. *Mind in Society : The Development of Higher Psychological Processes*. Cumberland, US: Harvard University Press; 1978.

48. Wood D, Bruner JS, Ross G. The role of tutoring in problem solving. *J Child Psychol Psychiatry*. 1976;17(2):89-100.

49. Ryan RM, La Guardia J, Solky-Butzel J, Chirkov V, Kim Y. On the interpersonal regulation of emotions: emotional reliance across gender, relationships, and cultures. *Pers Relatsh*. 2005;12:145-163.

50. Godfrey K, Rhodes P, Hunt C. The relationship between family mealtime interactions and eating disorder in childhood and adolescence: a systematic review. *Aust N Z J Fam Ther.* 2013;34(1):54-74.

51. Patrick H, Nicklas TA. A review of family and social determinants of children's eating patterns and diet quality. *J Am Coll Nutr*. 2005;24(2):83-92.

52. Finnane JM, Jansen E, Mallan KM, Daniels LA. Mealtime structure and responsive feeding practices are associated with less food fussiness and more food enjoyment in children. *J Nutr Educ Behav*. 2017;49(1):11-18.e1.

53. Gilmore L. "You're not leaving the table until you're finished": problem eating behaviours and mother-child conflict during early and middle childhood. *Proceedings*

Psychology Bridging the Tasman: Science, Culture & Practice Katsikitis, Mary, Eds. 2006:6.

54. Birch L, Fisher J. The role of experience in the development of children's eating behavior. In: Capaldi E, ed. *Why We Eat What We Eat: The Psychology of Eating*. Washington, DC: American Psychological Association; 1996:113-141.

55. Ammaniti M, Ambruzzi AM, Lucarelli L, Cimino S, D'Olimpio F. Malnutrition and dysfunctional mother-child feeding interactions: clinical assessment and research implications. *J Am Coll Nutr*. 2004;23(3):259-271.

56. Chatoor I, Ganiban J, Colin V, Plummer N, Harmon RJ. Attachment and feeding problems: a reexamination of nonorganic failure to thrive and attachment insecurity. *J Am Acad Child Adolesc Psychiatry*. 1998;37(11):1217-1224.

57. Walton K, Kuczynski L, Haycraft E, Breen A, Haines J. Time to re-think picky eating?: a relational approach to understanding picky eating. *Int J Behav Nutr Phys Act*. 2017;14(1):62.

58. Davies WH, Satter E, Berlin KS, et al. Reconceptualizing feeding and feeding disorders in interpersonal context: The case for a relational disorder. *J Fam Psychol*. 2006;20(3):409-417.

59. McDoniel ME, Buss KA. Maternal responsiveness protects exuberant toddlers from experiencing behavior problems in kindergarten. *Early Educ Dev*. 2018;29(5):716-729.

60. Satter E. Eating competence: definition and evidence for the Satter Eating Competence model. *J Nutr Educ Behav*. 2007;39(5):S142-S153.

61. Chatoor I. Feeding disorders in infants and toddlers: diagnosis and treatment. *Child Adolesc Psychiatr Clin N Am*. 2002;11(2):163–183.

62. Borrero CSW, Schlereth GJ, Rubio EK, Taylor T. A comparison of two physical guidance procedures in the treatment of pediatric food refusal. *Behav Interv*. 2013;28(4):261-280.

63. Piazza CC, Milnes SM, Shalev RA. A behavior-analytic approach to the assessment and treatment of pediatric feeding disorders. In: *Clinical and Organizational Applications of Applied Behavior Analysis*. Elsevier; 2015:69-94.

64. Addison LR, Piazza CC, Patel MR, et al. A comparison of sensory integrative and behavioral therapies as treatment for pediatric feeding disorders. *J Appl Behav Anal*. 2012;45(3):455-471.

65. Wilkins JW, Piazza CC, Groff RA, Vaz PC. Chin prompt plus re-presentation as treatment for expulsion in children with feeding disorders. *J Appl Behav Anal*. 2011;44(3):513-522.

66. Bachmeyer MH. Treatment of selective and inadequate food intake in children: a review and practical guide. *Behav Anal Pract*. 2009;2(1):43-50.

67. Curtiss H, Armstrong K, Lilly C. Positive behavior supports and pediatric feeding disorders of early childhood: a case study. *J Early Child Infant Psychol.* 2008;4:93-110.

68. Segal I, Tirosh A, Sinai T, et al. Role Reversal method for treatment of food refusal associated with infantile feeding disorders: *J Pediatr Gastroenterol Nutr*. 2014;58(6):739-742.

418