

Supplementary Information

Substantial risks are faced by children with paediatric feeding disorders who do not receive timely and effective treatment services. Children who are unable to eat a broad selection of foods face a significant nutritional risk during their childhood and the remainder of their life. These children may be vitamin and mineral deficient and can develop growth failure. Children with paediatric feeding disorders are at risk for dehydration, dental decay, emergency room visits, hospitalizations, infections, immune system compromise, tube placement, blindness, constipation, and fatigue. These disorders occur during critical developmental periods for brain and skill development. Developmental delays could impact ability to crawl, walk, and talk, leading to oral, motor, and sensory issues. Feeding disorders also have significant impact on social development, community and school participation, family functioning, and travel. This can impact toileting (or toilet training), severe problem behaviours (e.g., self-injury, aggression, rumination, pica), sleep, and learning. Moreover, the introduction of oral feedings becomes increasingly difficult as a child gets older, and treatment options become limited. The effective intensive behaviour-analytic interdisciplinary hospital programs in the US typically max out at 12 years of age. Thus, if a child is not actually consuming multiple foods from all 4 foods groups (moving towards age-appropriate texture and independence) and drinking water and milk from an open cup within a few weeks (or months at most), he or she needs to be referred for assessment and effective treatment, and the earlier/younger that occurs, the better. It is not true that they will eat when hungry if starved, that they will grow out of it, that they are fine if their weight is fine, that they are not “ready” or able to eat (unless there is a safety/aspiration reason), or that attempted treatment is progressing because they are playing with or kissing food but not actually eating it.

Approach

Evidence

The approach taken is individualized, data-driven, intensive, and employs the only empirically supported treatments for paediatric feeding disorders with over 30 years of scientific research to demonstrate effectiveness. This treatment requires highly specialized training and is not available elsewhere in Australia (available only in a handful of locations in the USA). Families would normally have to move for a 2-month hospital admission to access this treatment. (Please see Appendix 1 for references for reviews of evidence and links to caregiver friendly articles and patient stories from Kennedy Krieger - full text electronic copies are available upon request). Kennedy Krieger’s feeding unit in Baltimore, Maryland, USA is the standard model for treating children with severe complex and abnormal paediatric feeding disorders. Outcome data (available on their website <http://www.kennedykrieger.org/patient-care/patient-care-programs/continuums/pediatric-feeding-disorders-continuum>) demonstrate that children meet over 90% of individualized goals and caregivers report high levels of satisfaction. Anecdotally, children who had never ate by mouth had gastrostomy tubes removed and could now attend a regular daycare or school (versus a special one for tube care) and ate their first birthday cakes (even if they were 7 years old) or Thanksgiving dinners. Children ate for the first time on vacation with their families or at parties or at school with their friends, had enough energy to participate in sports, learned to chew and take bites independently despite being evaluated previously as not able to do so, and parents who had battled mealtimes for years were able to feed their child family dinner without getting the exact same takeout everyday prepared in a certain way. This is a lifechanging trajectory for the family and the child on medical, social, developmental, monetary, etc. levels.

This approach is healthy and safe in that it does not require extreme deprivation of tube nutrition or the use of

preferred foods/drinks initially (i.e., starvation). Throughout treatment, modifications are made promptly and continue until data indicate a treatment is effective and consumption occurs. Therefore, vital nutrition is not withheld or delayed during critical developmental periods for children due to extreme deprivation or lengthy (e.g., years, months) treatments that have been ineffective at increasing consumption. It also teaches skills needed for adaptive and appropriate independence in eating and drinking, and ensures that children eat a balanced, nutritional diet from all 4 food groups at the most age appropriate texture possible. It is applicable regardless of diagnosis or ability/skill level, and should be implemented as early as possible. This approach has a long history of providing successful treatment for children who have had received years of costly unsuccessful therapy, including intensive interdisciplinary hospitalizations, “desensitization,” medications, supplements, starvation, speech/occupational/psychological therapy, oral-motor and sensory therapies, and consultation with teams, dietitians, and other medical professionals. This approach does NOT employ “forced-feeding,” restraint, or re-presentation of emesis (vomit).

Case Examples

As the first case example from Australia, a 6-year-old child with autism only ate 2 specific foods and 2 brand-specific snacks, and drank one specific milk from one specific bottle. He received over 4 years of attempted treatments including an intensive hospital admission. He consumed 8 new foods (2 from each food group) on the first day of treatment. Within a couple weeks, he was consuming 100% of any food presented to him (over 50 foods from all 4 food groups) at regular texture and drinking water from an open cup with little to no inappropriate mealtime behaviour. Both parents and the school were trained to implement the protocol and report high acceptability of the treatment (4.94/5) and satisfaction (4.91/5) on objective measures. Detailed, thorough data collected and graphed indicated that he met 100% of measurable goals set by the family within a couple weeks. Parents reported continued success and maintenance for a year post-treatment, and the impact was multi-faceted and life changing for the family.

A 9-year-old boy with autism and history of NG tube at birth ate no fruits, vegetables, or meat and did not drink water, and was dependent on laxatives and formula. He had years of attempted treatments with multiple disciplines and therapists, including medications and participation in an intensive research study at a hospital. Within a few days, he was consuming 100% of any food presented to him (over 50 foods from all 4 food groups) at regular texture and drinking water from an open cup with high independence and little to no inappropriate mealtime behaviour. Parents were trained and reported high acceptability of the treatment (4.89/5) and satisfaction (4.87/5). He met 100% of measurable goals set by the family in less than 2 weeks.

A 9-year-old male with an autism spectrum disorder ate only Nutella on toast, brand-specific sausage rolls, and cucumber or snap peas. He did not eat a consistent volume of food and skipped meals and grazed. He did not drink plain milk or supplements/formula. He did not eat when away from home and was highly selective about brand, preparer, cooking method, presentation method, appearance, and packaging. He did not eat at the table or use utensils. He had significant issues with constipation, and would not drink adequate fluids or use the toilet at school. He had had several years of attempted therapy by multiple professionals/disciplines with various orientations/approaches without success. In less than a week, he met his feeding goals. His variety was over 85 foods from all food groups at regular texture, and he consumed 100% of meals. His parents and support worker were trained. His parents reported high acceptability of the treatment (4.6/5) and satisfaction (4.91/5).

A 5-year-old boy with autism consumed only Vegemite toast, restaurant specific croissant, brand and container specific yogurt, and a high ground texture mixture. He did not consume any fruits or raw or separate vegetables, or other foods from the food groups separately or at an age-appropriate texture. On the first day, he consumed 8 novel foods from all food groups. In less than a week, he met 100% of his goals and his food list was at over 80 foods at regular texture (including steak and salad) on a full plate with regular cutlery/crockery. His mum conducted meals in the community and sibling meals. A therapist was trained to conduct morning tea at childcare.

A 2.5-year-old male consumed specific cereals, specific homemade omelette, some baked goods (e.g., banana bread, croissant), cheesy pasta, banana, and certain pureed/ground mixtures (if fed as a nonself-feeder with iPad). He expelled foods, would not self-feed most foods, and did not consume foods from the food groups separately or at an age-appropriate texture. He met 100% of his goals and variety was at over 70 foods at regular texture from all food

groups and using utensils with high independence in less than a week. His therapist and mum were trained to implement the protocol.

A 7.5-year-old male with autism and developmental delay engaged in significant inappropriate mealtime behaviour including refusal, aggression, expels (spitting out food), throwing food, attempting to leave the table, hiding under table, crying, screaming, head banging, head hitting, and emesis (vomiting). His caregivers went to significant lengths to maintain his required intake of food and fluids to sustain growth and nutrition, including extremely long meal durations, following him around the home to present bites, and needing two plus people to feed meals. He did not eat an adequate breakfast and or consume lunch or drink at school. For dinner, he consumed only one blended low-texture food. He did not chew his food adequately before swallowing. He did not drink independently or consume an adequate volume of fluids or drink milk. Constipation and dry, bleeding, cracked lips were also a problem, and liquid refusal impacted adaptive toileting skills. On the first day of treatment, he consumed 22 new foods from all the food groups at regular texture and drank from an open cup without refusal. His variety reached over 90 foods (including calamari and meat) and he quickly met 100% of his goals. His parents and 3 grandparents were being trained to implement the protocol, and school was trained to do a drink protocol and free access recess protocol. Caregivers reported high satisfaction (4.48/5) and social acceptability of the treatment (4.65/5).

A nearly 4-year-old male with autism had a history of significant weight loss and highly inconsistent food intake. He might go for weeks only eating one food (e.g., Nutella). At the time of admission, he had just started eating cornflakes, peanut butter and Nutella sandwich, white rice, yogurt, and McDonald's fries, and occasionally might eat a few bites of raw carrot or apple. He did not eat meat, vegetables, or fruits. Previous treatment attempts included multiple consultations with a dietitian, speech therapist, general practitioner, developmental paediatrician, sensory treatment (SOS) and purchase of specialized equipment by an occupational therapist on and off for a year, interdisciplinary hospital feeding clinic consultation, a psychologist specializing in feeding therapy, and supplements from a chiropractor. On the first day of treatment, he consumed 8 new foods from all the food groups at regular texture. His variety post-treatment was at over 83 foods and he quickly met 100% of his goals. His parents were trained to implement the protocol and reported high satisfaction (4.96/5) and social acceptability of the treatment (4.76/5).

A 2-year-old male upon admission was eating: PB & Nutella sandwich, yogurt, porridge, avocado, banana, corn on the cob, chips, McDonald's nuggets and fries, and smoothies/milkshakes. He engaged in inappropriate mealtime behaviour including throwing food and mealtime materials, expelling food (spitting out), crying, refusal, and not remaining seated for meals. Post-treatment, he was consuming over 65 foods from all food groups at regular texture. His mom was trained to implement the protocol and he met 100% of his goals. Caregivers reported high satisfaction (4.96/5) and social acceptability of the treatment (4.76/5).

A 5-year-old male with dyspraxia and low muscle tone upon admission consumed only a few specific foods of a specific brand, restaurant, and container (e.g., frankfurt, noodles, toast). He ate no vegetables and mostly no fruits, and would not eat adequately at school. He would not drink any liquids other than water. He also would not tolerate being in the presence of certain snacks (e.g., popcorn) which posed a problem at school and in the community (would cry, run away, hide, etc.). He required the iPad to stay at the table to eat. He was also overweight. Previous treatment attempts included years with multiple speech therapists, interdisciplinary hospital feeding clinic consultation, ENT consultation, play therapy, and a psychologist. On the first day of treatment, he consumed 8 new foods from all the food groups at regular texture. His variety is now at over 120 foods. His parents and school personnel were trained to implement the protocol. He quickly met 100% of his goals. Caregivers reported high satisfaction (4.96/5) and social acceptability of the treatment (4.94/5).

A 13-year-old girl with typical development and growth consumed no vegetables or fruits. Her diet was limited to rye toast, pasta with tomato sauce (ketchup) and cheese, one specific sausage, margherita pizza, specific mini cooked tuna only sushi, instant noodles at school, pancakes, and snack foods. She was motivated to change her diet because of social and health (never feeling full, low energy, spikes/crashes) impact. Socially, this posed a significant problem at school, with friends and family, during parties and events, at restaurants, and during travel. Previous treatment attempts since the age of 2 years included multiple consultations with psychologists, eating disorders specialists, dietitians, speech/occupational therapists, gastroenterologist, and anxiety medications, hypnosis, sensory treatment (SOS), play therapy, rewards, removal of privileges, withholding food, etc. Side effects of medication included carb

cravings, weight gain, and lethargy. On the first day of treatment, she consumed 13 new foods at regular texture 100% independently including 6 raw plain vegetables. Variety reached 48 foods and she quickly met 100% of goals. She ate multiple new foods at restaurants and ate family dinners independently with no inappropriate mealtime behaviour. Caregivers reported high satisfaction (4.82/5) and social acceptability of the treatment (4.88/5).

A 4-year-old male with a gastrostomy tube, autism, prematurity (24 weeks), history of ventilator, CPAP, oxygen, and nasogastric tube dependence and failure to thrive ate custard and soup as a nonself-feeder at a certain temperature. If a minuscule lump was in the soup, he would gag and vomit. He had never chewed or used his teeth or swallowed any texture. He might accept certain crunchy snacks (e.g., mini Ritz) or bacon, but would pack for hours or expel. He consumed milo via spoon feeding as a nonself-feeder. He used an adaptive water bottle that squirted water into his mouth with prompting and assistance. He did not take medications orally (taken via G-tube). He required tangible items during meals. Previous treatment attempts included multiple years since birth with a hospital feeding team, various therapies, and a 10-day hospitalization for tube weaning (this resulted in some small oral intake of custard, liquid soup, and Milo). His parent's persisted in oral feeding and volume and decreased tube nutrition dependence on their own. On the first day of treatment, he consumed 8 new foods from all the food groups at a junior texture. His variety is now at over 124 foods at any temperature, 28 crunchy foods, and 26 combination foods with crunchy foods. He is now self-feeding and scooping, including holding the container, and can use a fork. He is now drinking independently from a regular full cup including sipping, and drinking from a regular water bottle, and can drink from a regular straw. Liquid variety was increased to multiple flavours of nutritious formula and water in a regular open cup. He learned to eat independently from pouch. He can also now take medications orally rather than via tube. He learned to bite off, chew with his molars, lateralize, masticate, and swallow a wide variety of regular texture foods, including difficult foods in bite sizes such as meats and raw fruit/veg. He also learned to swallow fork-mashed texture foods. He ate all of his food in two free access snack practice social meals at a child's table/chair and stayed seated the entire time. Refusal, expulsion, packing (not swallowing), emesis (vomit), and gagging/coughing all decreased to low/zero levels, and independence, chewing, and swallowing have increased significantly. He transitioned from a highchair to a booster at the family dinner table. His parents were trained to implement the protocol. He met all 22 of his goals in 15 days.

A 3.5-year-old female with William's syndrome, reflux, and dyspraxia and a history of constipation and failure to thrive was primarily dependent on formula in a baby bottle. Upon admission, she would inconsistently eat egg puree as a nonself-feeder for her mother only and a couple specific fruit puree baby pouches (on a spoon as a nonself-feeder). She had a history of gagging and vomiting just in the presence of other's eating or a spoon. She did not consume any meats or vegetables or any increased texture foods. She had just recently in the past few months began swallowing some Vegemite toast and specific rice cakes; however, she expelled (spit out) the majority of it. She did not know how to feed herself with a spoon or drink from a cup. She did not drink any water (drank formula only) or drink out of anything (e.g., cup, straw, water bottle) but the baby bottle. Previous treatment attempts included multiple years with a speech therapist for feeding and a consultation with a hospital feeding team. On the first day of treatment, she consumed 8 new foods from all the food groups at a junior texture. Her variety is now at over 70 foods at a fork-mashed texture. She learned to accept, bite off, chew, and swallow various regular texture crackers and breads with various spreads and combination solid bites on top. She learned to self-feed and scoop and eat pouches independently. She learned to drink water independently from a regular full cup including sipping and drink from a regular water bottle. She also accepted medication in a cup. She ate and drank in free access snack practice social meals at a child's table/chair and stayed seated. Expulsion (spitting out) and emesis (vomit) decreased to zero, inappropriate mealtime behaviour and gagging/coughing decreased to low levels, and age-appropriate independence with self-feeding/drinking, chewing, and swallowing have increased significantly. Her parents and grandmother were trained to implement the protocol. She met all 21 of her goals in 15 days. Caregivers reported high satisfaction (4.78/5) and social acceptability of the treatment (4.94/5) via questionnaires.

A 7-year-old girl with autism and a history of anemia was eating pasta with some bolognese, toast, dry cereal, plain rice, and certain snack foods, but no fruits, vegetables, or other meats. Her family had to leave the table to eat certain foods and she would engage in significant problem behaviour in multiple settings if certain foods were around (e.g., on plane, at crunch & sip at school). She had just stopped the baby bottle this past year and would not accept medication. She had never drank from an open cup and would not drink water at room temperature. On the first day of treatment, she consumed 8 new foods from all the food groups at regular texture. Her variety is now at 85 foods and she is independently scooping, biting off, taking medication, and drinking from an open cup without

inappropriate mealtime behaviour. She ate with her family at the dinner table and at a cafe. Her parents were trained to implement the protocol. She met all 11 of her goals less than 7 days. Caregivers reported high satisfaction (5/5) and social acceptability of the treatment (5/5) via questionnaires.

About the provider

Tessa Taylor, PhD, BCBA-D provides consultancy, assessment, and treatment services for Paediatric Feeding Disorders internationally including children with feeding issues such as:

- Gastrostomy (G-Tube) or nasogastric (NG-Tube) tube dependence (tube weaning)
- Liquid dependence (formula, bottle)
- Underweight/poor growth
- Inappropriate mealtime behaviour (tantrums, crying/screaming, turning head, covering mouth, hitting the spoon/cup, throwing food/utensils, spitting out food, holding food in mouth without swallowing, aggression, self-injury) and long mealtimes
- Gagging, coughing, vomiting
- Selectivity (“picky”/“fussy” eaters): Not eating foods from all food groups (protein, starch, vegetable, fruit) separately, eating only snack/junk foods, only eating food at certain temperatures, prepared/presented a certain way, of specific brands/certain colours, or in certain receptacles/utensils
- Not drinking from an open cup or feeding self age-appropriately
- Not drinking liquids such as water and milk
- Eating only mashed or blended foods/textures, difficulty chewing/swallowing
- Only eating in certain settings (e.g., home), at certain times, or with certain people (e.g., Mum)

Dr. Taylor has been working with individuals with developmental disabilities since 1999 and is a Doctoral level Board Certified Behavior Analyst (BCBA-D). She obtained her Master’s degree in 2001 and her PhD in Clinical Psychology (specialization in Developmental Disabilities) in 2010 from Louisiana State University, and is a provisional psychologist in Australia.

Dr. Taylor completed her predoctoral internship and postdoctoral fellowship at Johns Hopkins University School of Medicine/Kennedy Krieger Institute where she remained on as faculty in the Pediatric Feeding Disorders Unit (<http://www.kennedykrieger.org/patient-care/patient-care-programs/continuums/pediatric-feeding-disorders-continuum>). This unit is the original, largest, and one of the only interdisciplinary behaviour analytic programs of its kind. It treats the most severe and complex children from all over the world.

Dr. Taylor has highly specialized and unique training and expertise in individualized, evidence-based, data-driven, intensive assessment and treatment of paediatric feeding disorders (e.g., tube dependence, liquid dependence, food refusal, food/texture selectivity, inappropriate mealtime behaviour) and severe problem behaviour (e.g., pica, self-injury). This training is extensive and only available in less than a handful of locations in the US. Dr. Taylor has authored over 35 peer-reviewed research publications and 2 book chapters, and nearly 40 professional presentations and posters. (See Appendix 2 for Dr. Taylor’s research and publications in the area of paediatric feeding disorders - full text electronic copies are available upon request). She also serves as the Consortium Initiative Coordinator for the Association for Behavior Analysis International’s Pediatric Feeding Disorders Special Interest Group.

Dr. Taylor has been in the developmental disabilities field for over 15 years, and has experience spanning a variety of ages (from toddlers to older adults), settings (homes, schools, group homes, developmental centers, hospitals, outpatient clinics), conditions (e.g., complex neurological, medical, and genetic conditions), and interdisciplinary team coordination areas (psychiatry, pediatrics, gastroenterology, allergy, dietetics, social work, speech therapy, occupational therapy, child life, education). For over 5 years, Dr. Taylor worked solely on intensive (e.g., 8 week hospitalizations) applied behaviour analytic feeding treatment in a hospital setting with children ages 1 to 12 with a wide variety of complex developmental and medical diagnoses and concerns (e.g., autism, cerebral palsy, allergies, prematurity, Down syndrome, glycogen storage disease, tube dependence). She also provided services in the developmental playroom for outside of meal concerns (e.g., sleep, toileting, compliance, rumination, pica, aggression) and increasing adaptive skills (communication, social skills), and ran a parent training group. Dr. Taylor

supervised therapists, master's level behaviour analysis students, predoctoral interns, and postdoctoral fellows and conducted both group and single-subject research.

Method

A comprehensive evaluation will be conducted in coordination with the child's team as needed (e.g., gastroenterologist, pediatrician, allergist, speech pathologist, other therapy providers) to evaluate medical, safety, and skill issues and if referrals and/or testing are needed. This includes record review, questionnaires, interview, and direct observation of the child. The mealtime observation provides information about the context of the meal, caregiver feeding behaviour, child mealtime behaviour/skills, strategies/foods/leisure items/utensils/seating used in the meal, etc. This information can be further evaluated systematically using data-based, objective, individualized assessments and treatment evaluations. In addition, interdisciplinary coordination and consultation with the child's current relevant providers will occur as needed throughout the process. The family participates by assisting with the setting of measurable individualized goals. Sessions will be conducted for full consecutive days. In each session, detailed thorough realtime data are collected via laptop computer program (e.g., latency measures to show how long it takes to take/swallow bites, actual grams consumed, actual grams of emesis, percentage measures based on the number of bites/drinks taken independently, responses per minute to show how much inappropriate mealtime behaviour such as refusal/crying/gagging/spitting out bites occurred) and graphed. Direct assessments may include direct preference assessments, descriptive analysis, functional analyses, antecedent assessments, texture assessments, etc. An individualized treatment is systematically evaluated using a data-based approach. Single-subject research designs are used to show experimental control (e.g., reversal, multiple baseline, alternating treatments) and a component analysis may be conducted to simplify the mealtime protocol for the family and remove unnecessary procedures. Targets may include increasing variety of foods, increasing volume in meals, increasing texture, teaching cup drinking, teaching chewing, increasing self-feeding, teaching scooping of bites, opening and closing on the spoon, etc. Treatment components may include differential reinforcement, escape extinction, chaining, shaping, prompting, physical guidance, fading, etc. Graphs are examined via visual inspection and descriptive statistics for differentiation, trends, stability, and level. Caregiver satisfaction and treatment acceptability is objectively assessed via a questionnaire. Once a successful treatment has been developed, caregivers will be intensively trained with individualized support to implement it in a variety of natural settings; thus caregivers must be present during the majority of this intensive process. Training includes meal observation, written protocol review, role play where the caregiver feeds the therapist, individualized fading into actually feeding the meal, coaching during meals, coaching via phone/Skype with me out of the room, coaching via video review of meals without us present, etc while monitoring integrity data/graphs. Hours of treatment are faded as caregiver independence with the protocol increases and mealtime behaviour is stable. Close follow-up support as needed will also be provided to ensure ongoing progress and success. Other caregivers and school and daycare personnel can also be trained. Treatment integrity is monitored via computerized realtime data collection. Generalization to natural setting such as school, home, and community are targeted.

Cost Effectiveness

Aside from the significant medical, social, developmental, and familial benefits of treatment for paediatric feeding disorders, the cost effectiveness of intensive treatment has been demonstrated (Dempster et al, 2015, Piazza and Carroll-Hernandez, 2004, & Williams et al, 2007). Please see Appendix 3 for references (full text electronic copies are available upon request). Dempster and colleagues (2015) reported a cost of \$56,945.61 for gastrostomy tube placement surgery, and calculated average routine maintenance costs (e.g., pumps, bags, tubes, formula) over 5 years at \$202,094.79. Williams et al, 2007 calculated that yearly routine maintenance costs could reach \$70,888.39. These figures do not include other variables such as complications, medical appointments, emergency room visits, hospitalizations, specialized daycare/school placements and nursing, etc. or the high costs of months and years of ineffective therapies and hospitalizations most children receive before obtaining evidence-based treatment. In addition to gastrostomy tube costs, costs can be incurred for children with failure to thrive, nutritional deficiencies, hospitalizations for dehydration or temporary tube placements (e.g., nasogastric supplementation), oral supplements and formulas, constipation, specialized placements for school/day-care, dental decay, blindness, etc.

To access this treatment would otherwise typically require families to move to Baltimore for a 2-month hospital admission at around \$400 USD/hour (in much excess of a hundred thousand dollars). Private and public health

insurances in the US provide coverage for this treatment. These costs are still minimal in comparison to benefits and effectiveness of treatment and the costs of years without treatment or costs for months and years of non-empirically supported treatments the majority of children access.

Appendix 1

Reviews of the evidence base

- Hagopian, L. P., Hardesty, S. L., & Gregory, M. (2015). Applied behaviour analysis: Overview and summary of scientific support. Baltimore: Kennedy Krieger Institute and Johns Hopkins University School of Medicine. Available: <http://www.kennedykrieger.org/patient-care/patient-care-programs/inpatient-programs/neurobehavioral-unit-nbu/applied-behavior-analysis>
- Kerwin, M. E. (1999). Empirically Supported Treatments in Pediatric Psychology: Severe Feeding Problems. *Journal of Pediatric Psychology*, 24, 193-214.
- Sharp, W. G., Jaquess, D. L., Morton, J. F., & Herzinger, C. V. (2010). Pediatric feeding disorders: A quantitative synthesis of treatment outcomes. *Clinical child and family psychology review*, 13(4), 348-365.
- Volkert, V. M., & Piazza, C. C. (2012). Pediatric feeding disorders. *Handbook of evidence-based practice in clinical psychology*.
- Peterson, K. M., Piazza, C. C., & Volkert, V. M. (2016). A comparison of a modified sequential oral sensory approach to an applied behavior-analytic approach in the treatment of food selectivity in children with autism spectrum disorder. *Journal of Applied Behavior Analysis*, 49(3), 485-511.

Informational video

<http://wmich.edu/autism/pediatric-feeding>
(<https://youtu.be/42Uk3SCQ1Ac>)

Links from Kennedy Krieger

http://feedingdisorders.kennedykrieger.org/video/cnn_feeding.wmv
<http://www.kennedykrieger.org/potential-online/potential-winter-2013/is-it-picky-eating-or-something-more>
<http://www.parents.com/blogs/food-scoop/2013/11/30/nutrition/feeding-picky-eaters-over-the-holidays/>
<http://www.kennedykrieger.org/overview/news/kennedy-krieger-expert-offers-ways-distinguish-between-picky-eating-and-pediatric-feed>
<http://www.kennedykrieger.org/potential-online/potential-spring-2009/lauras-story>
<http://www.kennedykrieger.org/overview/news/picky-eating-just-phase-or-something-more-serious>
<http://kennedykrieger.org/potential-online/potential-winter-2006/appetite-for-life>
http://feedingdisorders.kennedykrieger.org/pdf/Sevin_Gulotta_aba.pdf
<http://pediatricfeedingnews.com/the-failure-to-thrive-pediatric-feeding-disorders-by-cathleen-piazza-ph-d-and-jennifer-dawson-m-a-paradigm-%E2%80%A2-fall-2000-pg-8-9/>

Appendix 2

Paediatric Feeding Publications:

- Taylor, T. (2016). Paediatric feeding in an intensive program in a home setting in Australia: Reinforcer potency by demand level during repeated exposure and physical guidance. *Manuscript submitted for publication*.
- Taylor, T., Kozolowski, A. M., & Girolami, P. A. (2016). Comparing behavioral treatment of feeding difficulties and tube dependence in children with cerebral palsy and autism spectrum disorder. *Manuscript submitted for publication*.
- Kozolowski, A. M., Taylor, T., Pichardo, D., & Girolami, P. (2016). The impact of drink preference in the treatment of drink refusal. *Journal of Developmental and Physical Disabilities*, 28, 443-460.
- Kozlowski, A. M., Taylor, T., González, M. L., & Girolami, P. A. (2014). Feeding Disorders. In J. L. Matson & M. L. Matson (Eds.) *Comorbid conditions in individuals with intellectual disabilities*.

- Au Yeung, K., Taylor, T., Scheimann, A., Carvalho, R., Girolami, P. A., & Wood, R. (2015). The prevalence of food allergies in children referred to a multidisciplinary feeding program. *Clinical Pediatrics*. doi: 10.1177/0009922815593499
- Rubio, E. K., Borrero, C. S. W., & Taylor, T. (2015). Use of a side deposit to increase consumption in children with food refusal. *Behavioral Interventions*, 30 (3), 231-246.
- González, M. L., Rubio, E. K., & Taylor, T. (2014). Inappropriate mealtime behavior: The effects of noncontingent access to preferred tangibles on responding in functional analyses. *Research in Developmental Disabilities*, 35 (12), 3655-3664.
- Borrero, C. S. W., Schlereth, G. J., Rubio, E. K., Taylor, T. (2013). A comparison of two physical guidance procedures in the treatment of pediatric food refusal. *Behavioral Interventions*, 28 (4), 261-280.
- González, M. L., Taylor, T., Borrero, C. S. W., & Sangkavasi, E. (2013). An individualized levels system to increase independent mealtime behavior in children with food refusal. *Behavioral Interventions*, 28 (2), 143-157.

Other Paediatric Feeding Publications and Presentations:

- Taylor, T., Piazza, C. P., Williams, K. E., Cataldo, M. F., & Girolami, P. A. (2015). Association for Behavior Analysis International Pediatric Feeding Disorders Special Interest Group. *Inside Behavior Analysis*, 7 (2).
- Taylor, T., Piazza, C. P., Williams, K. E., Cataldo, M. F., & Girolami, P. A. (2014). Association for Behavior Analysis International Pediatric Feeding Disorders Special Interest Group. *Inside Behavior Analysis*, 6 (2), 80-81.
- Taylor, T., Piazza, C. P., Williams, K. E., & Cataldo, M. F. (2013). Association for Behavior Analysis International Pediatric Feeding Disorders Special Interest Group. *Inside Behavior Analysis*, 5 (2), 76-77.
- Piazza, C. P., Williams, K. E., Cataldo, M. F., & Rivet, T. T. (2012). Association for Behavior Analysis International Pediatric Feeding Disorders Special Interest Group. *Inside Behavior Analysis*, 4 (2), 69-70.
- Taylor, T., Haberman, A., & Roglich, N. (2017, September). *Intensive In-Home Feeding Treatment for Younger Siblings*. Poster presented at the biannual international meetings of the Association for Behaviour Analysis International in Paris, France.
- Taylor, T. (2016, September). *Intensive In-Home Feeding Treatment for Younger Siblings*. Poster presented at the annual meetings of the Association for Behaviour Analysis Australia in Melbourne, Australia.
- Taylor, T., Haberman, A., & Roglich, N. (2016, September). *Paediatric Feeding Disorders and Empirically Supported Treatment: Reinforcer Potency by Demand Level and Function-based Physical Guidance in an Intensive Home-based Treatment Program*. Symposium presented at the annual meetings of the Association for Behaviour Analysis Australia in Melbourne, Australia.
- Taylor, T. (2016, September). *Paediatric Feeding Disorders: Reinforcer Potency by Demand Level and Function-based Physical Guidance in an Intensive Home-based Treatment Program*. Symposium presented at the biannual meetings of the European Association for Behaviour Analysis in Enna, Italy.
- Taylor, T. (2015, September). *Paediatric Feeding Disorders: Review of Evidence Based Practice and Recent Research Advances*. Poster presented at the international meetings of the Association for Behavior Analysis International in Kyoto, Japan.
- Ferrando, F., Buckman, H., González, M. L., & Taylor, T. (2015, May). *An Assessment of Treatment Options Used to Decrease Expels During Mealtimes*. Poster presented at the annual meetings of the Association for Behavior Analysis International in San Antonio, Texas.
- Kozlowski, A. M., Dieter, D., Raines, E., Taylor, T., & Girolami, P. (2014, November). *The Impact of Liquid Preference in the Treatment of Liquid Refusal*. Poster presented at the annual meetings of the Maryland Association for Behavior Analysis in Baltimore, Maryland.
- Taylor, T., Piazza, C. P., Williams, K. E., Cataldo, M. F., & Girolami, P. A. (2014, May). *Pediatric Feeding Disorders Special Interest Group (SIG) and the Pediatric Feeding Disorders Consortium Initiative*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Chicago, Illinois.
- Rubio, E. K., Borrero, C. S. W., & Taylor, T. (2014, May). *Use of a Side Deposit to Increase Consumption in Children with Food Refusal*. Symposium presented at the annual meetings of the Association for Behavior Analysis International in Chicago, Illinois.
- Kozlowski, A. M., Dieter, D., Raines, E., Taylor, T., & Girolami, Peter A. (2014, May). *The Impact of Liquid Preference in the Treatment of Liquid Refusal*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Chicago, Illinois.
- Ferrando, F., Kozlowski, A., Taylor, T., & Girolami, P. A. (2014, May). *The Effectiveness of Behavioral Interventions in Treating Feeding Difficulties in Children with Cerebral Palsy*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Chicago, Illinois.

- Lambert, T., Taylor, T., Kozlowski, A., & González, M. L. (2014, May). *Function-Based Treatment of Inappropriate Mealtime Behavior in the Context of Choice*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Chicago, Illinois.
- Ibañez, V., Schildkraut, B., Rill, A., Alter, M., Forby-Stevenson, E., González, M. L., & Taylor, T. (2013, November). *Reinforcer Assessment in Food Refusal: Evaluating the Preference for Functional Reinforcers and Food Preferences across Preferred and Nonpreferred Foods during Repeated Exposure*. Poster presented at the annual meetings of the Maryland Association for Behavior Analysis in Baltimore, Maryland.
- Lambert, T., Taylor, T., Kozlowski, A., & González, M. L. (2013, November). *Function-Based Treatment of Inappropriate Mealtime Behavior in the Context of Choice*. Poster presented at the annual meetings of the Maryland Association for Behavior Analysis in Baltimore, Maryland.
- Borrero, C. S. W., Schlereth, G. J., Rubio, E. K., & Taylor, T. (2013, May). *A Comparison of Two Physical Guidance Procedures in the Treatment of Pediatric Food Refusal*. Symposium presented at the annual meetings of the Association for Behavior Analysis International in Minneapolis, Minnesota.
- Kozlowski, A., Taylor, T., González, M. L., & Masler, L. (2013, May). *The Use of Choice to Increase Spoon Acceptance of Non-preferred Foods*. Symposium presented at the annual meetings of the Association for Behavior Analysis International in Minneapolis, Minnesota.
- González, M. L., Borrero, C. S. W., Taylor, T., Rubio, E. K. (2013, May). *Functional Analysis of Inappropriate Mealtime Behavior: The Effects of Noncontingent Access to Tangible Stimuli in Control and Test Conditions*. Symposium presented at the annual meetings of the Association for Behavior Analysis International in Minneapolis, Minnesota.
- Ibañez, V., Schildkraut, B., Rill, A., Alter, M., Forby-Stevenson, E., González, M. L., & Taylor, T. (2013, May). *Reinforcer Assessment in Food Refusal: Evaluating the Preference for Functional Reinforcers and Food Preferences across Preferred and Nonpreferred Foods during Repeated Exposure*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Minneapolis, Minnesota.
- Masler, E. A., González, M. L., Taylor, T., & Kozlowski, A. (2013, May). *The Use of Choice Arrangements to Increase Spoon Acceptance of a Non-preferred Food*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Minneapolis, Minnesota.
- Taylor, T., Piazza, C. P., Williams, K. E., & Cataldo, M. F. (2013, May). *Pediatric Feeding Disorders Consortium: Phase I Results and Phase 2 Preliminary Results*. Presented at the Pediatric Feeding Disorder Business Meeting at the annual meetings of the Association for Behavior Analysis International in Minneapolis, Minnesota.
- Ibañez, V., Rivet, T. T., González, M. L., Worley, J., & Alter, M. (2012, November). *Reinforcer assessment in food refusal: Evaluating the potency and preference for functional reinforcers using increasing schedule requirements*. Poster presented at the annual meetings of the Maryland Association for Behavior Analysis in Baltimore, Maryland.
- Rivet, T. T., Piazza, C. P., Williams, K. E., & Cataldo, M. F. (2012, May). *Pediatric Feeding Disorders Consortium: Phase I Pilot*. Presented at the Pediatric Feeding Disorder Business Meeting at the annual meetings of the Association for Behavior Analysis International in Seattle, Washington.
- Kammer, J. S., González, M. L., Rivet, T. T., & Ibañez, V. (2012, May). *Stimulus avoidance assessment with food selectivity: Establishing a hierarchy of nonpreferred foods*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Seattle, Washington.
- Ibañez, V., Rivet, T. T., Gonzalez, M. L., Worley, J., & Alter, M. (2012, May). *Reinforcer assessment in food refusal: Evaluating the potency and preference for functional reinforcers using increasing schedule requirements*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Seattle, Washington.
- Rivet, T. T., Gonzalez, M. L., LeBlanc, L. M., Jhaveri, P. M., Miller, P., & Gulotta, C. S. (2011, May). *Predictors of treatment outcome for children with tube dependence*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Denver, Colorado.
- Masler, E. A., Gonzalez, M. L., Grampp, K., & Rivet, T. T. (2011, May). *The potential impact of attention during the functional analysis of inappropriate mealtime behavior*. Poster presented at the annual meetings of the Association for Behavior Analysis International in Denver, Colorado.
- Lundahl, A. A. & Rivet, T. T. (2011, March). *Pediatric feeding disorders*. Presented to the Chapel Forge Feeding Support Group in Bowie, Maryland.
- Gulotta, C. S., LeBlanc, L., & Rivet, T. T. (2010, May). *An evaluation of a fading procedure to increase liquid consumption*. Poster presented at the annual meetings of the Association for Behavior Analysis International in San Antonio, Texas.

- Rivet, T. T. (2009, December). *Assessment and treatment of food refusal in a 4-year-old female*. Presented to the Pediatric Feeding Disorders Clinic at Kennedy Krieger Institute and the Johns Hopkins University School of Medicine in Baltimore, Maryland.
- Rivet, T. T. (2009, October). *Assessment and treatment of food refusal in a 3-year-old male*. Presented to the Behavioral Psychology Peer Review at Kennedy Krieger Institute and the Johns Hopkins University School of Medicine in Baltimore, Maryland.

Appendix 3

Cost effectiveness

- Dempster, R., Burdo-Hartman, W., Halpin, E., & Williams, C. (2015). Estimated Cost-Effectiveness of Intensive Interdisciplinary Behavioral Treatment for Increasing Oral Intake in Children with Feeding Difficulties. *Journal of pediatric psychology*, jsv112.
- Piazza, C. C., & Carroll-Hernandez, T. A. (2004). Assessment and treatment of pediatric feeding disorders. In *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development, pp. 1–7.
- Williams, K. E., Riegel, K., Gibbons, B., & Field, D. G. (2007). Intensive behavioral treatment for severe feeding problems: A cost-effective alternative to tube feeding? *Journal of Developmental and Physical Disabilities*, 19, 227–235.