

# Beyond Picky Eating: Navigating Food Selectivity in Children with Autism Using ABA

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## ABSTRACT

According to the Centers for Disease Control and Prevention (CDC), autism prevalence has increased by 178 percent since 2000, and as of 2023, around 1 in 36 children in the U.S. has been diagnosed with autism. Among those children, more than %70 of them have food selectivity Mayes et al. (2019), which essentially means an extremely restrictive diet. Food selectivity, characterized by limited food choices, can pose a health risk due to potential nutritional deficiencies. When individuals consistently consume a narrow range of foods, they may miss out on essential nutrients, leading to issues like weakened immune systems Sharp et al. (2018). Treating food selectivity is crucial for not only physical health but also mental health Lepinioti et al. (2021), especially in vulnerable populations like children with autism. In this research paper, I aim to answer some of the critical questions surrounding food selectivity, explore its connections with oral sensory perception, and propose approaches for addressing this complex issue. Through this paper, I hope to contribute to a better understanding of food selectivity and provide insights that can enhance the well-being of affected individuals and their communities.

## **Introduction**

Before anything, I want to mention the difference between a “picky eater” and a “selective eater.” Picky eaters are people who eat limited numbers of food from each food group, whereas selective eaters have unusual aversions. They may avoid all vegetables, all chocolate, all green colored food, etc. This results in selective eaters to consume no more than a few foods. To give you an example, a typical diet of a selective eater might include pizza, chicken nuggets, milk and nothing else. Having this type of limited diet, especially for children, affects their physical and mental health.

Research by Mayes et al. (2019) shows that atypical eating behaviors were significantly more common in children with autism (%70.4) than in neurotypical children (%4.8). For children with autism who have atypical eating behaviors, the most common behavior was limited food preferences (%88) followed by hypersensitivity to food textures (%46). This is where oral sensory comes in; the oral sensory aspect of eating involves how the mouth tissues perceive sensory information such as the taste, temperature and texture of food. It has been suggested that sensory sensitivity may lead children with autism spectrum disorders to restrict their intake to food of preferred, tolerable, and manageable textures Cermak SA et al. (2010).

The texture of foods was consistently identified as a related aspect of food acceptance, suggesting that sensory sensitivity may be a contributing factor to food selectivity Chistol LT et al. (2018). Dr. Tony Attwood pointed out that the resistance to eating certain types of food may relate to texture or smell. In describing the effects of food textures, Stephen Shore, an adult with high-functioning autism, wrote: Canned asparagus was intolerable due to its slimy texture, and I didn't eat tomatoes for a year after a cherry tomato had burst in my mouth while I was eating it. The sensory stimulation of having that small piece of fruit explode in my mouth

was too much to bear and I was not going to take any chances of that happening again (Attwood, Tony. A Complete Guide to Asperger's Syndrome. Jessica Kingsley Publishers, 15 May 2008).

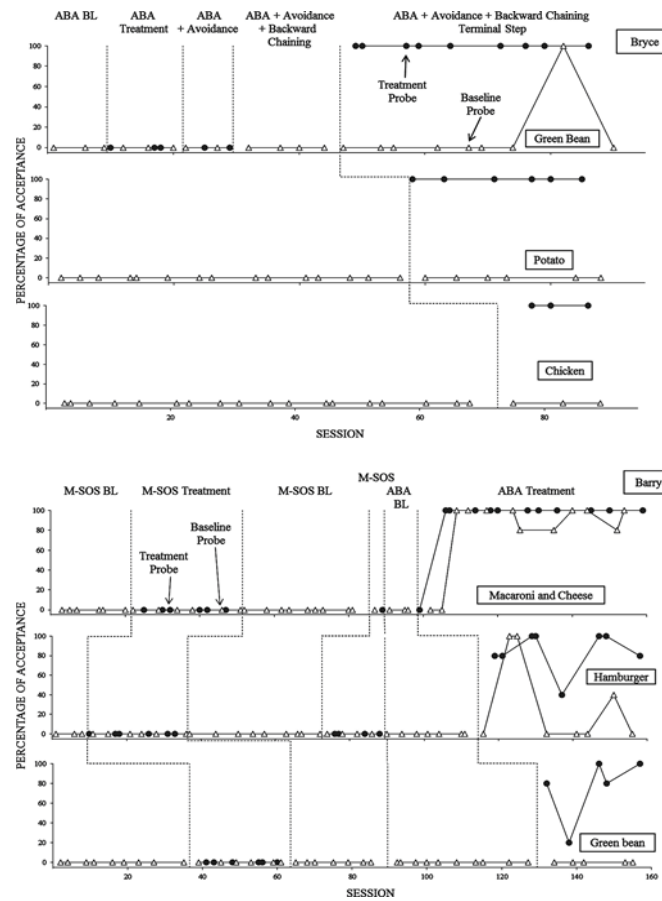
Understanding this facet of the issue reveals a potential avenue for addressing the challenges faced by selective eaters. By tackling oral sensory issues, we have the potential to significantly impact the lives of nearly half of the children with autism experiencing food selectivity challenges, as demonstrated in Prof. Mayes' research.

## **So, How Do We Solve Oral Sensory Problems?**

When treating pediatric feeding disorders, it's not uncommon for healthcare professionals to put forth various treatment options. These recommendations are aimed at providing potential solutions to caregivers, who play a vital role in treating oral sensory problems. Often, caregivers, turn to these recommended treatments to address their children's feeding difficulties. However, it's worth noting that while a myriad of treatments is available, not all of them boast a robust foundation of empirical support in the field of pediatric feeding disorders.

Among the diverse array of treatments, Applied Behavior Analysis (ABA), sometimes referred to as Behavioral Engineering, stands out as one with substantial empirical backing in the research literature. Numerous studies had reinforced the efficacy of ABA in improving feeding behaviors among children struggling with various feeding disorders.

In the study Peterson et al. (2016), the application of ABA techniques demonstrated a remarkable success in increasing the consumption of specific targeted foods by affected children. In comparison to alternative approaches such as modified sequential oral sensory (MSOS), ABA consistently exhibited superior results. These findings underscore the potential of ABA as a powerful tool in the toolkit of interventions, offering hope and tangible progress for caregivers and their children when dealing with pediatric feeding disorders.



**Figure 1.** Percentage of acceptance for Bryce for green bean (first), potato (second), and chicken (third) and for Barry for macaroni and cheese (fourth), hamburger (fifth), and green bean (sixth).

Therefore, its only appropriate that I talk about what’s ABA and how do we use it to treat oral sensory from now on.

## Applied Behavior Analysis in Depth

Applied Behavior Analysis (ABA) is a highly adaptable therapeutic approach that can be tailored to address the individualized needs of each person. This inherent flexibility makes ABA particularly well-suited for addressing oral sensory challenges in children on the autism spectrum, as it acknowledges and accommodates the considerable variability among individuals along this spectrum.

Autism spectrum disorder (ASD) is characterized by a wide range of behaviors, abilities, and sensitivities. ABA's adaptability is paramount in addressing the unique sensory sensitivities and oral challenges that autistic children may present. Whether a child falls on the milder or more severe end of the spectrum, ABA can be customized to meet their specific requirements, taking into account their sensory profiles, communication abilities, and individual goals. One of the remarkable attributes of ABA is that it transcends the constraints of a fixed physical location. Unlike some therapeutic interventions that necessitate attendance at specialized institutions, ABA interventions can often be conducted in various settings. This means that children can receive ABA therapy in familiar and comfortable environments, including their homes, schools, or community spaces. This

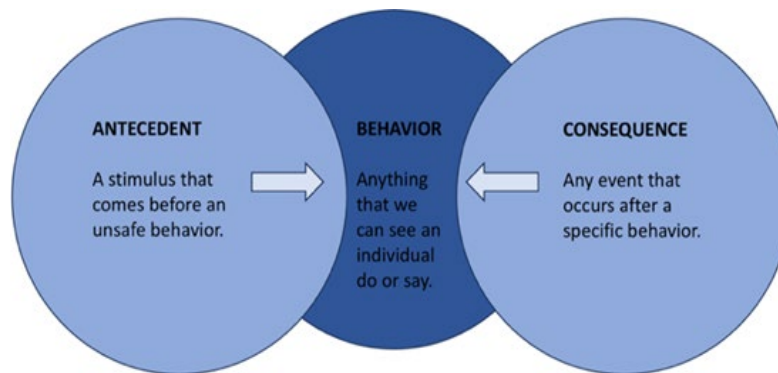
accessibility is not only convenient for families but also enables a more holistic integration of therapy into the child's daily life.

The first step is identifying a goal behavior. Which leads us to the A-B-C 's, another important part of ABA, a three stepped technique that helps us understand the behavior we want to change and then teach the goal behavior.

1. An antecedent: this is what occurs right before the target behavior. It can be verbal, such as a command or request. It can also be physical, such as a toy or object, or a light, sound, or something else in the environment. An antecedent may come from the environment, from another person, or be internal (such as a thought or feeling).
2. A resulting behavior: this is the person's response or lack of response to the antecedent. It can be an action, a verbal response, or something else.
3. A consequence: this is what comes directly after the behavior. It can include positive reinforcement of the desired behavior, or no reaction for incorrect/inappropriate responses.

Looking at A-B-Cs helps us understand:

1. Why a behavior may be happening?
2. How different consequences could affect whether the behavior is likely to happen again?



And with continued practice, the child may be able to add more nutritiously rich food to their diet.

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**Abstract:** Background: Previous research has not yet examined the prevalence of atypical eating behaviors in children and adolescents with autism compared to those with ADHD, other disorders, and typical development. Method: The sample comprised 2102 children: 1462 with autism, 327 with other disorders (e.g., ADHD, intellectual disability, language disorder, and learning disability), and 313 typical children, 1–18 years of age (mean 7.3). Atypical eating behaviors were assessed with the Checklist for Autism Spectrum Disorder based on a standardized parent interview conducted by licensed psychologists. Results: Atypical eating behaviors were significantly more common in autism (70.4%) than in children with other disorders (13.1%) and typical children (4.8%). For children with autism who had atypical eating behaviors, the most common behavior was limited food preferences (88%), followed by hypersensitivity to food textures (46%), other peculiar patterns most often eating only one brand of food (27%), pocketing food without swallowing (19%), and pica (12%). Grain products and/or chicken (usually nuggets) were the preferred foods for 92% of children with autism who had limited food preferences. For children with autism who had atypical eating behaviors, 25% had three or more atypical eating behaviors (vs. 0% for children with other disorders or typical development). Only children with autism had pica or pocketed food. Conclusions: The number and types of atypical eating behaviors found only in children with autism and not in children with other disorders or typical development should alert clinicians to the possibility of autism and the need to evaluate for autism in order to facilitate early identification and access to evidence-based treatment.

**Keywords:** Atypical eating behaviors; Picky eating; Limited food preferences; Autism; ADHD; Typical development

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