Pediatric Oral Motor Development and Prolonged Pacifier Use:

The Impact of Caregiver Resource Constraints

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Abstract

Concern has grown in the past few years regarding the extended use of a pacifier in early childhood (children aged 0-5 years of age). Experts in fields like Speech-Language Pathology, Orthodontics, and Dentistry are shining a light on cases of pediatric patients presenting with dental and speech issues traced back to extensive use of a pacifier past the recommended age set by clinical guidelines. In this paper, extended pacifier use functions as a case study for a larger exploration of parenting culture in America. Parenting is becoming an increasingly isolating experience, with misinformation running rampant across social media and the internet as a whole. Alongside the rise of 'gentle parenting', the act of childrearing is becoming more child-led than ever before. The reluctance to wean from a pacifier exists alongside reluctance to implement traditional parenting techniques and discipline models.

Introduction

The culture of parenting in the United States is constantly growing and changing, producing new ideas and opinions. Currently, parental culture is changing alongside the rise of social media and a new generation of parents and children. The rise of social media has given way to increased scrutiny on parents and the decisions that they make for their children, making parents feel isolated and often defensive of their choices. This shift has also been characterized by a lack of resources provided to new and expectant parents. Difficulty accessing resources from recognized experts in the field may push parents to social media and self-proclaimed 'experts.'

Given these changes, caregivers now face a variety of resource constraints that can delay pacifier weaning. Financial limitations may restrict access to pediatric dental or speech evaluations. Geographic isolation, such as living in rural areas, can make in-person consultations challenging, leaving parents reliant on online forums and social media for advice. Even when resources exist, caregivers may

struggle to identify evidence-based guidance among conflicting opinions. These structural barriers contribute to prolonged pacifier use not as a reflection of poor parenting but as a response to limitations in support and information. A symptom of this resource inaccessibility has emerged in the form of extended pacifier use. In recent years, professionals in the fields of both Speech-Language Pathology and Dentistry/Orthodontics have given increased clinical focus to cases of pediatric malocclusion (improper bite), as well as delayed/impaired speech development linked to the use of a pacifier past 12-18 months old against recommended clinical guidelines (Kanellopoulos & Costello, 2024).

This paper examines how modern parenting culture, social media misinformation, and limited access to professional resources contribute to the prolonged use of a pacifier and the resulting effects on pediatric oral motor and speech development. Prolonged pacifier use therefore reflects not only a developmental habit but also broader shifts in parenting culture, limited access to reliable information, and the challenges caregivers face when navigating early childhood guidance in an increasingly digital and divided world.

Parenting Styles, Gentle Parenting, and the Role of Social Media

The *American Psychological Association* generally recognizes 4 main parenting styles: ***Authoritative*** parents set clear boundaries with their children but allow space to discuss the reasoning and ensure understanding. Children in these settings are encouraged to have input in parenting decisions, and parents aim to foster an environment of support, openness, and trust. *Authoritarian* parenting describes an environment in which rules are strict, non-negotiable, and disobedience is faced with harsh punishment. Communication is one-way, and children are expected not to question authority. Authoritarian parents are less nurturing and less flexible and maintain high expectations.

Permissive parents are typically very nurturing but set little to no boundaries and expectations for their children. Permissive parents have very open lines of communication but infrequently discipline their children. Permissive households typically run at the will of the children, with children deciding the rules on everything from schedules and meals, to screentime and homework.

Uninvolved/Neglectful parents take a hands-off approach to parenting. Uninvolved parents remain emotionally disconnected from their children, providing minimal communication and nurturing, or little to no expectations. Children of uninvolved parents often demonstrate higher resilience, but lower coping and emotional regulation skills.

These terms are only the broadest, umbrella definitions that parents fall under. There are myriad subtypes of parenting that fall under, between, and below these types. Nevertheless, parenting style can have a significant impact on the outcome of a child's behavior and development as they age. Parenting styles shape a child's conduct and their ability to socialize and grow into healthy, well-adjusted adults. (Sanvictores & Mendez, 2022)

The Rise of Gentle Parenting

'Gentle parenting' has become the most recent "craze" among new parents. But since this method of parenting began among the newest generation of parents, its original definition has become buried under misinterpretation, misuse, and scrutiny. The gentle parenting approach was originally introduced as a subcategory of authoritative parenting, with more emphasis on validating children's emotions and establishing a trusting connection between parent and child. Gentle parenting focuses on encouraging clear boundaries and a strong relationship that establishes a foundation for obedience and understanding. This differs from typical authoritative parenting, which sets clear expectations before negotiating and discussing emotions. Both parenting styles encourage emotional maturity with structure and understanding at the forefront.

The weakness of gentle parenting is exposed in its misapplication. Rahil D. Briggs discusses the observable shift from an authoritative-adjacent form on gentle parenting to the more permissive-adjacent style that has been faced with criticism online. Briggs discusses the fact that it is often typical of children to dislike being told what to do or to not get what they want. When gentle parenting becomes intertwined with permissive parenting, children set the boundaries. This understanding is critical for growth and emotional maturity, as well as the ability to thrive in day-to-day life.

Within the context of pacifier use, this fundamental misunderstanding of gentle parenting may contribute to difficulty weaning children from heavy use of a pacifier for comfort. Parents attempting to avoid conflict or emotional distress may hesitate to remove the pacifier when a toddler shows resistance or gets upset. While emotional validation is an important component of healthy parenting, child development experts emphasize that maintaining boundaries is equally necessary for healthy development. Without these boundaries, soothing tools like pacifiers may continue into toddlerhood and beyond, increasing the likelihood of dental and speech complications in childhood.

Social Media Experts

The world has never been more interconnected than it is today. Social media has not just made it easy to share life with friends and family, it has become an expectation that every major life event will be accompanied by a social media post. To not be on social media, or to keep a private life off the internet has become decreasingly common. With the integration of social media into daily lives, it has often become the first place that people go to for ideas, opinions, research, entertainment, etc. The accessibility of social media has birthed the idea of the ‘social media expert’. Platforms such as Instagram and TikTok often feature ‘parenting influencers’ who provide anecdotal advice without clinical validation. While these platforms can create supportive communities, they also amplify misinformation, leading to confusion and parental anxiety.

In the context of pacifier use, caregivers may encounter posts encouraging unconventional weaning methods or shaming the concept as a whole -- often conflicting with evidence-backed pediatric guidelines. This digital environment can exacerbate stress and encourage parents to delay pacifier weaning, not out of neglect but as a response to overwhelming and conflicting information being. Anyone can claim to be an expert on any particular topic, and this is especially true when discussing parenting. An opinion piece published by Stliyst.co points out how overwhelming the sheer amount of contradictory advice on social media can be for parents seeking out trustworthy information, describing the feeling as 'paralyzing' (Dray, 2025). While it can be beneficial to share diverging ideas, the rise of these social media experts may contribute to parents feeling that the smallest misstep will bring hostility and shame from those they sought for support. This perception of shame leads new parents to be defensive of their decisions, and reluctant to listen to recommendations and guidelines for early childhood.

Pacifiers, Malocclusion, and Speech

The origins of pacifiers or pacifier-adjacent devices date back thousands of years. Historically, caregivers provided their children with clay, wood, and rubber teething devices for comfort. The first modern pacifier, known as the 'Baby Comforter', was patented in 1903, marketed as a device to sooth infants and alleviate teething pain (Suiter, 2015). The devices encouraged an infant's sucking reflex as well as providing comfort to crying babies; it also included the first shield to prevent accidental choking. Since the introduction of the device, pacifiers have become as synonymous with babies as diapers or bottles. Pacifiers are extremely beneficial for soothing, safety, feeding, etc. However, according to current clinical guidelines published by the American Academy of Pediatric Dentistry, children should be completely weaned from a pacifier by 12-18 months old. Continuing to use a pacifier past these guidelines presents significant risk to dental, palatal, and speech development. (Suiter, 2015)

Benefits of Pacifiers

Pacifiers have been found to have numerous benefits for young infants, and their use should absolutely not be discouraged. Sexton and Natale (2009) listed pacifiers as one of the key tools for comfort and pain relief for infants 6 months and younger; as well as encouraging nonnutritive sucking (defined as sucking behaviors that provide comfort but do not involve feeding), which eases transition to bottle feeding from breastfeeding or feeding tubes in preterm infants. Most significantly, the AAP guidelines suggest that introducing a pacifier during sleep may play a role in reducing the risk of SIDS (sudden infant death syndrome). SIDS is defined by Cedar-Sinai as the sudden, unexplained death of an infant under 12 months old, occurring naturally during sleep. SIDS is not fully understood, nor is the role of a pacifier in its prevention. But evidence suggests a strong correlation between lower risk of SIDS and pacifier use; research does not indicate that not using a pacifier increases the risk of SIDS. Potential explanations have included the following: using a pacifier keeps respiratory drive engaged, reducing the risk of sleep apnea: Utilizing a pacifier may decrease the risk of rolling into prone position in sleep, therefore reducing suffocation risk: Using a pacifier may decrease gastroesophageal reflux. (SEXTON & NATALE, 2009)

Current Clinical Guidelines

The AAPD (American Academy of Pediatric Dentistry) outlines their evidence-based guidelines in their official policy statement. The AAPD supports the introduction of a pacifier to young infants based on individual needs in the first few months of life. The AAPD policy statement encourages parents to establish a dental provider for their child by 12 months old, and to discontinue nonnutritive sucking habits like pacifiers and thumb-sucking by 18 months of age. The AAPD also suggests consistent recommendations and messaging from medical providers regarding the risks of prolonged pacifier use, including malocclusion and the development of orofacial complexities. (AAP, 2024)

Pacifier-Related Dental Complications

During the infant and toddler years, children undergo significant changes in oral structures. In particular, the palate and mandible undergo significant growth. A research study published in the National Library of Medicine examined a scope of articles outlining research related to malocclusion (improper bite) patterns associated with pacifier use. The most prominent finding indicated a strong association between pacifier use and the presentation of Anterior Open Bite (*See Figure 1)*.

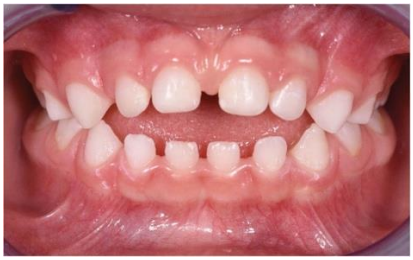

Figure 1: Anterior Open Bite in 3-year old pacifier user (oralhealthgroup.com, 2024)

This type of misalignment occurs when the upper and lower front teeth do not touch when the back teeth are closed (Lone et al., 2023). This type of malocclusion is the most common dental complication seen in pediatric patients, even being referred to as 'Pacifier Mouth' in slang. Several studies reported that 55% of pacifier users exhibited AOB, as opposed to 14% of non-users.

Other frequently observed outcomes include Posterior Crossbite and Overjet. Posterior Crossbite occurs when the upper back teeth rest inside the lower back molars, rather than outside when biting down. This can occur on one or both sides, and result from a narrow or asymmetrical upper jaw (*Crossbite Treatment: Types, Causes and Effects*, 2023). An overjet bite (often referred to as 'buck teeth' in slang) occurs when the upper front teeth protrude horizontally over the lower teeth, creating a gap. (*Overjet (Buck Teeth): What It Is & How to Fix It*, 2024). The study also found that long-term pacifier users observed overall higher rates of poor occlusal outcomes, with articles reporting that 50.5%-62.3% of pacifier users developed malocclusion. The study did not indicate whether all of these cases were proven to be related to the patient's use of a pacifier.

Difficulties in Speech Development

In the conversation surrounding pacifiers, there is growing concern regarding the impact of prolonged pacifier use on language development, especially during the critical ages of 1-2 years old, when language development is at its most rapidly evolving point. During the infant and toddler years, children undergo significant changes in oral structures, including growth of the palate and mandible. These structural developments directly influence oral motor function, which is critical for producing sounds correctly. As a result, prolonged pacifier use can not only affect dental alignment but also limit opportunities to practice the tongue, lip, and jaw movements necessary for early speech development. Findings indicate that these delays in oral motor skill acquisition may have broader impacts on overall socioemotional well-being in young children.

Kanellopoulous's 2024 review explores the effect of prolonged pacifier use on language in infants and toddlers. The speech effects demonstrated in this article were most often linked to dental complications resulting from extended use of a pacifier. The sucking motion involved in pacifier use engages muscles differently than those used for speech and chewing. While necessary in early infancy for feeding and comfort, prolonged nonnutritive sucking can limit opportunities for tongue movements, lip closure, and jaw mobility, which are foundational for speech sound production. Children who continue to use a pacifier beyond 18 months may practice these movements less frequently, slowing the development of oral motor skills needed for clear speech. The development of palatal shape and dental arches is influenced by repetitive sucking patterns. Longer time spent using a pacifier thus results in lower levels of speech production at 21-24 months, as well as lower vocabulary at 28 months. Findings indicated that the ability to implicate oral motor movements is significantly impactful on both speech perception and language development.

Barriers to Pacifier Weaning

Beyond dental and speech outcomes, prolonged pacifier use can influence the child's emotional regulation and social experiences. Toddlers reliant on pacifiers may struggle with transitions, such as starting daycare or interacting with peers without their familiar comfort object. Caregivers may also experience increased stress or guilt, especially when guidance from social media conflicts with professional recommendations. In some cases, misinterpretations of gentle parenting philosophies may contribute to delayed pacifier weaning. Parents and caregivers practicing gentle parenting may attempt to prioritize emotional validation and hesitate/struggle to enforce a boundary when children resist the removal of comforting habits and objects. As children grow older, pacifiers often transition from a simple soothing tool to an object of emotional dependence. Toddlers still using pacifiers begin to associate pacifier use with comfort, security, or familiar routines such as bedtime. Removing the pacifier can then result in emotional distress or resistance from young children. Caregivers may hesitate to remove a comfort object if it appears to provide emotional stability during stressful or unfamiliar situations.

Pacifiers are also frequently used as a soothing mechanism during naps and nighttime sleep, and many caregivers rely on them to help infants fall asleep more easily (Sexton & Natale, 2009). Removing the pacifier may interrupt sleep, and lead a toddler to be more exhausted, emotional, and possibly enter a sleep-regression (a temporary phase where an infant or toddler who previously had no trouble sleeping suddenly experiences disrupted sleep). Sleep regressions are often caused by developmental milestones, environmental changes (like daylight savings or a new house), or a disruption to daily routine. These sleep regressions can last a few days to several weeks and are often exhausting and distressing for both parent and child (Uclahealth, 2025). The distress of a sleep regression caused by the removal of a pacifier makes it extremely tempting for parents to give back the pacifier so their child will sleep.

Social Media and the Future of Parenting

Bringing awareness to this topic serves to provide space for better early childhood outcomes socially, physically, and educationally. It is becoming increasingly apparent that the need to provide better resources for new and expectant parents is greater than ever. Making this issue more prevalent in mainstream culture reinstates the role of community and safe spaces for parents to learn and grow. It allows all those involved in childrearing—parents, teachers, guardians, therapists, etc., to become more knowledgeable and empathic towards the limited resources available to caregivers, and more willing to work together to overcome these issues.

Changes could include the implementation of warning labels on pacifier packaging, advising parents that the products are not recommended past 18 months old. Additionally, it could be a positive change to make research more accessible to caregivers. Video campaigns via social media would make information digestible and accessible. Integrating evidence-based guidance into social media channels could help bridge the gap, ensuring caregivers have access to trustworthy, practical advice in the same spaces they frequent for peer support. This push towards accessible information could also be implemented in the form of pamphlets handed out during well child visits with the pediatrician, something that most parents are attending on a regular basis. These pamphlets could include research findings, as well as images demonstrating pacifier related malocclusions.

Pediatric professionals should communicate consistent messaging to caregivers, reducing confusion caused by conflicting advice. This includes incorporating pacifier-use assessments into routine well-child visits, using age-appropriate checklists to monitor habits. Pediatric dentists can also provide visual examples of malocclusion during consultations and routine appointments, helping caregivers understand the long-term consequences. Speech-language pathologists can evaluate oral motor skills and suggest exercises to support speech development. Providing these resources to parents minimizes individual pressure, and makes information accessible, digestible, and stresses the importance it has on healthy child development. Prolonged pacifier use can have ripple effects beyond infancy. Children with

delayed speech or dental issues may experience frustration in social interactions or challenges in early academic settings, such as learning to read or participate in group activities. Peers may react to speech differences or dental appearance, impacting self-esteem and confidence. Addressing pacifier dependence early, therefore, has implications not just for immediate development but for the child's broader social, emotional, and educational trajectory.

In addition to increasing access to educational resources, interdisciplinary collaboration among healthcare professionals could significantly improve early intervention. Pediatricians, speech-language pathologists, and pediatric dentists are uniquely positioned to identify signs of pacifier dependence and provide guidance to caregivers. Early conversations during pediatric visits could normalize pacifier weaning discussions and ensure that parents receive consistent messaging across medical and developmental fields.

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