



Parenting Styles and Their Influence on Pre-School Kids Dietary Behaviour and Caries Status

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ABSTRACT:

Context: In 1967, Baumrind identified parenting as a spectrum of techniques used to control and socialize children. Baumrind and Thompson (2002) categorized these into three main styles: authoritative, authoritarian, and permissive. The Parenting Styles and Dimensions Questionnaire (PSDQ), created by Robinson et al. in 1995 and later simplified, measures these styles.

Aims: This study investigates the relationship between parenting styles, children's dietary behaviours, and dental caries among preschoolers in Lucknow.

Settings and Design: Questionnaire based survey

Methods and Material: The study involved 252 preschool children. After obtaining permission, the PSDQ was distributed in schools. Only children aged 3-5 years living with both parents were included, excluding those with medical issues or incomplete questionnaires.

Statistical analysis used: n Master software (version 2.0, CMC Vellore) was used for statistical analysis.

Results: The findings showed that authoritative and authoritarian parenting styles were the most common among the participants. The study suggests that these parenting styles can affect children's eating habits, which may increase the risk of tooth decay.

Conclusions: Most parents employed an authoritative style, which correlated with better oral health and dietary habits. Permissive parenting was linked to less favourable outcomes.

Introduction:

Parenting involves managing rules, behaviour, and affection towards children, which significantly impacts their emotional, psychosocial, and behavioural growth. Since children rely on their parents for preventive oral health practices, parents' influence is crucial. Therefore, it stands to reason that different parenting styles would affect a child's oral health habits.¹ An Expert Panel from

the World Health Organization (WHO) has confirmed the link between excessive sugar intake and dental caries. Foods that are sticky, remain in the mouth for extended periods, or are frequently consumed have a higher risk of causing cavities compared to those that are quickly cleared from the mouth. Regular consumption of items like hard candies and throat lozenges can be particularly damaging to dental health.²



In today's world, parents are increasingly engaged in their children's daily lives. Howenstein *et al.* (2015) found a connection between a child's oral health and the parenting style used.³

Robinson and colleagues created a 62-item self-report questionnaire in 1995, which was later simplified into a 32-item version called the Parenting Styles and Dimensions Questionnaire -Short Form in 2001. The instrument was designed to classify parents' parenting styles based on their behaviours towards their children. Parents rated both themselves and their spouses, if applicable. The questionnaire, written at a fourth-grade reading level, categorized parents into one of three styles: authoritative, authoritarian, and permissive. The indulgent style was excluded as the PSDQ did not measure it. The questionnaire consisted of 32 Likert-scale items (5-point scale) that focused on parenting behaviours in interactions with their child. Higher scores indicated more frequent use of the specified behaviour. A scoring guide was used to classify each parenting style. The internal consistency reliability of the scales was rated from good to excellent by Robinson *et al.*⁴ Few studies were conducted in past where PSDQ- short form questionnaire was used to establish a relation between parenting style and oral health but in North India no such study is carried out. Hence, the aim of the current study was to establish a correlation between parenting style, dietary habits of children and dental caries in pre-school kids in Lucknow, Uttar Pradesh.

Subjects and Methods:

A minimum sample size of 252 was found to be adequate for the study. A list of pre-schools was made prior and schools were contacted for the permission to conduct the study. Questionnaire was provided 48 hours prior to the examination of the children after taking written consent. Questionnaire consisted of following factors:

- **Demographic Data:** The first part of questionnaire involves questions related to gender, order of birth, caregiver information and socio-economic status.
- **Questions related to dietary habits of child was included:** For dietary habit, five pointer Likert scale is used ranging from 1 (strongly disagree) to 5 (strongly agree).
- **PSDQ- short form (Robinson *et al.* 2001)** containing 32 questions is used for assessing parenting

style. Five pointer Likert scale is used ranging from 1 (never) to 5 (always).⁵

- **Oral Examination:** For examination of dental caries explorers and mouth mirrors are used for examination. WHO criteria for dental caries were used and dmf (decayed, missing and filled) index was calculated.

Children between 3 to 5 years of age with both parents living together and only one child per family was included. However, medically compromised children, parents who refused to give consent and partially filled/unreturned questionnaire were excluded from the study.

Ethics

Ethical approval was obtained from the Institutional Ethics Committee (registered under NECRBHR, GOI; Reg. No. EC/NEW/INST/2020/1173).

Statistical analysis

Sample size estimation was done by using n Master software (version 2.0, CMC Vellore). Sample size estimation was based on Regression methods and test selected was simple logistic regression. A minimum total sample size of 252 was found to be sufficient for an alpha of 0.05, power of 80%, 26% prevalence of poorer oral aesthetic self-perception and 2 as anticipated Odd's ratio (taken from the keyarticle).

Results:

The research was carried out by the Department of Pediatric and Preventive Dentistry across various preschools in Lucknow. The objective was to identify the correlation between different parenting styles, dietary habits, and dental caries in preschool children. A total of 252 questionnaires were distributed to parents, who completed them according to the inclusion criteria specified in the study's methodology section. The results are as follows:

Table 1: Parenting Styles as Practised by the Sample size

Parenting style	n	%
Authoritative	204	81%
Authoritarian	22	8.7%
Permissive	26	10.3%



Table 1*: Illustrates Authoritative parenting style (81%) being the most commonly practiced followed by

Permissive parenting style (10.30%) and Authoritarian parenting style (8.70%).

Relation between Parental Enforcement of Dietary Behaviour and Parenting Styles

Table 2: Parents were asked whether they can keep track of the amount of sweets/snacks that the child eats

			I keep track of the amount of sweets/snacks				Total
			that my child eats				
			Agree	Neutral	Disagree	Strongly disagree	
Parenting style	Authoritative	%	44.6%	35.8%	16.7%	2.9%	204 (100%)
	Authoritarian	%	45.5%	45.5%	0.0%	9.0%	22 (100%)
	Permissive	%	23.1%	0	50.0%	26.9%	26 (100%)

Table 2*: Illustrates that parents who practice Authoritative parenting style (44.6%) agreed that they “keep track of the amount of sweets/snacks that the child eats” which was in contrast to parents who practice permissive style of parenting (23.1%).

Table 3: Parents were asked whether they intentionally keep sweets/ snacks out of the child’s reach

			I intentionally keep sweets/ snacks out of my				Total
			child’s reach				
			Agree	Neutral	Disagree	Strongly disagree	
Parenting style	Authoritative	%	50.5%	22.1%	11.3%	16.1%	204 (100%)
	Authoritarian	%	45.5%	36.4%	13.6%	4.5%	22 (100%)
	Permissive	%	26.9%	0.0%	23.1%	50.0%	26 (100%)

Table 3*: Illustrates that parents who practice Authoritative parenting style (50.5%) agreed that they “intentionally keep sweets/ snacks out of child’s reach” which was in contrast to parents who practice permissive style of parenting (26.9%).



Table 4: Parents were asked whether they offer their child sweets/snacks in exchange for good behaviour

		I offer my child sweets/snacks in exchange for good behaviour					Total
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	
Parenting style	Authoritative	5.9%	22.5%	27.0%	42.2%	2.4%	204 (100%)
	Authoritarian	0%	22.7%	31.8%	40.9%	4.6%	22 (100%)
	Permissive	46.2%	26.9%	23.1%	3.8%	0.0%	26 (100%)

Table 4*: Illustrates that a large number of parents who practice Authoritative parenting style (42.2%)disagreed that they “offer child sweets/snacks in exchange for good behaviour” which was in contrast to parents who practice permissive style of parenting (3.8%).

Table 5: Parents were asked whether they are able to withhold frequent sweets/snacks from their child between meals even when they were crying for it

		I am able to withhold frequent sweets/snacks from my child between meals even when they are crying for it					Total
		Strongly agree	Neutral	Disagree	Strongly disagree		
Parenting style	Authoritative	25.5%	38.7%	18.6%	14.3%	2.9%	204 (100%)
	Authoritarian	26.4%	37.2%	22.7%	9.1%	4.6%	22 (100%)



Permissive	%	3.8%	23.1%	0.0%	46.2%	26.9%	26 (100%)
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Table 5*: Illustrates that parents who practice Authoritative parenting style (38.7%) agreed that they “are able to withhold frequent sweets/snacks from their child between meals even when they were crying for it” which was in contrast to parents who practice permissive style of parenting (23.1%).

Table 6: Parents were asked whether they are able to withhold milk/sweet liquids from their child during the night or immediately before bedtime even when they were crying for it

		I am able to withhold milk/sweet liquids from my child during the night or immediately before bedtime even when they are crying for it						Total
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
Parenting style	Authoritative	%	29.9%	44.6%	19.9%	2.7%	2.9%	204 (100%)
	Authoritarian	%	23.1%	50.0%	0.0%	23.1%	3.8%	22 (100%)
	Permissive	%	0.0%	3.8%	23.1%	50.0%	23.1%	26 (100%)

Table 6*: Illustrates that parents who practice Authoritative parenting style (44.6%) agreed that they “are able to withhold milk/sweet liquids from their child during the night or immediately before bedtime even when they were crying for it”



which was in contrast to parents who practice permissive style of parenting (3.8%).

Table 7: Mean dmf score

		Mean dmf score
Parenting style	Authoritative	5.2
	Authoritarian	6.8
	Permissive	7.4

Table 7* illustrates for Authoritative and Authoritarian parents group children had a low mean dmf score (5.2 and 6.8 respectively) in comparison to children whose parents belong to Permissive (7.4) parents group.

Discussion:

Baumrind described authoritarian, authoritative, permissive parenting style as stated further.

- Authoritative parents show high acceptance and behavioral control, along with low psychological control. They are very responsive and warm toward their children. They guide their children with rational, situation-based approaches that balance autonomy and conformity. These parents set rules and use reasoning to enforce them, encouraging open communication, independence, and expressing love and affection. The authoritative parenting style is linked to positive outcomes in children, such as self-reliance, social responsibility, and overall adjustment.⁶

- Authoritarian parents show high levels of control but low levels of warmth, involvement, support and emotional commitment to their children. They are often rejecting, very demanding and commanding, using domineering psychological control. These parents are strict and forceful, enforcing absolute behaviour standards with little room for the child's decision-making or reasoning. They shape children's behaviour and attitudes according to strict rules. This parenting style is

linked to less favourable child outcomes, such as lower self-confidence, more behaviour problems, and a tendency toward rebellion.⁶

- Permissive parents are very supportive but have low demands. Their children often show low levels of happiness and self-control and are more likely to have authority issues. These parents are lenient, do not enforce boundaries or rules, and tend to avoid confrontation.⁶

Later, Maccoby and Martin (1983) identified the uninvolved or neglectful style of parenting. Parents who adopt this approach are neglectful or rejecting of their children, failing to fulfil most, if any, essential parenting responsibilities. As a result, children receive minimal support and face low expectations, often ranking lowest across various life domains. They typically lack self-control, have low self-esteem, and are less competent than their peers.⁶

In order to assess parenting styles, researchers mainly use questionnaires and one of the most known tools is the



Parenting Practices Questionnaire (PPQ). This 62-item self-report measure aimed at identifying continuous scales of authoritative, authoritarian and permissive parenting styles, although greater importance was given to authoritative and authoritarian styles. Several variations of this measure have been developed in recent years.

Among them, the most used version is the Parenting Styles and Dimensions Questionnaire - short form, an abbreviated self-report measure of the PPQ in which each parent independently reports his/her own parenting style and his/her spouse's parenting style. The PSDQ measures continuous scales of authoritative, authoritarian, and permissive parenting styles.⁷

Results of the current study states that Authoritative parenting style was the most predominant style practiced in Lucknow and it was in accordance to Ng *et al.* (2013)⁴, Quek *et al.* (2019)¹, Alagla *et al.* (2019)⁸, Lee *et al.* (2020)⁹ and Vishwanath *et al.* (2020).¹⁰ (Table -1)

In our study it was observed that children whose parents belong to Authoritative parents, the dmindex was lower than the authoritarian and permissive group. Similar findings were reported by Lee *et al.* (2020).⁹ (Table -7)

Kumar *et al.* (2017) showed that the more authoritative the parents were, the lower the risk of caries.¹¹ However, Howenstein *et al.* (2005) described that authoritarian parenting style was generally oppressive, but oral hygiene was not the primary concern and resulted in a higher incidence of dental caries.⁴

While assessing the dietary behaviour the result showed that maximum number of parents who practice Authoritative parenting style agreed that they keep track of the number of sweets/snacks that the child eats which was in contrast to parents who practice permissive style of parenting. (Table -2) This finding aligns with another result, where parents were asked if they intentionally keep sweets and snacks out of their child's reach. The majority of parents with an authoritative parenting style agreed with this statement, in contrast to those with a permissive parenting style, who were less likely to agree. (Table -3)

Unlike permissive parents, authoritative and

authoritarian parents were not associated with offering sweets/snacks in exchange for good behaviour and both authoritative and authoritarian parents reported that they were able to withhold frequent snacking and intake of milk/sweet drinks to some extent whereas permissive parents reported that they find it difficult. (Table -4)

Quek *et al.* (2021) reported similar findings and concluded that parenting styles linked to positive attitudes about enforcing oral health behaviors do not always align with the actual dietary habits of the child.¹ La Piere (1934) explained these discrepancies by noting that behavioural science research shows a person's attitude does not always accurately predict their behavior.¹²

The low attitude-behaviour consistency may be due to the prioritization of other factors above the attitude judgement (Orbell 2004).¹³ This can be explained by an example as parents may be aware that

frequent snacking or intake of milk/sweet liquids immediately before bedtime are deleterious to the teeth, their concern for the child's nutrition or the use of milk as a sleep inducer may override their attitude judgement. Although current study has certain limitations like a large number of parents belonged to Authoritative parenting group. Hence, in order to establish a better relation between parenting style, dietary habits of pre-school kids and dental caries all three groups must consist of equal number of participants.

Conclusion:

It was concluded that majority of the parents belong to the authoritative parenting style group. Authoritative parenting was associated with desirable parental attitudes towards both oral hygiene and preventive dietary behaviours.

Permissive parenting was associated with less favourable parental attitudes towards diet control, such as offering sweets/snacks in exchange for good behaviour.

As the sample size in three groups varied, in order to establish a clear relation between Parenting style, dietary habits and dental caries the study needs to be carried out with a larger sample and all three groups with equal number of samples.



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