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Parent child relationship and intellectual performance of rural pre adolescents of Ludhiana district

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Abstract

This paper explores the complex relationship between intellectual performance and the parent-child dynamic, emphasizing the influence of familial interactions, emotional bonds, and parental involvement on cognitive development. Intellectual performance, encompassing skills such as problem-solving, reasoning, and academic achievement, is shaped not only by innate abilities but also by environmental factors, particularly the nature of the parent-child relationship. Theoretical frameworks like Vygotsky's socio-cultural theory and Baumrind's parenting styles provide a basis for understanding how different parenting approaches impact intellectual growth. Authoritative parenting, characterized by a balance of warmth and structure, is shown to foster optimal cognitive outcomes, while permissive and uninvolved styles tend to result in poorer performance. Parental involvement in education, alongside socio-economic status, further shapes intellectual development by determining access to resources and support. Additionally, secure emotional attachment enhances cognitive functioning by encouraging intellectual exploration and resilience. The findings underscore the importance of nurturing and intellectually stimulating environments in fostering children's cognitive and academic success, with implications for educators and policymakers.

Keywords: Adolescent, Rural, Urban, habits, Attitudes, Education

Introduction

The link between intellectual performance and the parent-child relationship is a key area of investigation in developmental psychology, educational theory, and cognitive science. Intellectual performance, defined broadly as the ability to engage in complex reasoning, solve problems, and acquire knowledge, is typically measured through a combination of academic achievement, IQ tests, and assessments of critical thinking or executive functioning. This capacity is not only a product of innate ability but is profoundly shaped by environmental influences, especially the familial environment in which a child is raised. The relationship between parents and children, including the nature of their interactions, the emotional climate of the household, and the level of parental involvement, is central to understanding how children develop cognitively and perform intellectually.

Cognitive development is a gradual process influenced by both genetic predispositions and environmental factors. Among the most critical of these environmental influences is the parent-child relationship. Theories of cognitive development, such as Lev Vygotsky's socio-cultural theory, emphasize the importance of social interactions between children and more knowledgeable others (often parents) in shaping intellectual growth. Vygotsky introduced the concept of the "zone of proximal development" (ZPD), referring to the range of tasks that a child can perform with guidance but not yet independently. Within the context of the parent-child relationship, parents play the role of providing "scaffolding," or temporary support, that allows children to perform more advanced tasks and develop their cognitive abilities over time. Similarly, Jean Piaget's stages of cognitive development highlight the crucial role of parental guidance in helping children navigate through different levels of intellectual maturity. During each developmental stage, parents influence how children acquire concepts of logic, reasoning, and problem-solving. For instance, parents can support children in the "preoperational" stage by helping them learn to differentiate between fantasy and reality or supporting abstract thought in the "formal operational" stage.

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However, beyond these classic theories, contemporary research has shown that the quality of the parent-child relationship affects not only the cognitive milestones children achieve but also the pace and depth of their intellectual growth. Secure attachment in early childhood, for example, has been linked to enhanced cognitive abilities later in life. Children with strong, emotionally responsive relationships with their parents are more likely to engage confidently with their environment, explore new ideas, and develop the persistence necessary to master complex intellectual tasks. Conversely, insecure attachment, often stemming from neglectful or overly harsh parenting, can lead to emotional difficulties that may impede cognitive development by increasing anxiety, reducing attention span, and diminishing motivation.

The ways in which parents interact with their children and manage the household environment are also fundamental to understanding intellectual outcomes. Diana Baumrind's well-known typology of parenting styles—authoritative, authoritarian, permissive, and uninvolved—provides a framework for examining these effects. Each style is characterized by different levels of parental warmth, responsiveness, and control, which in turn impact children's academic performance and cognitive development.

- Authoritative parenting, characterized by high responsiveness and high demands, is often linked to the most favorable intellectual outcomes. Parents who adopt this style tend to set clear expectations for their children while providing emotional support and encouragement. Research has consistently shown that children raised by authoritative parents tend to excel in school, demonstrate better problem-solving skills, and show greater intellectual curiosity. These parents are likely to encourage their children to take an active role in their learning, ask questions, and seek help when necessary, all of which are critical for intellectual development.
- Authoritarian parenting, marked by high demands but low responsiveness, can lead to mixed intellectual outcomes. While children of authoritarian parents may achieve high levels of academic success due to strict discipline and high expectations, they may also experience higher levels of stress and anxiety, which can impede creative thinking and cognitive flexibility. Furthermore, the lack of emotional support in authoritarian households can limit a child's ability to explore intellectual risks or engage in open-ended problem-solving.
- Permissive parenting, which involves high responsiveness but low demands, is often associated with lower levels of intellectual performance. Children raised in permissive households may lack the structure necessary to develop strong study habits or the persistence needed to tackle challenging intellectual tasks. While permissive parents may provide emotional support, the absence of clear academic expectations and rules may hinder the child's overall cognitive development.
- Uninvolved parenting, characterized by low responsiveness and low demands, tends to be associated with the poorest intellectual outcomes. In such environments, children often receive little to no support, encouragement, or guidance, resulting in lower levels of academic achievement and cognitive skills.

Parental involvement in education is one of the strongest predictors of a child's academic success and intellectual growth. This involvement can take many forms, including helping with homework, attending parent-teacher conferences, fostering a positive attitude toward school, and providing intellectual stimulation at home. Numerous studies have found that children whose parents are actively engaged in their education tend to perform better academically, exhibit greater motivation, and demonstrate enhanced cognitive skills such as problem-solving, memory, and critical thinking.

Active parental involvement supports intellectual development by fostering an environment where learning is valued and encouraged. When parents set high but realistic expectations for their children's academic performance, they help build the child's sense of self-efficacy, leading to increased confidence in their intellectual abilities. This involvement is also crucial for reinforcing the importance of persistence and effort in achieving intellectual success. Children who perceive their parents as invested in their education are more likely to develop a positive attitude toward learning, take pride in their academic achievements, and strive to overcome intellectual challenges.

Parental attitudes toward education can significantly shape the intellectual climate of the household. Parents who encourage curiosity, critical thinking, and problem-solving at home provide a foundation for their children's intellectual engagement at school. Conversely, parents who are disinterested or dismissive of academic achievement may inadvertently convey the message that intellectual effort is unimportant, leading to disengagement from educational pursuits.

The socio-economic status (SES) of a family is a powerful determinant of intellectual performance. SES influences the resources parents can provide, including access to books, technology, extracurricular activities, and quality educational opportunities. Children from higher socio-economic backgrounds generally benefit from enriched intellectual environments that promote cognitive development. These children often have greater access to early childhood education, private tutoring, and enrichment programs that foster skills such as reading, mathematics, and critical thinking.

In contrast, children from lower socio-economic backgrounds may face numerous challenges that hinder intellectual performance. These challenges include limited access to educational resources, schools with fewer academic opportunities, and parental stress stemming from economic hardships, which may reduce the time and energy parents can devote to supporting their child's intellectual development. Additionally, lower SES is often associated with higher levels of parental stress, which can negatively affect the quality of the parent-child relationship and, by extension, the child's intellectual growth.

The emotional dimension of the parent-child relationship is another crucial factor in intellectual performance. Secure attachment and emotional responsiveness create a foundation of trust and security that enables children to explore their environment, take intellectual risks, and engage in problem-solving. When children feel emotionally supported by their parents, they are more likely to persevere through difficult intellectual tasks and less likely to be derailed by frustration or failure. Conversely, strained or insecure relationships between parents and children can lead to emotional distress, which may interfere with cognitive functioning. High levels of anxiety, stress, or fear of failure can impair a child's ability to focus, think clearly, and engage fully in intellectual

activities. Children who do not feel emotionally supported may also be less willing to take intellectual risks or challenge themselves academically, potentially limiting their cognitive growth.

The parent-child relationship plays a multifaceted and critical role in shaping intellectual performance. From the influence of parenting styles to the impact of socio-economic factors, the ways in which parents interact with their children have profound and lasting effects on cognitive development and academic achievement. Understanding the nuances of this relationship can provide valuable insights for educators, policymakers, and parents seeking to optimize children's intellectual outcomes, highlighting the importance of fostering nurturing, supportive, and intellectually stimulating home environments.

This study aims to examine the relationship between the school environment and intellectual performance among rural pre-adolescents in the Ludhiana district. By analyzing the key determinants within the school environment, the research will provide valuable insights that can inform educational policies and strategies aimed at improving intellectual outcomes for rural students. The ultimate goal is to ensure that all children, regardless of their geographical location or socio-economic background, have access to a school environment that fosters intellectual growth and prepares them for future academic and personal success. The following objectives have been set forth for the present study:

1. To identify rural children (9-12 years) of different grades of intellectual performance.
2. To compare the Parent-Child relationship of children belonging to different grades of intellectual performance.

3. Methodology

The research methodology followed for conducting the study has been described under the following subheadings:

Locale of the study A list of the villages of Ludhiana I block which are within 25 km radius from PAU was prepared and two villages namely Pamal and Pamali were selected purposively for drawl of sample for the present study.

Selection of sample

The sample for the present study consisted of a total of 200 children (100 males and 100 females), their parents and teachers. Stratified Random sampling technique was used for selecting the respondent for the study. The subjects for the sample were drawn from primary and middle schools located in the villages of Pamal and Pamali. The investigator, with a letter from the advisor, contacted the principals of the school and explained to them the purpose of the study and solicited involvement of the students in their school.

On the basis of date of birth records available in the schools, a list of all (male and female) students falling within the age range of 8.5 to 12.5 years was prepared for the two schools separately. From the lists, equal member of males and females i.e. 50 each were drawn randomly from the two schools. The selection of the subjects was random and evenly distributed over age levels, sex groups and the two villages.

Selection of subject was done on the basis of following criteria:

1. Only those children were selected who were presently attending the primary / middle schools
2. Only two-parent homes were selected.

Research Instrument

The following standardized tools were used for various assessments observations on the selected sample subjects,

their parents and schools.

The standard progressive matrices test

The standard progressive matrices prepared by Raven (1960), is a test of person's capacity at the time of the test to apprehend meaningless figure presented for his observation, see the relation between them, conceive th nature of the figure completing each system of relations presented and, by doing develop a systematic method of reasoning. The scale consists of problems divided into five sets of 12. In each set, the problem is as nearly as possible self-evident. The problems which follow become progressively more difficult. The 5 set provide 5 opportunities for grasping the method five progressive assessments of a person's capacity for intellectual activity The scale is intended to cover the whole range of intellectual development from the time a child is able to grasp the idea of finding a missing piece complete a pattern, and to be sufficiently long to assess a person's maximum capacity to form comparisons and reasons by analogy, without being un exhausting or unwieldy. A person's total score provides an index of intellectual capacity. It is a performance test.

Mohsin's general intelligence test

General intelligence test is given by Professor S.M. Mohsin in 1990. General intelligence test measures the verbal intelligence of a person. Test consists of 6 subtests. Subtest 1 carries 20 items, subtest 2 has 30 items, subtest 3 has 40 items, subtest 4 has 22 items, subtest 5 has 26 and subtest 6 has 18 items.

Multidimensional parenting scale

Parents were classified based on their responses to a standardized Multidimensional Parenting Scale by Chauhan and Khokhar in 1985 that identified seven dichotomous dimensions. The scale is a five point rating verbal scale and has 56 items for the seven areas of parenting.

1. Hate -Love
2. Discouragement- Encouragement
3. Rejection-Acceptance
4. Dependence- Independence
5. Authoritism- Democratism
6. Submission- Dominance
7. Conservatism- Progressivism.
8. Parenting as a whole

It is a five point rating verbal scale that can be administered individually and

Pre-Testing Of Research Instrument

Pre- testing was done to find out the nature of responses and clarity of statements the test was administered to 10 children. It was found that children had difficulty in understanding the English language therefore the test was translated into Hindi.

Administration of tests

The tests were initially administered to 10 children, but some faced difficulties understanding Hindi. To address this, the test was translated into Punjabi and re-administered to an additional 5 children (not included in the final sample). This ensured all subjects could answer independently.

Data Collection

The investigator collected data from village school respondents with the principal's permission. The process involved:

1. Administering the general intelligence test to batches of 10-15 pre-adolescents.
2. Reading instructions aloud and ensuring confidentiality.
3. Providing sufficient time for completion.
4. After a 15-minute gap, distributing Raven's Standard Progressive Matrices with necessary instructions.
5. Parents were given Multi-Dimensional parenting scale along with the letter of request clarified the purpose of the study and the need for honest responses. Parents were asked to fill the questionnaires jointly after discussing with each other. One questionnaire was collected after 3 - 4 days.

Modified Grades

For evaluating the data given in the guide were grouped for getting liable statistical results into three grades only such as intellectually superior Intellectually average and intellectually below average.

Verbal intelligence was classified as mentioned below

Table 1: Verbal Intellectual Performance of Rural Pre- adolescents (9-12 Years) Across Different Age Groups

Intellectual Performance/ Age	Intellectually Superior (1) n=45	Intellectually Average (2) n=105	Intellectually Below Average (3) n=50
9 Years	13(26)*	25(50)	12(24)
10 Years	19(38)*	18(36)	13(26)
11 Years	9(18)	26(52)	15(30)
12 Years	4(8)	36(72)	10(20)

Value in parentheses indicates the percentage

Classification of Subjects into Superior, Average and Below Average Non-Verbal Intelligence Level

It is evident from Table 1 that the percentage of intellectually superior (verbal) children depleting as age increased, i.e. from 26 per cent at 9 years to 8 per cent at the age of 12 years. Whereas the percentage of intellectually (verbal) average children increased from 50 per cent to 72 percent from the age of 9 years through to 12 years. The percentage of children classified as intellectually below average increased from 9 to 11 years (24 to 30 per cent) but at the age of 12 years it decreased from 30 to 20 per cent.

It can be concluded from Table.1 that the depletion of intellectually superior children with increase in age could be attributed to various environmental factors which appear to influence a child's intellectual performance directly or indirectly. It may be mentioned that all of these factors such as socio-economic status, home environment, school

Intellectually superior included index of brightness (I.B.) 113 and above.

Intellectually average included I.B. 69 112

Intellectually below average included I.B. 68 or under.

Whereas non-verbal intelligence was classified as follows:

Intellectually superior: Grade (I) grade (II) and II in the R.P.M. gu were classified under this grade.

Intellectually average: This grade included grade III, III and III of the R P M guide

Intellectually below average Grade IV, IV and grade V were included under this grade.

Statistical Analysis

The data was scored and tabulated. The following tests were applied

Chi-square test, t-test, Correlation Coefficient and percentage for analysis of data

Results and Discussion

environment and parent-child relationship could be investigated to observe how these factors influence intellectual performance.

Table 2: Classification of subjects into different grades of non-verbal intelligence

Intellectual Performance	Subject number	percentage
Intellectually Superior	21	10.5
Intellectually Average	54	27
Intellectually below Average	125	62.5

The data given in Table 2 shows that only a small proportion of rural pre-adolescents (10.5 per cent) were superior in non-verbal intelligence whereas others could be classified either into average or below average (62.5 percent) intelligence grades.

Table 3: Non-verbal intellectual performance of rural pre-adolescents (9-12 years) across different age groups

Age group	Intellectually Superior n=21	Intellectually Average	Intellectually Below Average
9 years	3(1)	6(3)	43 (21.5)
10 years	3(1.5)	16(8)	32(16)
11 years	5(2.5)	16 (8)	29(14.5)
12 years	11(5.5)	17(8.5)	21(10.5)

The percentage of children classified as being intellectually superior increased with increase in age i.e. from 1 percent (at 9 years) to 5.5 per cent (at 12 years). Similar trend was observed for children categorized as intellectually average from 3 per cent (at 9 years) to 8.5 per cent (at 12 years of age). On the other hand, the percentage of children categorized as intellectually below average decreased with increase in age i.e. from 21.5 per cent (at 9 years) to 10.5 per cent (at 12 years). The above observations appeared to indicate that with increase in age the children who were

categorized as Intellectually below average might have shifted to average intellectual category and children who were categorised as intellectually average might have shifted to Intellectually superior category. (Table 3)

Testing of Hypothesis

Hypothesis I: There is no significant difference in parent-child relationship on verbal intelligence of intellectually superior, average and below average rural pre-adolescents.

Parent-child relationships were studied under two headings,

positive parent-child dimension and negative parent-child dimension and both will be discussed separately.

Table 4: Parent child relationship (Positive dimension) on verbal intelligence of Intellectually Superior, Average and Below Average Pre Adolescents

Sl. No	Intellectual Performance	N	Mean Score	S.D	Pair	t value
1	Intellectually Superior	45	53.45	6.89	1&2	2.10*S
2	Intellectually Average	105	49.93	9.06	1&3	2.12*S
3	Intellectually below Average	50	50.67	6.29	2&3	0.52N.S

*Significant at 0.05 level of confidence

Table 4 shows that there were significant differences in parent- child relationships of intellectually superior and intellectually average respondents and intellectually superior and intellectually below average. Hence, the hypothesis formulated that there were no significant differences in parent- child relationships (+ve dimension) of low and high achieving boys and girls is rejected.

Table 5: Parent child relationship (negative dimension) on verbal intelligence of Intellectually Superior, Average and Below Average Pre Adolescents

Sl. No	Intellectual performance	N	Mean Score	S.D	Pair	t value
1	Intellectually Superior	45	53.45	6.89	1&2	2.10*S
2	Intellectually Average	105	49.93	9.06	1&3	2.12*S
3	Intellectually below Average	50	50.67	6.29	2&3	0.52N.S

*Significant at 0.05 level of confidence

The mean scores indicated that the parents of intellectually

Table 6: Parent child relationship (Positive dimension) on verbal intelligence of Intellectually Superior, Average and Below Average Pre Adolescents

Sl. No	Intellectual Performance	N	Mean Score	S.D	Pair	t value
1	Intellectually Superior	21	52.00	8.40	1&2	0.219 N.S.
2	Intellectually Average	54	53.70	7.50	1&3	0.218 N.S
3	Intellectually below Average	125	52.00	8.50	2&3	0.00N.S

Table 6 shows that there were no significant differences in parent- child relationship (positive dimension) on non-verbal intelligence. Hence, the hypothesis formulated that there is no significant differences in parent-child relationship (+ve dimension) of intellectually superior, average and below average is accepted.

The mean scores indicated that the respondents of all the three grades had almost equal type of relationship with their children (For intellectually superior X = 52.00; for

superior had better relationships with their children in positive dimension (X = 53.45) as compared to average (X = 49.93) and below average (X = 50.67). The data was further analysed and indicated that parents of intellectually superior were more loving, trusted their wards more, more accepting and more encouraging.

It is clear from Table 5 that there were non-significant differences in negative dimension of parent-child relationships on verbal intelligence of intellectually superior, average and below average rural pre-adolescents.

Hypothesis 3: There is no significant difference in parent-child relationship on non-verbal intelligence of intellectually superior, average and below average rural pre-adolescents.

Parent-child relationship for non-verbal intelligence also studied under two major headings, positive dimension and negative dimension. Both will be discussed separately.

intellectually average X = 53.7 and for intellectually below average X = 52.00).

The finding of this attribute contradicted the findings of Kang and Sibia (1997) [10], Lambeorn (1991) [13]. They found that children who had warm relationships with their parents usually achieve higher in non-verbal intelligence. Parents of high achievers were found to be more loving, trusted their ward more, encouraged their ward more.

Table 7: Parent child relationship (negative dimension) on verbal intelligence of Intellectually Superior, Average and Below Average Pre Adolescents

Sl. No	Intellectual performance	N	Mean Score	S.D	Pair	t value
1	Intellectually Superior	45	53.45	6.89	1&2	2.10*S
2	Intellectually Average	105	49.93	9.06	1&3	2.12*S
3	Intellectually below Average	50	50.67	6.29	2&3	0.52 N.S

*Significant at 0.05 level of confidence

Table 7 shows that there were no significant differences in parent- child relationships of intellectually superior, average and below average respondents. Hence, the hypothesis is accepted that there is no significant difference in parent-child relationship (-ve dimension) on non-verbal intelligence of rural pre-adolescents. The above findings contradicted the findings of Wilson (1978). They reported that if parent-child relationships of low achievers were typically characterised by rejection, punishment, sterility in affection and meager communication. The relationship was found to be poor,

characterised by fear and lack of love.

The findings of present study are indicative of certain ecological forces operating in child's ecology which affects the intellectual performance of children. The qualitative analysis of these forces depicted that certain aspects were found to be either lacking or inadequate in the rural settings. Keeping this in view, an intervention strategy was planned out for parents and teachers in order to enhance the intelligence ability of children and to lower the intellectual wastage.

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