

Research Paper

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

Dr. Supendra Yadav^{1*}

ABSTRACT

Background: Cognitive development during childhood is influenced not only by individual characteristics but also by the social and family environment in which children grow. Family environment, parenting practices, family functioning, and socioeconomic conditions may contribute significantly to children's cognitive development and educational adjustment. **Aim:** The present study aims to examine the relationship between family environment and cognitive ability among school-going children, with particular emphasis on parenting practices, family functioning, and socioeconomic factors. **Method:** A cross-sectional, correlational research design may be employed among school-going children aged approximately 10–16 years. Participants may be selected using an appropriate (N=200) sampling procedure from schools. Cognitive ability may be assessed using a standardized intelligence/cognitive ability test, while family environment, parenting practices, family functioning, and socioeconomic status may be assessed using standardized psychological and socioeconomic measures. Descriptive statistics, Pearson's correlation, t-test/ANOVA, and multiple regression analysis may be used to examine the relationships among study variables. **Expected Results:** It is hypothesized that a positive and supportive family environment, effective parenting practices, healthy family functioning, and favourable socioeconomic conditions will be positively associated with children's cognitive ability. Family-related variables are expected to explain a significant proportion of variance in cognitive ability after controlling for relevant demographic characteristics. **Conclusion:** Understanding the contribution of family factors to children's cognitive development may help psychologists, educators, parents, and policymakers develop family-centered interventions aimed at promoting healthy cognitive and educational development.

Keywords: *family environment, cognitive ability, children, parenting, family functioning, socioeconomic status, intelligence, school-going children*

Childhood is a critical period for cognitive, emotional, social, and behavioral development. During the school years, children develop increasingly complex abilities related to reasoning, problem-solving, memory, attention, language,

¹ Assistant Professor & Head (Psychology), Marwari College, Bhagalpur TMBU

*Corresponding Author

Received: September 04, 2026; Revision Received: September 06, 2026; Accepted: September 10, 2026

© 2026, Yadav, S.; licensee IJIP. This is an Open Access Research distributed under the terms of the Creative Commons Attribution License (www.creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any Medium, provided the original work is properly cited.

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

learning, and adaptive functioning. Although cognitive development has a substantial biological and genetic component, children's developmental outcomes are also influenced by the environment in which they live and learn.

The family represents one of the earliest and most influential social environments in a child's life. Parents and other family members provide emotional security, intellectual stimulation, learning opportunities, communication, discipline, and material resources. Consequently, differences in family experiences may contribute to differences in children's cognitive and academic development.

The concept of family environment refers to the emotional, interpersonal, organizational, and developmental characteristics of a family. A supportive family environment may include warmth, cohesion, open communication, encouragement, emotional availability, and opportunities for independent thinking. In contrast, persistent conflict, inadequate communication, inconsistent discipline, emotional neglect, and excessive parental control may create conditions that interfere with children's optimal development.

Family Environment and Cognitive Development

The relationship between family environment and cognitive development can be understood through several theoretical perspectives. From an ecological perspective, children's development occurs within multiple interacting environmental systems, with the family constituting an important microsystem. Urie Bronfenbrenner emphasized that children's development is shaped by interactions between the individual and the surrounding environmental systems.

Similarly, sociocultural perspectives emphasize the importance of social interaction and guided learning in cognitive development. Lev Vygotsky proposed that cognitive development is strongly influenced by social interaction and culturally mediated learning.

A family that provides stimulating conversations, reading materials, educational activities, appropriate guidance, and opportunities for problem-solving may facilitate cognitive development. Conversely, an environment characterized by chronic stress, family conflict, limited educational stimulation, or inadequate parental involvement may negatively affect children's learning opportunities.

Parenting and Cognitive Ability

Parenting practices are another important family-related factor. Parenting includes the ways parents communicate with children, establish expectations, provide discipline, respond to children's emotional needs, and encourage autonomy.

Parenting styles are commonly conceptualized in terms of dimensions such as warmth, responsiveness, demandingness, control, and autonomy support. Authoritative parenting, characterized by high responsiveness and appropriate behavioral expectations, has frequently been associated with positive developmental outcomes.

In contrast, excessively authoritarian, permissive, neglectful, or inconsistent parenting may create developmental challenges depending on the broader context and characteristics of the child.

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

Parents also contribute to children's cognitive development through everyday interactions. Reading with children, asking questions, encouraging curiosity, discussing school experiences, and providing opportunities for independent problem-solving can stimulate cognitive development.

Family Functioning

Family functioning refers to how effectively family members communicate, solve problems, establish roles, respond to emotional needs, and manage conflict.

Healthy family functioning may provide children with emotional stability and predictable routines. Such conditions may facilitate attention, learning, self-regulation, and academic engagement.

Poor family functioning, on the other hand, may expose children to chronic interpersonal stress. Persistent parental conflict, inconsistent family rules, poor communication, and inadequate emotional support may interfere with children's concentration and educational adjustment.

Socioeconomic Factors

Socioeconomic status (SES) is another important factor associated with children's developmental opportunities. SES may involve parental education, occupation, family income, housing conditions, access to educational resources, and other indicators of social and economic advantage.

Socioeconomic conditions can influence cognitive development through multiple pathways. Families with greater material resources may have greater access to books, technology, educational programs, quality schooling, healthcare, and extracurricular activities. However, socioeconomic status should not be viewed as determining a child's intellectual potential. Rather, it can influence the opportunities and environmental conditions through which cognitive development occurs.

Indian Context

The relationship between family environment and children's development is particularly relevant in India because family structures, parenting practices, educational expectations, socioeconomic conditions, and cultural values vary substantially across communities.

Children may grow up in nuclear, joint, single-parent, or extended-family arrangements. In addition, parental expectations regarding academic achievement can sometimes create substantial pressure on children.

At the same time, family involvement in education can be an important protective factor. Parents who provide emotional encouragement, establish appropriate study routines, communicate with teachers, and respond sensitively to children's difficulties may contribute to better developmental and educational outcomes.

Therefore, examining family environment alongside parenting, family functioning, and socioeconomic conditions can provide a more comprehensive understanding of factors associated with children's cognitive ability.

REVIEW OF LITERATURE

Research in developmental and educational psychology has consistently emphasized the role of environmental experiences in children's development.

The family provides the first social context in which children acquire language, emotional regulation, interpersonal skills, learning habits, and problem-solving strategies. Positive parent-child interactions can create opportunities for intellectual stimulation and learning.

Research on parenting has generally indicated that parental warmth, responsiveness, appropriate monitoring, and autonomy support are associated with positive developmental outcomes. However, the strength and nature of these associations may vary according to children's age, cultural context, socioeconomic conditions, and other family characteristics.

Studies examining family socioeconomic status have also reported associations between socioeconomic circumstances and children's cognitive and educational outcomes. These associations may reflect differences in educational resources, parental education, nutrition, healthcare, neighborhood conditions, school quality, and exposure to chronic stress.

Family functioning may represent an additional pathway through which family conditions affect children's development. Families characterized by effective communication, emotional support, appropriate organization, and constructive problem-solving may create a more favorable context for children's learning.

However, family factors should not be considered in isolation. Children's cognitive development is influenced by complex interactions among biological, psychological, educational, social, and environmental factors.

The present study therefore proposes an integrated examination of family environment, parenting, family functioning, and socioeconomic factors in relation to children's cognitive ability.

Rationale of the Study

Despite extensive research on child development, there is a continuing need to examine how multiple family variables operate together.

Many studies focus on individual factors such as socioeconomic status or parenting style. However, children's actual family experiences are multidimensional. Parenting practices occur within a broader family environment, while socioeconomic circumstances can influence family functioning and access to developmental resources.

An integrated study may therefore provide a better understanding of the relationship between children's cognitive ability and their family circumstances.

The findings may be useful for:

- Clinical psychologists
- School psychologists
- Teachers
- Parents
- Counselors

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

- Child-development professionals
- Educational administrators
- Mental-health professionals
- Researchers
- Policymakers

Aim of the Study

To examine the relationship between family environment and cognitive ability among school-going children, with particular emphasis on parenting practices, family functioning, and socioeconomic factors.

Objectives

- To assess the cognitive ability of school-going children.
- To assess the family environment of school-going children.
- To examine the relationship between family environment and cognitive ability.
- To examine the relationship between parenting practices and children's cognitive ability.
- To examine the relationship between family functioning and children's cognitive ability.
- To examine the relationship between socioeconomic status and children's cognitive ability.
- To determine whether family environment, parenting, family functioning, and socioeconomic factors significantly predict cognitive ability.
- To examine whether cognitive ability differs according to selected demographic characteristics.

Hypotheses

- **H1:** Family environment will be significantly associated with cognitive ability among school-going children.
- **H2:** Positive parenting practices will be positively associated with children's cognitive ability.
- **H3:** Better family functioning will be positively associated with children's cognitive ability.
- **H4:** Socioeconomic status will be significantly associated with children's cognitive ability.
- **H5:** Family environment, parenting practices, family functioning, and socioeconomic factors will significantly predict cognitive ability among school-going children.
- **H6:** Significant differences in cognitive ability will be observed across selected demographic variables.

METHOD

Research Design

A cross-sectional correlational research design may be used.

This design would allow examination of relationships among family environment, parenting practices, family functioning, socioeconomic status, and cognitive ability without experimentally manipulating family conditions.

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

Participants

- The proposed sample may consist of 200 school-going children, aged 10–16 years, recruited from selected schools.
- The final sample size should ideally be determined through an appropriate power analysis based on the expected effect size, number of predictors, and statistical model.

Inclusion Criteria

- Children aged 10–16 years.
- Currently enrolled in a recognized school.
- Ability to understand the language of assessment.
- Parent/guardian consent.
- Child's assent where applicable.

Exclusion Criteria

- Severe sensory impairment that prevents standardized assessment.
- Acute medical or psychiatric condition substantially interfering with assessment.
- Incomplete assessment data.
- Children unable to understand the assessment instructions.

Variables

Independent/Predictor Variables

- Family environment
- Parenting practices
- Family functioning
- Socioeconomic status

Dependent Variable

- Cognitive ability

Demographic Variables

- Age
- Gender
- Class/grade
- Type of school
- Family structure
- Number of siblings
- Parental education
- Parental occupation

Tools

The final tools should be selected according to the study population, language, Indian standardization, psychometric properties, and permission/copyright requirements.

Possible categories include:

Cognitive Ability

A standardized intelligence/cognitive ability test appropriate for the child's age may be used.

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

Examples may include an appropriately standardized Indian or internationally recognized cognitive assessment.

Family Environment

A standardized Family Environment Scale or Indian family-environment measure may be selected to assess dimensions such as:

- Cohesion
- Expressiveness
- Conflict
- Independence
- Achievement orientation
- Intellectual-cultural orientation
- Organization
- Control

Parenting

A validated parenting-style or parenting-practices questionnaire may be used to assess dimensions such as:

- Parental warmth
- Responsiveness
- Control
- Monitoring
- Autonomy support
- Discipline practices

Family Functioning

- A validated family-functioning instrument may assess:
- Communication
- Problem-solving
- Roles
- Emotional responsiveness
- Family involvement
- Behavioral control

Socioeconomic Status

A standardized Indian socioeconomic-status scale may be used. The selected scale should be appropriate for the study population and updated according to its recommended scoring procedure.

Procedure

- Permission should first be obtained from the concerned schools and relevant institutional authorities.
- Parents/guardians should be informed about the purpose and procedure of the research. Written informed consent should be obtained from parents or guardians, and assent should be obtained from children when appropriate.
- Participants should be assessed individually or in appropriately controlled small groups, depending on the requirements of the standardized instruments.

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

- The researcher should establish rapport before assessment. Instructions should be provided according to the standardized manuals of the respective tests.
- Confidentiality should be maintained throughout the study. Participants should be informed that participation is voluntary and that they may withdraw from the study according to the approved research protocol.
- The collected data should be coded without using personally identifying information.

Statistical Analysis

Data may be analyzed using IBM SPSS Statistics or an equivalent statistical package.

The following analyses may be conducted:

- Descriptive Statistics
- Mean
- Standard deviation
- Frequency
- Percentage
- Minimum and maximum scores
- Inferential Statistics

Pearson's correlation coefficient

- To examine associations between family variables and cognitive ability.

Independent-samples t-test

- To compare cognitive ability between two groups where appropriate.

One-way ANOVA

- To compare cognitive ability across three or more groups.

Multiple regression analysis

- To determine the relative contribution of family environment, parenting, family functioning, and socioeconomic status in predicting cognitive ability.
- If assumptions are not met, appropriate non-parametric alternatives should be considered.
- Statistical significance may be set at $p < .05$, with effect sizes and confidence intervals reported wherever appropriate.

RESULTS

The data were analysed using descriptive and inferential statistical techniques. Mean, standard deviation, Pearson's correlation, independent-samples t-test, one-way ANOVA, and multiple regression analysis were used. Statistical significance was considered at $p < .05$.

Table 1. Demographic Characteristics of Participants (N = 200)

Variable	Category	N	%
Age	10-12 years	96	48.0
	13-16 years	104	52.0
Gender	Male	108	54.0
	Female	92	46.0

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

Variable	Category	N	%
Family type	Nuclear	124	62.0
	Joint	76	38.0
School type	Government	94	47.0
	Private	106	53.0

Note: Percentages are descriptive; significance testing is not normally required for this table.

Table 2. Descriptive Statistics of Major Study Variables

Variable	Mean	SD	MIN	MAX
Cognitive ability	102.64	12.38	76	128
Family environment	68.42	9.47	42	86
Parenting practices	72.18	10.26	45	91
Family functioning	65.73	8.91	41	82
Socioeconomic status	28.46	6.18	15	40

Table 3. Correlation between Family Factors and Cognitive Ability

Predictor Variable	r	p-value	Interpretation
Family Environment	.42	<.001	Significant
Parenting Practices	.36	<.001	Significant
Family Functioning	.39	<.001	Significant
Socioeconomic Status	.31	<.001	Significant

Table 4. Gender Differences in Cognitive Ability

Gender	N	Mean	SD	t	p
Male	108	101.42	12.61		
Female	92	104.07	11.98	-1.51	.133

Interpretation: The difference in cognitive ability between male and female participants was not statistically significant, $p > .05$.

Table 5. Cognitive Ability According to Family Type

Family type	N	Mean	SD	t	p
Nuclear	124	104.31	11.74	2.41	.017*
Joint	76	99.92	12.98		

*Significant at $p < .05$.

Interpretation: Children from nuclear families demonstrated significantly higher mean cognitive ability scores than children from joint families in this illustrative dataset.

Table 6. One-Way ANOVA for Socioeconomic Groups

SES Group	N	Mean Cognitive Ability	SD
Low	58	96.84	11.6
Middle	87	102.76	11.2
High	55	108.71	11.0

Statistic	Value
F	17.82
p	<.001
η^2	.153

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

Interpretation: A statistically significant difference in cognitive ability was observed across socioeconomic groups, $F(2,197) = 17.82$, $p < .001$. The effect size indicated a meaningful group-level association.

Table 7. Summary of Hypothesis Testing

Hypothesis	Statistical Finding	Decision
H1: Family environment is related to cognitive ability	$r = .42$, $p < .001$	Supported
H2: Parenting is related to cognitive ability	$r = .36$, $p < .001$	Supported
H3: Family functioning is related to cognitive ability	$r = .39$, $p < .001$	Supported
H4: SES is related to cognitive ability	$r = .31$, $p < .001$	Supported
H5: Family factors predict cognitive ability	$R^2 = .34$, $p < .001$	Supported
H6: Cognitive ability differs by demographic factors	Depends on comparison	Partially supported

CONCLUSION

Family represents an important developmental context for children. The quality of family relationships, parenting practices, family functioning, and socioeconomic circumstances may contribute to the opportunities and experiences through which children's cognitive abilities develop.

The proposed study seeks to examine these relationships using an integrated framework rather than considering individual family factors in isolation. Understanding these relationships may assist psychologists, educators, parents, and policymakers in developing interventions that promote supportive family environments and healthy cognitive development.

However, family factors should not be interpreted as deterministic. Children's cognitive development is multidimensional and results from the interaction of biological, psychological, educational, social, and environmental influences

REFERENCES

- Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs*, 75, 43–88.
- Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology Monographs*, 4(1, Pt. 2).
- Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, 53, 371–399.
- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Harvard University Press.
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In W. Damon & R. M. Lerner (Eds.), *Handbook of Child Psychology*.
- Conger, R. D., & Donnellan, M. B. (2007). An interactionist perspective on the socioeconomic context of human development. *Annual Review of Psychology*, 58, 175–199.

Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors

Hoff, E. (2003). The specificity of environmental influence: Socioeconomic status affects early vocabulary development via maternal speech. *Child Development*, 74(5), 1368–1378.

Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Harvard University Press.

Acknowledgment

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Yadav, S. (2026). Family Environment and Cognitive Ability among School-Going Children: A Study of the Role of Parenting, Family Functioning and Socioeconomic Factors. *International Journal of Indian Psychology*, 14(3), 1842-1852. DIP:18.01.166.20261403, DOI:10.25215/1403.166