The Effect of Learning Disabilities, age and gender on cooperative and competitive behavior and risk taking behavior

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ABSTRACT: The present study aimed to examine the effects of learning disabilities, age and gender on cooperative competitive and risk taking behavior among students. A total sample of 360 participants was selected using a stratified random sampling method. The sample included students with different three level of learning disabilities (high, moderate and low). across different age groups of (6-7)yrs , (9-10) yrs and (12-13)yrs old male and female children . Standardized psychological scales were used to measure cooperative competitive and risk taking behavior. A three way of analysis of variance(ANOVA) was employed to analyze he effect of learning disability status , age, and gender on the dependent variables. The results revealed significant main effects of learning disabilities and gender on cooperative and competitive behavior as well as significant difference in risk taking behavior across age groups. Interaction effects were also observed between learning disabilities and gender. The findings highlight the importance of considering individual differences in educational and behavioural intervention.

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Introduction

Each child develops within a specific social setting. The nature of the specific life space has an influence upon his learning experiences how he feels about them. Human behavior is learnt in the daily interaction with parents, siblings and eventually is significant with others also. Learning disabilities (LD) refer to a group of neurodevelopmental disorder s that affect an individual's ability to acquire, process or use information efficiently with learning disabilities often experience difficulties in academic performance as well as in social and behavioural domain.

Cooperative behavior is a value of a society, and the cooperative individual responds to the norms , which operates in his culture. It is not an inherent trait of nature but a mode of behavior imposed upon him by the social emphasis of his culture. According to Akolkar (1983-84) "Cooperative behavior creates a sense of mutuality and generates a warm fellow feelings." It involves working with others to achieve shared goals , while competitive behavior focuses on out performing others.on the other hand the basic characteristic of competitive behavior is that the individual tries to do better than what one has done or what another has done. It is very powerful incentive in social life. According to Kuppuswami (1960), "Competetive behavior means striving to equal or surpass the speed and quality of another person's performance, it may be to improve on one's own past performance". According to Kelley and Thibaut (1969), " A Competitive structure is one in which the individuals are rewarded so that one receives a maximum reward and the others a minimum reward. Risk taking behavior refers to the tendency to engage in activities that involves uncertainty and potential negative outcomes. To take a risk is voluntarily to endanger this stake. These behaviours are influenced by various factors, including cognitive abilities, social experiences age and gender.

Review of Literature

Bibby et al., (1996) examined the effects of birth order and gender on academic achievement and cognitive abilities in children attending moderate learning difficulty schools. Participants were twenty – seven girls and sixty boys aged (11.5-15.4) years old. A multivariate analysis revealed that both boys and girls children performed better on a test of communication skills and the analysis revealed that for both gender that the birth order, intelligent quotient , reading comprehension, mathematical ability and communication skill follow the major predictor variable.

Rourke, Byron, Fuerst and Darren(1996) assessed the relationships between profiles of neuropsychological assets and deficits, subtypes of learning disabilities and patterns and degree of psychosocial functioning in children. Conclusion relating to the neurodevelopment bases of the pattern of psychosocial functioning most often seen in children and adolescents with the syndrome of nonverbal learning disabilities are emphasized.

Montague, Marjorie and Garderen(2003)conducted a study to investigate student's mathematical achievement, estimation

ability, use of estimation strategies and academic self-perception.The results indicated that the students with learning disability performed significantly lower than peers on the math's achievement measure as expected, but viewed themselves to be as academically competent as the average achievers did. Students with learning disability and average achievers scored significantly lower than gifted students on all estimation measure, but they differed significantly from one another only on the estimation strategy.

In a study conducted by Luftig et al., (2005) it was found that the respondents with learning disabilities were doing better than their mentally retarded counterparts but individuals with mental retardation were still doing strongly. Bayliss et al. (2005)has observed that individuals with generalized learning difficulties may approach cognitive tasks in a different way from that of typically developing individuals. To see the role of gender on cooperative behavior was examined by Feshbach and Roe (1968), and he found that the girls obtained higher empathy scores than the boys wheareas Kurzban, Robert, Houser and Danial (2001)found males to be strong cooperators than females. In another study Wavo, Enzuva and Tsuva (2004)established that the girls student differed in cooperative and competitive behavior as they were found cooperative while boys were more competitive.

Dennis,2006; and Paus,2005; tried to see the effect of age on competitive behavior. The brain regions implicated in social behavior are subject to changes with age, just as social behavior is itself. The changes are likely related , moreover such that brain maturation correlates increases in children's capacities for social information processing, which in turn is related to changes in the complexity of their social behavior. Rubin, Bukowski, and Parker (2006)have suggested that children's interactions also depend on the individual characteristics and behavior of the children and adults with whom they are involved.

Despite existing literature limited studies have examined the combined effect of learning disabilities age , gender on cooperative, competitive and risk taking behavior using robust statistical techniques such as ANOVA. Therefore , the present study seeks to fill this gap by systematically examining these variables.

Objectives of the study

1. To examine the effect of learning disabilities on cooperative , competitive and risk taking behavior belonging to three different levels of learning disabled children.
2. To study the effect of age on cooperative, competitive and risk taking behavior ranging in three different age group 6-7yrs, 9-10 and 12-13 yrs .
3. To investigate gender difference in cooperative, competitive and risk taking behavior.
4. To analyze the interaction effect of learning disabilities age and gender on these behaviors.

Hypotheses

1.There will be a significant difference in cooperative , competitive and risk taking behavior belonging to three different levels of learning disabled children.

2.Age will have a significant effect on cooperative , competitive and risk taking behavior .

3.There will be significant difference between males and females in cooperative , competitive and risk taking behavior .

4.There will be significant interaction effects among learning disabilities ,age ,and gender on cooperative ,competitive, and risk taking behaviors.

Methodology

This study adopted a descriptive factorial research design with sample of 360 students selected through stratified random sampling. Students having different levels of learning disabilities as high, moderate and low from three age groups of 6-7yrs, 9-10 yrs and 12-13 yrs male and female students were taken . A factorial design of 3x3x2 with 18 cell was employed.

Tools of the research

In order to measure learning disability, a learning disability scale developed by Dr.S.N.Rai and Dr. Asha Bhatnagar was used. For measuring cooperation and competitive behavior , the effect of cooperation and competition on the performance of task constructed by Dr. Santosh kumar Dixit was used. And risk taking behaviour questionnaire constructed by Dr. S.N. Rai and Dr. Asha Bhatnagar was used to measure risk taking behavior of children.

Result and analysis

Statistical Analysis of Cooperative Behaviour

Table 1ANOVA summary for cooperative behavior.

Source of variation	F-value	Significance
Learning Disabilities	29.72**	P<.01
Age	5.33*	P<.05
Gender	6.45**	P<.01
LD x Age	10.81**	P<.01
LD x gender	12.42**	P<.01
Agexgender	9.76**	P<.01
L.Dx Agexgender	2.04	

Interpretation

Table 1 Analysis of variance reveals that the F value of learning disability is 29.72p<.01. means that the levels of learning disability is an effective factor in determining cooperative behavior of the person. So it is proved that there is significant difference in cooperative behavior for the three groups of Ss due to difference in learning disability.

Table 2 Mean cooperative score for the subjects of three different level of learning disabled children.

Levels of L.D	Mean Score
LD high	57.36
LD moderate	50.41
LD Low	56.50

Above table illustrates that cooperative score is found higher in the Ss who are highly disabled and low disabled children in comparison to the moderate Ss. The above findings shows only the differences among means but in order to know the significant difference between the means , the data is further analysed by using Newman-Keuls test. Summary of the test is given in table 3

Table 3 Summary of Newman Keul test for main effect of levels of learning disability on cooperative behavior.

Group compared		LD (M)	LD(L)	LD(H)
	Ordered mean	50.41	56.50	57.36
LD(M)	50.41	-	24.69**	6.95**
LD(L)	56.50	-	-	0.86
LD(H)	57.36	-	-	-

Effect of age

Summary table of ANOVA shows that the F-value for the next main variable i.e age is 5.33 p<.05. It means that the age of Ss is an influential factor in determining cooperative behavior of the children . the mean cooperative score for different age group are presented in table 4

Table 4 Mean cooperative score for different age groups of children.

Age Group	Mean score
A1(6-7)yrs	39.18
A2(9-10)yrs	53.25
A3(12-13)yrs	71.85

It shows the increasing trend in cooperative behavior with increasing age. To test the significance of difference between these mean score the data is analyzed by using Newman keul test. And summary is presented in table 5

Table 5 Summary of Newman Keul test for main effect of age on cooperative score.

Group compared		A1	A2	A3
	Ordered mean	39.18	53.25	71.25
A1	39.18	-	14.07**	32.67**
A2	53.25	-	-	18.60**
A3	71.85	-	-	-

**significant at .01 level

This table reveals that cooperative behavior is found to be higher in 12-13 age group of children as compared to 6-7 yrs and 9-10 yrs age groups.

Effect of gender

Table 6 Analysis of variance shows that the F-value for the variable gender was also found 6.45 p<.01. the mean cooperative score for boys and girls were calculated and presented in table-6

Table 6 Mean cooperative score for the boys and girls

Gender	Mean Score
Male	52.35
Female	57.16

In order to test the significance of differences between the means. Newman –Keuls test has been used and summary is presented in table 7

Table 7 Summary of Newman Keul test for main effect of gender on cooperative score.

Group Compared		Male	Female
	Ordered mean	52.35	57.16
Male	52.35	-	4.81*
Female	57.16	-	-

*significant at .05 level

On the basis of results it can be said that in terms of gender the cooperative behavior of female is significant greater than that of male Ss.

STATISTICAL ANALYSIS OF COMPETITIVE BEHAVIOR

Table 8 Mean competitive score of three independent variables i.e learning disability ,age and gender

Level	Level of Learning disability	Age	Gender
1	LD high 64.20	A1 59.46	Male 76.18
2	LD moderate 75.08	A2 79.86	Female 77.22
3	LD low 90.83	A3 90.78	

Results of 3x3x2 Analysis of variance for competitive behavior are summarized in table9

Table 9 ANOVA Summary for competitive Behavior .

Source of variation	F-value	Significance
Learning Disabilities	28.51**	P<.01
Age	40.17 **	P<.01
Gender	0.13	-
LD x age	14.71**	P<.01
LDxGender	13.88**	P<.01
AgexGender	3.12	-
LDxAgexGender	77.33**	P<.01

Analysis of variance table 9 reveals a significant main effect of learning disability on competitive behavior. F value of learning disability is found 28.51p<.01 . It shows that different level of learning disability is an influential factor in competitive behavior of the Ss . So, the mean competitive score for three levels of learning disability were calculated and presented in table 11.

Table 10 Mean competitive score for the three levels of learning disability

Levels of L.D.	Mean score
L.D High	64.20
L.D Modrate	75.08
L.D low	90.83

Table 11 Summary of Newmen Keuls test for the main effects of levels of learning disability on competitive behavior.

Group compared		L.D High	L.D Modrate	L.D low
	Ordered mean	64.20	75.08	90.83
L.D High	64.20	-	10.88**	26.63**
L.D Modrate	75.08	-	-	15.75**
L.D low	90.83	-	-	-

It is clear from the above table that the competitive score for learning disability is found significant. It shows that there is significant difference in moderate Ss and low in learning disability.

Effect of Age

The table 8 Analysis of variance indicate that F- value for age is found 40.17p<.01 level. It can be said that age has significant role influencing the competitive behavior. The mean competitive score for three age levels of age were calculated and presented in table 12

Table 12 Mean competitive score for different age group of Ss.

Age Group	Mean Score
A1	59.46
A2	79.86
A3	90.78

The newman keuls test has been used to see the significance of these differences and summary is presented in table 13.

Table 13 Summary of Newman Keuls test for main effect of age group on competitive behavior.

Group compared	Ordered Mean	A1	A2	A3
		59.46	79.86	90.78
A1	59.46	-	20.40 **	31.32**
A2	79.86	-	-	10.92**
A3	90.78	-	-	-

** Significant at 0.01 levels

Table 14 Mean competitive scores for boys and girls.

Gender	Mean competitive score
G Male	76.18
G Female	77.22

This table indicates that the competitive score for boys and girls is almost similar. So the research hypothesis is rejected and the null hypothesis is accepted.

STATISTICAL ANALYSIS OF RISK TAKING BEHAVIOR

TABLE 15 Mean risk taking scores for the subject of three independent variables i.e. learning disability . age and gender

Learning disability	Age	Gender
L.D High 19.90	A1 22.51	males 24.08
L.D Modrate 30.68	A2 25.52	females 27.64
L.D low 27.01	A3 29.56	

Results of 3x3x2 Analysis of variance for risk taking behavior scores are summarized in table .-16

Table 16 summary of analysis of variance for risk taking score.

Source of variance	F-value	significance
Learning disability	285.60**	P<.01
Age	119.09**	P<.01
Gender	90.23**	P<.01
L.D x A	3.79*	
Age x Gender	4.40**	P<.05
L.D x Gender	2.86	-
L.D x Age x Gender	4.25**	P<.05

*Significant at .05 level.
**Significant at .01 level.

Analysis of variance table 16 reveals that the F – value of learning disability is found 285.60p<.01 level it means that the levels of learning disability Ss is an influential factor in determining risk taking behavior of the children. For further analysis the means are calculated and presented in table 17

Table – 17. Mean risk-taking score for the subjects of three different level of learning disabled children .

Levels of L.D	Mean Score
L.D High	19.90
L.D Modrate	30.68
L.D Low	27.01

In order to know the significance of these differences between the mean risk taking scores of three levels of learning disabled children Newman keuls Test has been used and summary of this test is presented in table 18

Table – 18 Summary of Newman Keuls test for main effects of levels of learning disabilities on risk – taking behavior.

Group Compared		L.D High	L.D Low	L.D Modrate
	Ordered mean	19.9	27.01	30.68
L.D High	19.9	-	7.4**	10.7**
L.D low	27.01	-	-	3.67
L.D moderate	30.68	-	-	-

This table reveals that moderate Ss are found high-risk taker in comparison of highly learning disabled and low learning disabled Ss.

Effect of Age

Analysis of variance table 16 shows the F-value of the age factor is 119.09p<.01 level. The mean risk taking score for different age groups of children are presented in table 19.

Table .- 19 Mean risk – taking score for three levels of age groups.

Age Groups	Mean Risk Taking Score
A1	22.51
A2	25.52
A3	29.56

In order to know the significance of these differences between the mean risk taking scores of three levels of age children Newman keuls Test has been used and summary of this test is presented in table 20.

Table -20 Summary of Newman Keuls test for the main effect of age on taking behavior.

Group Compared		A1	A2	A3
	Ordered mean	22.51	25.52	29.56
A1	22.51	-	3.01	7.05**
A2	25.52	-	-	4.04*
A3	29.56	-	-	-

**Significant at .01 levels

This table indicates that the subjects ranging in 12-13 yrs age groups are found to be significantly high risk taker in comparison of 6-7 yrs and 9-10 yrs old Ss.

Effect of gender

Table 16 Analysis of variance shoes that gender has obtained the F value 90.23p<.01 level. For further analysis the mean risk taking behavior score were computed and given in table 21

Table -21 Mean risk taking score for boys and girls Ss

Gender	Mean Score
G males	24.08
G females	27.64

In order to know the significance of these differences between the mean risk taking scores of male and female children Newman keuls Test has been used and summary of this test is presented in table 22.

Table -22 Summary of Newman Keuls test for the main effects of gender on risk taking behavior.

		Gender	
Group Compared	Ordered mean	G males	G females
		24.08	27.64
G males	24.08	-	3.56*
G females	27.64	-	-

Discussion

Vygotsky (1978), the Russian developmental psychologist recognized the important part is that social context has role in learning. He reasoned that children learns when instruction is directed toward, their zone of proximal development. It is comparised of the tasks that are in the range of difficulty between what a person can do independently and what he or she can do with assistance. The children have slowness in specific aspects of development due to which variation is found in learning disabilities. Piaget (1970) showed that cognitive growth occurs in a series of invariant and inter dependent stages. At each stage, the child is capable of learning only certain cognitive tasks. As the child goes through a series of maturational stages the child's ability to think and learn changes with age. Groteluschen, Borkowski& Hale, 1990; McGrady, Lerner, &Boscardin,2001; Schmid&Evans, 1998). Research shows that poor achievers differ from their peers in terms of attribution style. They blame their failurs on the lack of ability, the difficulty of the task, the teacher, or other random factors. Chapman, 1988; Kistner, Osborn, & Laverrier, 1988; Stipek, 1993. In contrast , students who are successful achievers have a different attribution style. They accept themselves responsible for their failure and success. Student with learning disabilities should be guided to change their attribution styles to become more persistent and independent learners. According to Rubin, Bukowski & Parker (2006) it has been established that with increasing age and brain maturation, children's social information processing abilities grow and their social behavior become more diverse, complex and integrated.

Conclusion

This study provides evidence for the proposition that levels of learning disability , age and gender are the influential predictor of social aspects of child. This study also lends support to development and reinforcement in explaining the social behavior. The implication of the study is that this study will help in understanding the social behavior of disabled children in learning, as the children are the future of the nation and the most important part of society. So early recognition of learning disabilityes and its effect on social behavior need to be studied.

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