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ASSESSMENT OF BIRTH ORDER ON LEARNING ABILITIES AMONG LATE ADOLESCENT

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Abstract:

The present study assesses the intelligence of female university students in respect to the intelligence of elder and younger siblings. Based on reviews hypothesis were framed to see the significant difference between elder and younger the siblings with respect to their intelligences. Here, Intelligence has defined in ways of learning ability. The study was ex post facto research with n=20 female university students and birth order as main variable. Wechsler Adult Performance Intelligence Scale, subtest picture complication, blocks design, picture arrangement, object assembly has used to collect the score. Simple mean score and Mann Whitney U test has used to see the findings. Analysis and findings has discussed in the article.

Keywords: Intelligence, Birth order, Adolescence

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Introduction

In an educational context, one's intelligence is not determined by one's academic performance or information gained from others. True intelligence is one's learning abilities by one's interests, opinions, philosophies and so on. A person's ability to think critically, analytically, rationally and open mindedly is another key factor. And purposeful actions where common sense and good judgment are evident, reflects intelligence of an individual. The present study focuses on assessing the intelligence of female siblings. Intelligence has also been defined as the ability to learn. An individual's intelligence is a matter of the degree to which he or she is educable. If a person is able to learn something readily or quickly, they said to be an intelligent person, which focused on ability of assimilation and accommodation of an individual. Many studies explains impact of birth order on intelligence, like male and female siblings, male and male siblings, elder male and younger female, elder and younger siblings and so on.. Hoff, E. (2003) studied the predicators like socio economic, maternal influence on linguistic intelligence. Haworth (2010) studied on cognitive ability on birth order. Satoshi Kanazawa (2012) studied the impact of birth order on the personality development of the child. Sulloway (2007) studied on the influence birth order and upbringing of siblings on uncontrolled differences in family size, socioeconomic status, parental IQ, and other background factors in relation towards intelligence. first-born babies receive more mental stimulation in their formative years. University of Edinburgh, Analysis Group and the University of Sydney have studied a data that was collected by the US Bureau of Labor Statistics. They have found out that as early as the age of one, IQ tests of the eldest child are always higher than their younger siblings. Elliot and et.al (2013) studies have shown that genetic influences on intelligence increase as we age. The transactional model explains this increase by proposing that a person's unique genetic makeup leads him or her to select (and be selected into) various types of environments that in turn reinforce gene-based behaviors over time. Mukherjee and Chatterji (1987) studied on family size, general aptitude and academic achievement and influence of cognitive ability. Barclay (2015) studied within-family analysis of birth order and intelligence using population conscription data of Swedish men, and found negative correlation. Damian & Roberts, (2015) studied on the associations of birth order with personality and intelligence in a relation to age, sex, sibship size, parental socio-economic status, and family structure US high school students. Alekseeva, Pyankova and et.al (2014) studied on siblings and intelligence relationship were study explains

interesting finding that elder children were shown to be more predisposed to conflict dominant behavior towards their siblings than younger ones. Antagonism in sibling pair was related to low levels of parents' acceptance and emotional closeness between parents and children. The children with low IQ score are more likely to dominate in sibling pair. The firstborns who demonstrate higher IQ scores are more likely to cooperate with younger sibling. This also explains and significant association with learning levels and difference of elder and younger siblings.

Crick and Dodge (1994) children whose relationships with parents are described in terms of violent educational measures and suppressed aggression would most probably develop such behavior styles that result in conflicts with siblings. In such situations siblings would rigidly press their claims provoking aggression even if the conflict is insignificant. Thus, we can suggest that the influence of parent-child relationship on relationship between siblings is very substantial and results in either conflict or positive (based on acceptance) relationships. Within Moscow sibling study the goal of evaluating effects of sibling relationships on cognitive development in elder and younger siblings was set.

Purpose: To assess the intelligence of female university students according to birth with the help of Wechsler Adult Performance Intelligence Scale

Hypothesis: The intellectual ability of elder siblings is greater than younger ones.

Design: Ex post facto research

Variable: Birth order

Sample: The sample comprised of 20 female subjects out of these 10 were younger siblings and 10 were elder siblings. Their age ranged from 20-25 years. 60% of them belonged to urban area and 40 % belonged to rural area. With reference to marital status all of them were single and were students. 60% of them were pursuing graduation and 40% of them were pursuing post graduation.

Method of sampling: Convenient sampling technique used

Tool used: Wechsler Adult Performance Scale of Prabha Ramalinga Swami (1972) to assess the intelligence of subjects. It consists of five subtests taken from Wechsler's test i.e. Wechsler Adult Performance Intelligence Scale. The reliability of the picture completion ranged between .69 and .74 at all ages. The reliability of block design test in the present study ranged between .72 to .80 whereas in Wechsler study it ranged from .82 to .86. The reliability of picture arrangement ranged from .04 to .74. Digit symbol is a speed test, test re-test reliability was worked out. In the age group of 20-24 it was found .91 and that for object assembly was .73.

Picture completion test: It consists of some pictures in which one prominent part is missing that the subject has to recognize within 20 seconds. Point 1 will be given for each correct answer.

Digit symbol: In this test there are boxes. Each has a number in the upper part and mark in the lower part. Every number has a different mark. Pointing to the sample where upper boxes have number but the squares beneath have no marks, the subject have to put in each square the mark that should go there. Time limit is 90 seconds and one point for each mark filled in correctly and half credit for any reversed mark.

Block design: There are some designs which the subject has to make with the help of blocks given (on some side they are all red, on some side they are all white and on some both red and white). The subject is required to arrange the blocks into the design shown on cards. There is certain time limit for each. 4 points will be given for each correct design and 2 for any second trial.

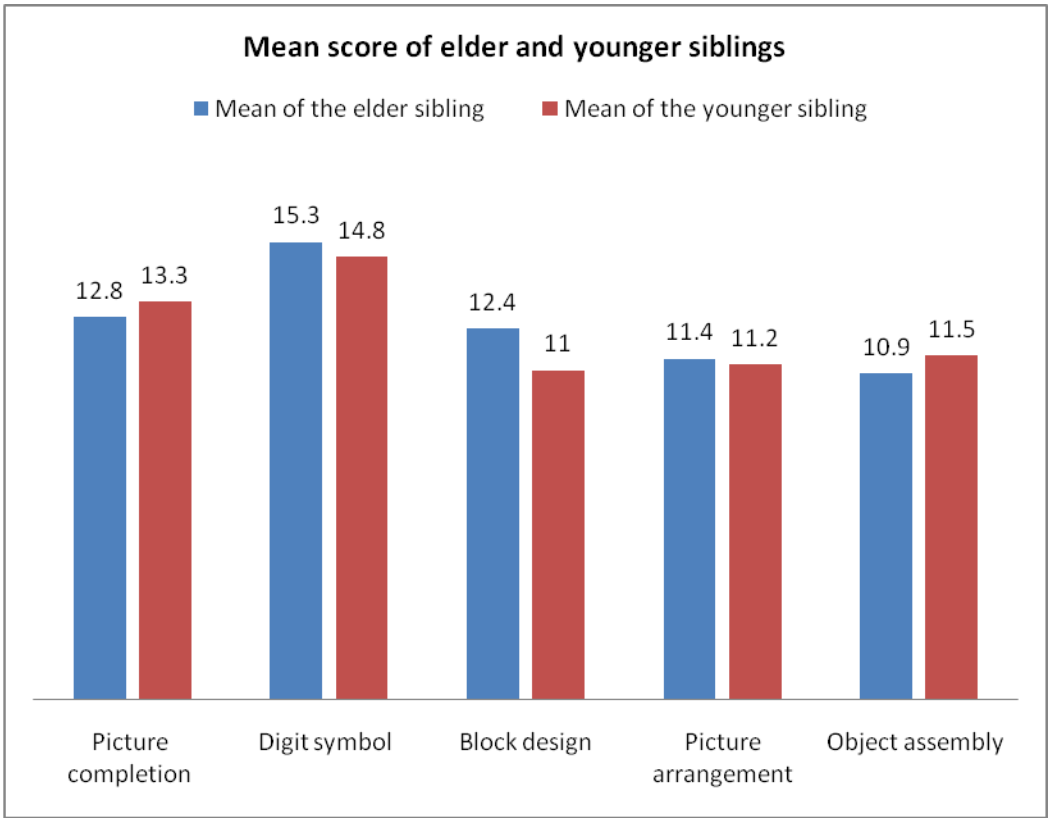
Picture arrangement: This test contains cards that tell a story when put in a right order. In each case they are mixed up and subject has to put them in the right order so they make the most sensible story. There is time limit for each card. Series 1-2 first trial 4 points, second trial 2 points. Series 3-9: 4 point for correct arrangement within time limit.

Object assembly: In this test subject will be given items. There are pieces of each item, if they are put together correctly they will make something. Each item has a certain time limit. Marks will be given according to the manual.

The purpose of the study was to assess the intelligence of female university students according to birth order. The sample comprises of siblings of age group 20-25 years. The tool administered to assess intelligence was Wechsler Adult performance Intelligence Scale by Prabha Ramalinga Swamy(1975). This test is an Indian adaptation of Wechsler Adult Intelligence Scale given by David Wechsler. Wechsler adult performance intelligence scale has 5 subtests. Each subtest was applied on all the 20 subjects. To analyze the data U-test has been computed by the researcher.

The interpretations of the result are as follows…

TESTS	Mean of the elder sibling	Mean of the younger sibling	Man Whitney score (Ux)
Picture completion	12.8	13.3	54
Digit symbol	15.3	14.8	28.5
Block design	12.4	11	29
Picture arrangement	11.4	11.2	41.5
Object assembly	10.9	11.5	62.5

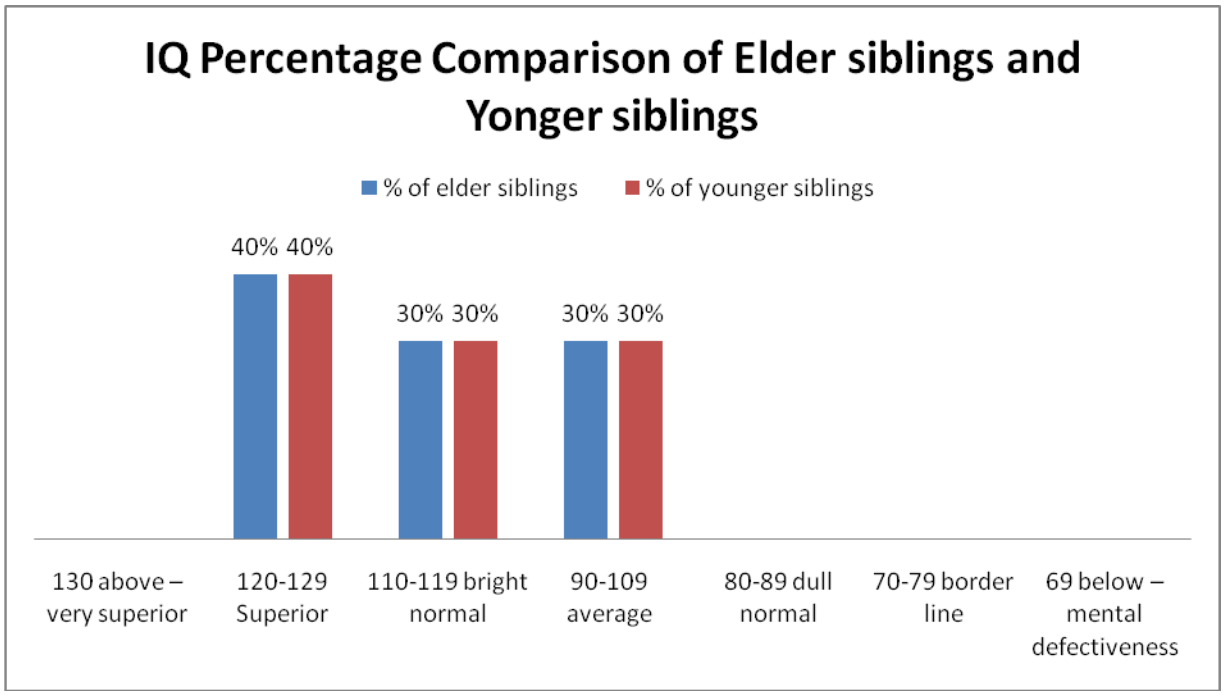


From the above table it clearly shows that there is no significant difference found between the intellectual assessment of younger and elder siblings viz. birth order shows no affect intelligence of the person. The Man Whitney value of the subtests has been found not significant. With reference to mean scores of the subjects also not much variation is found in the subtests and overall scores of Wechsler Adult Performance Intelligence Scale. However the younger siblings scored higher in the subtests of picture completion and object assembly while the elder siblings scored higher in digit symbol, block design and picture arrangement. The probable reasons for no significant difference would be the small sample size comprising of only female participants. There were no male participants which is one of the limitations the reason for which the result cannot be generalized.

IQ percentage comparison of Elder Siblings and Younger siblings

	% of elder siblings	% of younger siblings
130 above – very superior		
120-129 Superior	40%	40%
110-119 bright normal	30%	30%
90-109 average	30%	30%

80-89 dull normal		
70-79 border line		
69 below – mental defectiveness		



Above table and graph depicts the percentage of individual falling in a particular category of IQ classification. The percentage of individuals falling in each category is similar for both the groups. 40 % of both elder and younger siblings fall in the category of 'superior intelligence' followed by 30% having the IQ of 'bright normal' and 'average' intelligence. No difference was found in the category of Wechsler Adult Performance Intelligence Scale also.

Conclusion

The research findings however does not corroborate with the existing literature. A study published in proceedings of National Academy of Sciences and based on data from 20000 individuals conclude that birth order does matter when it comes to IQ- with the oldest having slightly higher IQ than their siblings. Here the sample size was small besides comprised of only female participants, all belonging to the same university. Therefore the result cannot be

generalized. Adler the philosopher and psychoanalyst believed that comparisons to siblings may make one feel inferior. He postulated that first born receives the most attention but also has the highest burden to look after younger siblings. Moreover the relationships we have with our siblings have a much bigger influence on what we are able to achieve later in life. Keller (2012) first born are better in linguistic development as both children can share their linguistic development.

The sample size was very small as it was not possible to do the test on more people due to limitation of time. More participants could have been taken in case of having more of time. Also the sample comprised of only female subjects, there were no male subjects which brings gender biasness in the result. Because any such research requires to have both the gender. So it could be generalized. Another limitation is of time constraint that made it impossible to do everything. If there was more time the test could possibly have been done on more people taking from different areas, like different culture, different university etc and then the result may have been generalized. The result could only be generalized for a large population when such limitations can be prevented i.e. sample size is larger, number of subjects from different area of culture and other interests.

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