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Birth Order Effects on Academic Performance

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In the experiment, 85 participants were recruited to participate in a questionnaire regarding birth order and academic performance by grade point averages (GPA). The survey was conducted to determine if there was a relationship between an individual's birth order and an individual's academic performance. Both of the experimenters come from relatively large families so we were interested to see if there was a positive or negative relationship between academic performance and birth orders. There was statistical significance between birth order and GPA however; the positive correlation was between the youngest siblings and the highest GPA.

In a previous study, experimenters wanted to determine if birth order has an affect on an individual's academic performance. According to Russell and Vandana (1995), birth order does have an impact on the level of education completed by the middle class. They believed there were two factors that determined the amount of impact birth order has on academic performance. One factor would be the environment that the child is surrounded by. This is referring to the level of intelligence of child's parents and other siblings. The other factor would be the older child taking it upon him/herself to teach the younger sibling (Russell & Vandana).

Another earlier study conducted by Flowers and Brown (2002) dissected individual differences in competitiveness anxiety. Their finding was that firstborn

athletes have higher anxiety than their younger siblings (Flowers & Brown, 2002). In an earlier study conducted by Nymann (1995), he focused on the personality traits for particular birth order positions. Some results from this study showed that first born individuals were able to enter into higher professional careers than other birth order individuals. Another study conducted by Freese, Powell, and Steelman (1999), where they focused on the birth order affecting by social attributes. Children of different ages, being raised together is in some way or form shaping them to form views about themselves. In this particular study, it was believed that first born adults are more conservative than non first born adults. In study conducted by Steelman, Powell, Werum, and Carter (2002), they stated without a longitudinal study it would be hard to verify that parental family planning and parenting would affect their children's educational achievements within the families. In all the mentioned studies birth order is considered an important factor the individual academic achievement but that there are other important factors that could play a major role as well.

Although the above studies found evidence to support their hypotheses, there are findings which challenging their studies. According to Rogers (1990), there is no absolute link connecting academic performance and birth order. A problem that she found with most studies was they did not compare the children within each family (Rodgers, 2000).

Each participant was given a short questionnaire referring to birth order and academic performance. After accepting the hypotheses of the first two studies mentioned it gave us some confidence that our hypothesis could possibly be supported (Flowers & Brown, 2002; Russell & Vandana, 1995). Our hypothesis is the first born child is more

responsible than children of other birth order therefore; they have a greater success rate in their academic performance.

Method

Participants

There were 85 participants which took part in the study. There were 49 females and 36 males. Twenty-one of the participants were recruited through the Human Subject Pool at Lindenwood University and thirty-five were recruited through the men's and women's lacrosse teams at the university. Twenty-nine of the participants were recruited from other universities. There were 16 only children, 17 youngest children, 27 middle children and 25 firstborn children. Out of the 85 subjects 22 were freshmen, 28 were sophomores, 22 were juniors and 13 were seniors.

The students recruited through the HSP were rewarded with extra credit in their general psychology or sociology classes. The others were just thanked for their time. All of the participants surveyed were undergraduate students attending a university.

Materials

A private room in the library with a table and at least two chairs was used to conduct the survey for some of the Lindenwood University participants. While the field house classroom was used to conduct the rest of the Lindenwood University students. The participants surveyed off campus were done in a private home. A questionnaire (see Appendix A) and a pen or pencil was administered by the experimenter to the participants. The questionnaire included questions about their age, gender, class load, GPA, birth order, number of siblings and types of siblings.

Procedure

Once the participants arrived at the private room they were given a consent form as well as a verbal explanation of the study. The experimenters explain that the purpose of the study was to see if there was any correlation between birth orders and academic performance measured by grade point average. Each participant was assured that the information obtained was to be kept confidential and will only be used for research purposes. They were also informed the experimenters were only interested in the results as a whole. The participants then signed the consent form and given the questionnaire. There was no time limit in which the participants had to finish the questionnaire in. The questionnaire asked questions regarding any siblings the participant might have as well as questions about school, such as grade level, study habits, etc. There was also a question about an outside job. The participants were asked to answer the questions to the best of their ability, and if they did not feel comfortable answering a question, they did not have to answer any it. Once they were finished with the questionnaire they were given a feedback letter and were also verbally debriefed. The HSP participants received their extra credit forms at this time. If the participants had any questions they were answered right away.

Results

An analysis of variation (ANOVA) was conducted with the participants' surveys to see if there was a correlation between GPAs and sibling birth order and we found statistical significance between the two, $F(3, 81) = 8.5645$, $p .05$. The data (Table 1) showed the youngest with the highest GPA ($M = 3.0$) while the oldest were a bit lower

($M = 2.48$) and then the middle children were very close behind them ($M = 2.41$) and the only children had the lowest ($M = 2.31$). However we can accept the null hypotheses.

TABLE 1. Subjects GPA and position in family

Birth Order	Mean	N	Std. Deviation
Only child	2.31	16	.873
Youngest	3.00	17	.791
Middle	2.41	27	.694
Oldest	2.48	25	.963
Total	2.53	85	.853

Discussion

Our original hypothesis stated that older children would have the higher GPAs because they tend to be more responsible. However our findings failed to support our hypothesis in fact it was the opposite with the youngest children having the highest GPA and the oldest having close to the lowest GPAs. With the youngest having an average of a 3.0 or low B average and the oldest with a 2.48 average or C average. While the middle children had a 2.41 average also a C and the only children with a 2.31 a lower C average.

Other factors may come into play such as working an outside job or taking more credit hours with more class work to study. Computing the statistics might show that maybe the oldest worked more hours outside of school, or that the youngest studied more hours a week therefore earned the better GPA. An ANOVA could be conducted to see if there is a correlation in future research.

When conducting this research again it could be beneficial to possibly conduct more participants from a more diverse population, such as from other university or even possibly high schools. Also change some of the questions on the questionnaire, such as a

more specific grade point average instead of such a large range. Also when gathering the data do not group the numbers (under 20 hours, 20-30 hours, etc.), such as work hours keep them all the original hours worked. There could have been a problem with the participants' honesty and what their GPAs were really, they could have lied to say they had a higher or lower GPA than they really do. Another change in the research design might be to compare siblings from the same family, instead of comparing the general population.

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Appendix A

Effects of Birth Order Questionnaire

1. How old are you? _____ years old

2. Do you have any siblings, half siblings, step siblings? Yes No

If yes,

Initials	Age	Sex (M,F)	Type (Half, Step, Full)	Same Home
_____	___	_____	_____	_____
_____	___	_____	_____	_____
_____	___	_____	_____	_____
_____	___	_____	_____	_____
_____	___	_____	_____	_____
_____	___	_____	_____	_____
_____	___	_____	_____	_____

3. What year are you enrolled in for school?

Freshmen Sophomore Junior Senior

4. How many credit hours are you taking currently? _____ credit hours

5. How many hours per week do you study? _____ hours

6. What is your cumulative GPA?

Below 2.0 2.0-2.9 3.0-3.9 4.0 or higher

7. Do you work outside of school? Yes No

If yes, how many hours a week do you work? _____ hours