



**CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY**

Name(s) Mahmoud J. Alamad	Project Number J0702
Project Title Is There a True Link between Breastfeeding and Intelligence?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals While breast milk has numerous benefits to child and mother, the objective of this project is to prove that increased intelligence is not one of these benefits.</p> <p>Methods/Materials 40 students ages 12-14, 20 exclusively breastfed for the first 6 months of life, and 20 exclusively formula fed for the six months of life and an age appropriate Intelligence quotient (I.Q.) test. All tested subjects were healthy full term babies born to mothers who had seemingly healthy pregnancies, did not smoke or drink during pregnancy, and had no complications during delivery. The I.Q. test was given to students in the same environment, and results were calculated.</p> <p>Results After calculating the average intelligence quotient for tested subjects, it was found that the breastfed students' results averaged 6.15 I.Q. points higher than their formula fed peers. The percentage of students in higher categories of intelligence, based on the Wechler Intelligence Scale for Children, was also higher in breastfed students.</p> <p>Conclusions/Discussion While I hypothesized that there was no link between breastfeeding and intelligence, the experiment proved the opposite. Breast milk contains the ideal ratio of fats, amino acids and other nutrients that the baby needs for brain and nervous system development. Breastfeeding does not automatically guaranty that a child will be smarter. My study shows that the lowest score of an I.Q. of 106 belonged to a breastfed male. Nutrients in breast milk enable the child to reach their maximum genetic potential, but no higher. 30% of the formula fed students tested fell under the category of extremely high I.Q. which indicates that heredity played the biggest role in their intelligence. Had they been breastfed, they would have been even smarter.</p>	
Summary Statement The experiment tested whether there is a link between breastfeeding and intelligence in students ages 12-14.	
Help Received My mother and adult supervisor helped double check the corrected I.Q. tests to make sure the scores where calculated correctly.	