

The effects of pollution on prenatal intelligence assignment



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The first reason this study uses the correlation method of research is that it coincides almost directly with the textbook definition of correlation research. The researchers were studying the effect that pollution during the pregnancy months had on IQ scores of the children being observed. The researchers measured this by using backpack air monitors on 249 expecting mothers for 48 hours during the last few month of pregnancy. This helped to determine the actual level of pollutants that the women were being exposed to.

They then gave the children of these mothers and IQ test at age 5 before they entered school. The study showed that children with higher exposure to prenatal pollutants scored 4 to 5 points lower than children with lower levels of exposure to prenatal pollutants. This makes a negative correlation between the amount of prenatal pollution and IQ scores of expecting mothers' children. Another reason it is not the experimental research method is the experimental research method uses a more direct approach. It would have been conducted in a way that controlled the variables more closely.

Case studies are done on a much narrower span of people mainly on one person. Surveys involve just asking questions and comparing the answers rather than using such things as the back pack air monitors and IQ tests. Describe how well the author of this news story in writing the news story took into consideration the purpose, advantages, and disadvantages (limitations) of the research method used in the original study? Believe the author did a good job of explaining the purpose, advantages, and disadvantages of this research method.

He didn't actually discuss much about the research method itself while he was writing this article, rather he just explained the methods that were used to gather the information used in this study. The whole article, for the most part, embraces the research that was done as well thought out and fairly precise. It speaks of other factors that could have affected the study such as secondhand smoke, the home learning environment, and exposure to pollution after birth as being able to alter the results of the study, but still insists that a strong correlation is there between prenatal pollution and IQ scores.

This is one of the limitations of the study. Another limitation that the writer mentions is the fact that many of the mothers in the study have never received a high school diploma. That could have a strong influence on children's IQs but the story says there is still a lot of compelling evidence that prenatal pollution affects the unborn. Describe two ways the general public is likely to misinterpret this news story? The general public has a tendency to read the headline or skim through article rather quickly without really reading into it.

The article says how prenatal pollution is the major factor that is causing these lower IQ scores. The public could misinterpret that as being the main reason even though there could be many other factors that contribute to this. Even some of these reasons are mentioned in the article. Another misinterpretation the general public could possibly make is that prenatal pollution is a very dangerous thing that is very detrimental to the unborn. Although this study does show a link between lower IQ scores and prenatal pollution, it does not show a direct link to other health issues.
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Using the information in chapters 1-7 in your textbook, explain how at least five factors not listed in the news story could better account for the lower IQ scores than air pollution could. In other words, what five factors may be associated with living in high pollution areas that better explain lower IQ scores than the pollution itself? The intelligence of a group of 5 yr olds measured in an IQ test is a difficult way to determine if the factors that are being studied are truly the actual cause.

One factor to consider is the fact that the mothers only wore the backpack monitors for 48 hours during the last few months of pregnancy. My experience has shown that most mothers during the last few months of pregnancy are very uncomfortable moving around the house, let alone going out. If certain mothers were able to stay in their apartments for the two days they were wearing the backpack they would have considerably lower amounts of pollutants that would register to the backpacks than mothers who were forced to go out to get things such as groceries or whatever errands they may have had to run.

Having only monitored the mother's level of pollutants for these two days could mean that they could have false information on the level of pollutants the mother was actually exposed to during the full term of her pregnancy, thus altering the outcome of the study. Another factor not listed in the article is the biological factor. Highly polluted areas usually are much less expensive to live in. The mothers most likely do not have the intelligence that it would take to better their living situation and would in turn pass these genes on to their children.

This could be a cause for the lower test scores. Another factor that goes along with that is the fact that the mother's intelligence was never recorded at all. Heredity is such a key part Of intelligence that it is difficult to believe that this wasn't noted, especially when there are only averaging 4 to 5 points difference between the group with high pollution and the group with low pollution. Testing the mothers Sis's would have been a way to eliminate this variance or at least have a better understanding of it.

Another factor not mentioned in the study is that the atmosphere of the home is not truly analyzed. If mothers are not able to teach their children as many things because of other commitments, such as a job, then their child could have lower scores do to fact that their mother simply does not have the time to put in to sitting with their child, talking to their child, reading to their child, or any other number of things that could enhance the child's ability to learn.