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The Mercury and Autism Debate: What Has Shaped the Public's Perception?

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THE MERCURY AND AUTISM DEBATE:

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Autism spectrum disorders can result in developmental disabilities that cause communication and behavioral problems (Centers for Disease Control and Prevention, 2012). The frequency of Autism Spectrum Disorder diagnoses has increased significantly which has led to investigations to determine if environmental triggers are responsible for the disorder (Trousdale, 2010).

This sequential mixed methods study focuses on mercury, which is known to cause neurotoxicity in children. More specifically, it explores the relationship between mercury levels in the environment and autism rates. The reason this mixed-methods study was conducted was to determine if there is an association between atmospheric mercury and autism rates in the United States. The quantitative part of the study examined whether fluctuating levels of mercury over time may be used to predict the rate of change in autism. A collection of existing state autism data was taken from the Individuals with Disabilities Education Act website. Mercury deposition levels were obtained from the Mercury Deposition Network website (National Atmospheric Deposition Program, 2012). The collection of existing samples were examined weekly from January 2002 to January 2012 and then compared to monitoring stations across the United States in the same time period. Autism rates were compared from each state for the corresponding year. Samples of research that both support and refute the theory that mercury exposure contributes to autism were given careful consideration, which led to a qualitative study of what has shaped the public's perception on mercury and autism. The purpose of the

qualitative research was to build on the quantitative aspect and help explain the results to the second research question. In order to determine what the public's overall perception was, the sequential explanatory design enabled the researcher to connect the data analysis to explain the findings. The qualitative data was analyzed for recurring themes.

The results showed that the partial correlation gives a significantly low and negative relationship between mercury levels and autism rates across the United States. These results do not support the public's perception on mercury and autism. Some of the public still believes that mercury can contribute to the cause of autism.