

Research Summary Paper: Academic Difficulties in Children with Prenatal Alcohol Exposure

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Research Summary Paper: Academic Difficulties in Children with Prenatal Alcohol Exposure

Glass et al. (2017) focus on investigating the impact of prenatal exposure to alcohol on children's academic difficulties. The purpose of the research was to obtain a better understanding of academic strengths and weaknesses experienced by children who had histories of prenatal alcohol exposure by comparing them with children labeled as those typically developing – without alcohol exposure. The interrelated aim of the study was to study neural correlates that predetermine the risks of facing academic challenges. The issue is important because it may be used as a foundation for developing an overarching educational campaign focusing on pregnant women taking alcohol on a regular basis with the aim of potential reduction of the scope of this problem, thus improving the overall level of academic achievement if the educational initiative is successful. Before the study, it was known that prenatal exposure to alcohol is associated with the decreased academic performance. So, just like suggested by the existing knowledge, the authors hypothesized that such children would experience difficulties in education, and difficulties with math would be more prominent than that with spelling or reading. Also, they hypothesized that these issues can be explained by the changes in cortical structures.

Method

The sample included 128 children aged between 8 and 16. They were divided into two groups: 67 children with heavy prenatal exposure to alcohol and 61 children without, and they made up the control group (Glass et al., 2017). To test the hypothesis, the researchers compared patterns of academic performance of these two groups in three different domains: math, reading, and spelling. To collect data, children were asked to complete the WIAT-II tests (Wechsler Individual Achievement Test – Second Edition), and the collected data were analyzed using SPSS statistical toolkit (specifically, chi-square statistics and analysis of variance). The first was

used to measure categorical variables, and the second was applied to measuring the dynamic ones (Glass et al., 2017). Due to the focus on the existing connections, the research design is correlational, as children were not put in a specific environment with controlled conditions.

Results

As a result of data collecting and testing the hypothesis, the researchers found that children with prenatal alcohol exposure had lower academic achievement in at least one of three domains compared to those who were not exposed to alcohol. Also, math difficulties were more prominent than difficulties with reading and spelling. The main conclusion is that these difficulties may be associated with atypical brain development caused by prenatal alcohol exposure. The results were consistent with the hypotheses, as all of the assumptions made were statistically proved over the course of the research.

Discussion

The article provided the ground for understanding the unique features of children's academic functioning as predetermined and affected by their prenatal development. They may be relevant in everyday life due to serving as the foundation for developing effective interventions in neurodevelopmental populations aimed at explaining intellectual functioning from a new perspective – that going beyond merely behavioral aspects. In the discussion section, the authors recognize that the research findings should be considered with the view of the following limitations: cross-sectional data collection and paying no attention to other factors that may have affected academic difficulties, such as quality of education, different diagnoses in children, potential stress of trauma, home and classroom environment, and family stability (Glass et al., 2017). Still, the researchers used objective tests, and the subtests could be easily co-normed, which is the main strength of the study, as the risks of bias are significantly reduced. Regardless

of this strength, for me, the sample could have been more uniform or, at least, the children could have been divided into age groups in order to reduce the risks of research findings inconsistency due to a significant age lag.

References

- Glass, L., Moore, E. M., Akshoomoff, N., Jones, K. L., Riley, E. P., & Mattson, S. N. (2017). Academic difficulties in children with prenatal alcohol exposure: Presence, profile, and neural correlates. *Alcoholism: Clinical and Experimental Research*, *41*(5), 1024-1034. doi:10.1111/acer.13366