A Study Investigating the Difference in ADHD Diagnoses Between Those Born in August & Those Born in September

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Introduction:

A study by Michigan State University Economist Todd Elder found that nearly 1 million children in the United States are potentially misdiagnosed with attention deficit hyperactivity disorder simply because they are the youngest – and most immature – in their kindergarten class. Ultimately, this needs to be researched in order to produce potentially more efficient & accurate methods of diagnosis so that we avoid physically and psychologically harming children before they can even advocate for themselves.

Aim:

To investigate whether there is a significant difference in the number of ADHD diagnoses for children born in August (the youngest in a school year) compared to those born in September (oldest in school year) and identify any causal factors.
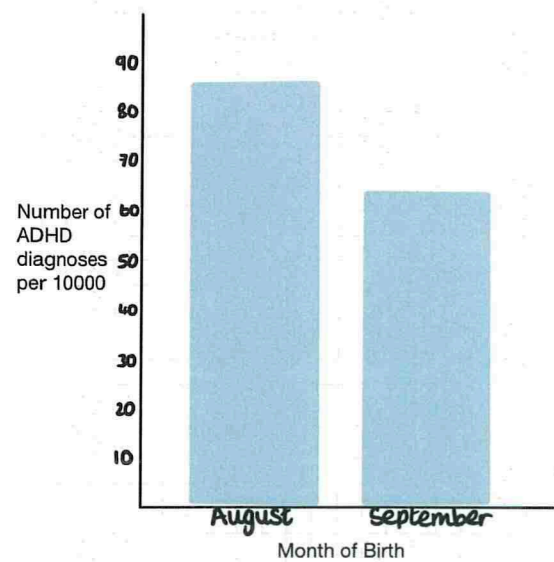
Research Procedure:

The first part of the quasi experiment would use nomothetic research methods in order to investigate whether there is a significant difference between the number of children born in August compared with those born in September. We would do this by collecting quantitative data from primary schools, asking them to provide a list of Year 3 pupils (without any identifying data e.g., names for confidentiality) born in September with a tick or cross representing whether they have an ADHD diagnosis. This would be repeated for the pupils born in August & the data compiled into a contingency table. Using this data, we can complete a chi-squared test at the significance level of 0.05 (for a balance between type 1 & type 2 errors) as our primary data we have collected is nominal.

Directional hypotheses for this test:

- H0: There will be no significant difference in number of ADHD diagnoses between the two months
- H1: There will be a significant increase in number of ADHD diagnoses for those born in August compared to September

Next, we would use an idiographic research approach to investigate why there may be a relationship between the likelihood of an ADHD diagnosis & month of birth. Through systematic sampling (randomly selecting every 10th participant from our sampling frame of Year 3 pupils born in August or September with ADHD), we would be able to gather a smaller group of participants to collect more in-depth, qualitative data in case studies & content analysis. This part of the study would be longitudinal to investigate how behaviours may change over time and include interviews using open questions with teachers & parents/carers. Examples of the questions would include: "How would you describe x's organisation skills?", "Is there anyone within x's close family that has been diagnosed with ADHD?" & "Was x born prematurely?". Furthermore, it would include naturalistic observations, school reports and clinical & attitude tests. Another research method we could apply is content analysis, where a researcher would develop a coding system by tallying every time a behaviour category (e.g. Inattention, impulsivity & hyperactivity) is spotted in the artefacts (interviews). This would produce quantitative data, which reduces bias.

Discussion:

Misdiagnosing children with ADHD can have dire consequences on their future. These include:

- One of the most widely known causes of ADHD is a deficit in dopamine, norepinephrine, and serotonin neurotransmitters. Therefore, in order to treat ADHD, many children are prescribed stimulants such as Adderall or Dexedrine. Unfortunately, if the ADHD is misdiagnosed, using psycho-stimulants to activate neuronal receptor sites would lower levels of naturally occurring neurotransmitters in the brain, as it would no longer need to produce them by itself, potentially leading to depression. Another worry of using stimulants is that one study found an increase in early-onset Parkinson's disease due to disturbed dopamine levels.
- Financially, using stimulants to treat misdiagnosed ADHD is a huge waste of money for the already struggling NHS as they cost thousands a year to manufacture.
- Incorrect labelling could lead to an increase in stigmatization.
- There could be an alternative explanation for the behaviour which isn't being treated/managed eg., Anxiety, OCD or learning disorders.