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“Do teenagers always tell the truth?”

Estimating the prevalence of adolescent risk behaviors from inconsistent self-report”

Abstract: Adolescents do not always answer survey questions truthfully. Researchers cannot detect lies directly, but they can detect logical contradiction, such as when an adolescent gives different answers to the same question in a short time frame. This study identifies question properties associated with higher inconsistency and estimates the increased error due to inconsistency. The data is from a reliability study of the Youth Risk Behavior Survey (YRBS) in which a diverse convenience sample of 4628 high school students answered the same 72 questions at an interval of two weeks. In the two week interval, the prevalence of 41 of the 72 risk behaviors changed significantly. Linear regression showed that questions about substance use are more consistent than questions about other topics, and questions about lifetime risk behaviors are more consistent than questions about behaviors in other time frames. A Bayesian method estimated that the standard error of the prevalence of 72 risk behaviors is at median 3.3 times larger than conventional estimates of standard error.