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| **Scenario 1: IQ as a confounder**  If IQ is a confounder, adjustments (as indicated by the box around IQ) are needed to block the backdoor path.  (1)  **Scenario 2: IQ as a mediator**  A mediator (M) is a variable that lies along the path between the exposure (A) and the outcome (Y).  (2)  Adjusting for a mediator will close the path from A-M-Y. This impedes observation of the association between the predictor and outcome that runs through the mediator.  **Scenario 3: IQ as a collider**  A collider (V), also referred to as a common effect, is a variable where two arrows meet:  (3)  A collider naturally blocks the backdoor path between the predictor and outcome. Adjusting for a collider will create an open backdoor path between brain structure and attention problems through IQ. This will determine collider bias. |