

What Changes May Occur in Intelligence Quotients (IQ) Over Time?



Some males with fragile X syndrome show a decline in their IQ scores after puberty. This does not mean fragile X is a degenerative disease. It does not mean that these boys have lost skills that they had previously acquired. They can still learn new skills. However, it seems for some males there is a decline in the rate of learning.

Some explanations for this decrease are based upon the properties of IQ tests and the changes in the tests over various ages. At the early childhood level, there are many items such as single word vocabulary and visual matching tasks. By middle childhood, more abstract thinking and symbolic language are required, and wordings of questions are more complex. Boys with fragile X may remain more concrete in their thinking, while their age-mates are becoming more abstract thinkers. So, the gap between their scores widens.

Another explanation for the decline in IQ is that the regulatory factors responsible for the initiation of puberty may play an important role in the plateau. There may be neurological changes that cause a slowdown in learning rate.

Sequential processing, in particular, seems to plateau. Adaptive living skills tend to continue to increase, and many males with fragile X have adaptive living skills (caring for themselves, their belongings and homes) well above what their IQ scores would indicate.

Some researchers believe there are two types of fragile X mutation, one of which is stable and does not cause a decline in IQ. The other is more dynamic and contributes to the decline. Males with more [protein](#) production (less [methylation](#)) may be more protected from a significant IQ decline.

If the learning rate is best for boys during their younger years, then the need for early intervention, early childhood programming, and multidisciplinary elementary intervention is clear. Helping boys to achieve their maximum potential must be the goal of cognitive intervention.

[Gail Harris-Schmidt](#), Ph.D., CCC-SLP
Saint Xavier University
Chicago, Illinois