This includes physical features

- Identical twins appear very similar

This also includes the physical features of their brains (structure, neurotransmitters etc)

- We know these things are likely to influence behaviour

E.g., Height, Cognitive ability, Hyperactivity, Antisocial behaviour

Lots of different sources of variation

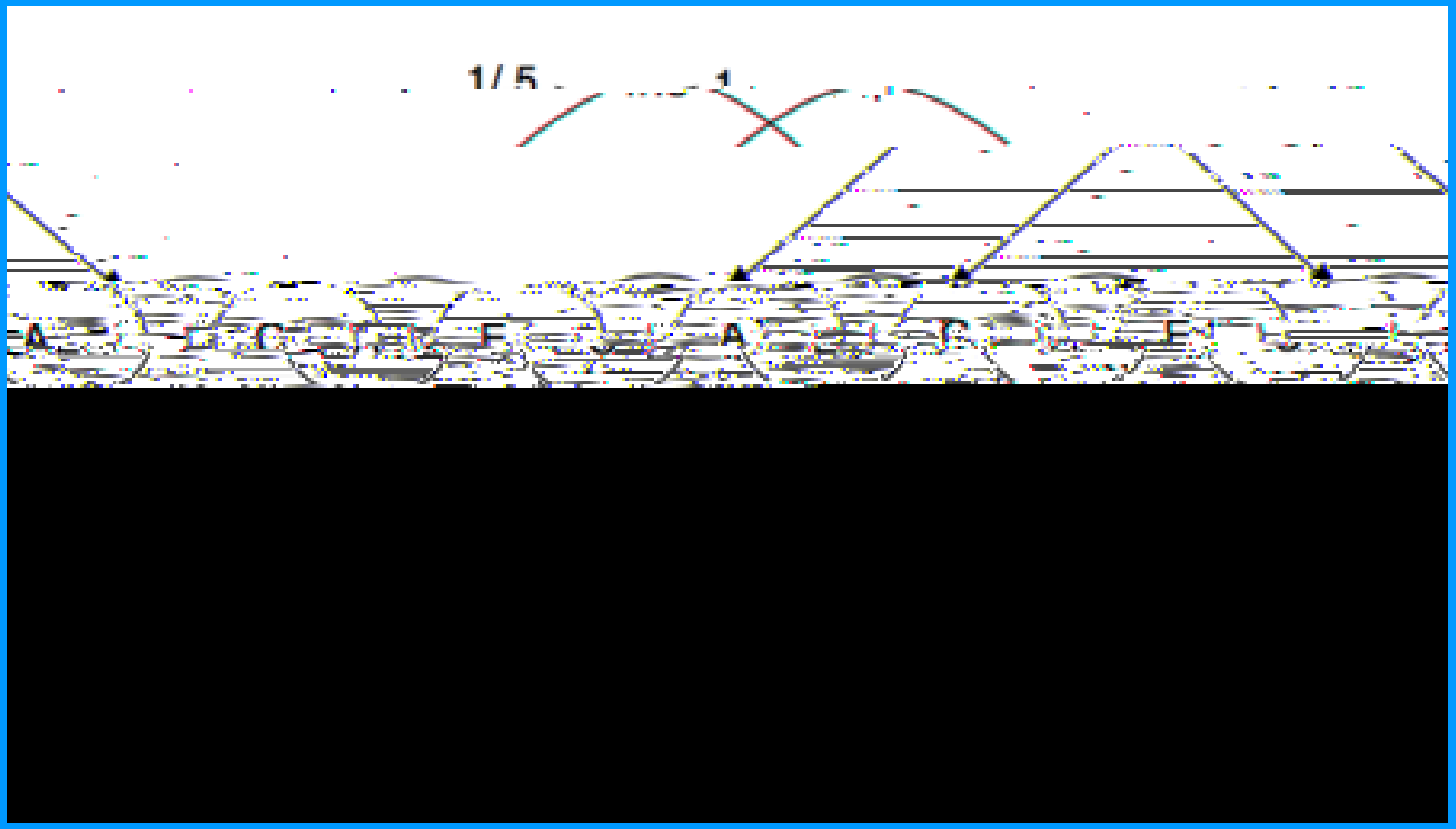
- Environment influences
- Lots (100s?) of genes each of small effect

Genetic effects appear important in explaining behavioral variance

-

genetic designs may be genetic effects in disguise

- Compares MZ (identical) and DZ (50% similar)
- Estimates
-


1/5

rMZ = .66, rDZ = .38

Additive genetics = .56

Common environment = .10

specific Environment = .34

Virginia Twin Study, Eaves et al., 1997

Contribute to C estimate?

- C estimates tend to be low (although upper CI may be high)
- Effects may differ between children in same family (eg one twin may be more resilient)

Genes have different effect on behaviour depending on environment

Response to environmental stimulus moderated by genetic make-up

Genetics appear to account for a large proportion of variance in behaviour

Offer an important opportunity to learn about environmental effects

- (Also see MZ-Difference designs)

SEMs being developed to estimate GxE correlation and interaction simultaneously