***Brendgen et al (2005)***

**Aim:** Examining the genetic and environmental (shared and non shared) effects on social and physical aggression using 6-year-old twins.

**Procedure:**

Pps: 234 6 year old twins, 94 MZ twins(44 male and 50 female) 73 DZ same-sex twins (41 male and 32 female) and 67 DZ mixed-sex Twins, Pps already part of a longitudinal study in Canada (opportunity sampling). 84% of European decent and 16 Ethnic minority. Average family income 54,000CAN

The children’s Physical and Social aggression level would be measured by their teacher and peers, 25.2% of the twins attended the same classroom the rest were in spate classrooms. The teacher was required to fill in two questionnaires on the twin(s). The 1st measured social aggression asking question like ‘Tries to make other children dislike a child’ ‘Becomes friends with child for revenge’. The 2nd measured physical aggression, based on a 3 point scale questions like ‘does the child get into fights’ or ‘hit’ or ‘bites’ were asked.

Peer rating was completed by giving the children pictures of their classmates, researchers checked the students could identify the pictures and they were asked to circle children who fit a description. Social aggression the description was ‘tries to make others dislike a child’ ‘tells mean secretes about others’. For physical aggression the description was ‘hits others’ or ‘bites others’ or ‘gets into fights’.

82% of twins received at least 1 nomination for social aggression.

62% of twins received at latest 1 nomination for physical aggression.

**Findings:**

**Initial findings**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variance | Teacher | | Peer | |
| Physical | Social | Physical | Social |
| Genetic | 63% | 20% | 54% | 23% |
| Shared | 0% | 20% | 0% | 23% |
| Non-shared | 37% | 60% | 46% | 54% |

* The teacher was more likely to find boys to be more physically aggressive than girls and girls to be more socially aggressive.
* The peers were more likely to find boys more physically and social aggressive.
* 50-60% of the variance of physical aggression was found to be explained to hereditable factors whereas 50-40% of the variance was found to be explained to non-shared environment factors
* 20% of the variance for social aggression was found to be explained to hereditable factors, 20% of the variance was found to be explained to shared environmental factors as 60% of the variance was explained by non-shared environmental factors.

**Conclusions:**

It appears that physical aggression has a much higher genetic factors involved, this suggests that physical aggression may be due to the genes we inherit rather than our environment. However the concordance rate was not 100% so environment factors must play a role.

Social aggression on the other hand seems to be influenced more by our environmental factors than inherited factors. Again a nature nurture balance.

**Criticisms:**

One of the first studies to assess heritability and make the distinction between social and physical

Small Sample size – so can it be generalised

Can only be generalised to 6 year olds

Validity – are 6 year olds really able to understand physical and social aggression

Longitudinal twin study which are very useful in determining genetic factors

Self reported measure