Cannabis, COMT genotypes and psychosis (Caspi et al, 2005)

- The COMT gene is located on chromosome 22q11, a region implicated in schizophrenia, and moderates dopamine metabolism
- The Met allele is associated with less enzymatic activity and slower breakdown of dopamine leading to higher dopamine transmission
- The Val allele is associated with more enzymatic activity and faster breakdown of dopamine leading to lower dopamine transmission
- Dopamine function is altered in schizophrenia (e.g. excessive level of dopamine in the striatum vs decreased level in the prefrontal cortex)
- Cannabis use is associated with increased dopamine transmission in the mesolimbic system, a mechanism which is thought to underlie hallucinations and delusions in schizophrenia
- Is there an interaction between cannabis use and COMT