Individual Differences in Memory

The main individual differences reside in Encoding and Declarative (explicit) memory.

Personality Traits (an interaction between novelty and reward).

Duzel et al (2009) Novelty Seeking Traits – Found that SN/VTA responses to novelty correlate with novelty-seeking scores, even when the novel stimuli do not predict rewards. This suggests that unlike **reward-dependent individuals,** novelty-seekers are not motivated just for reward.

Cohen et al. (2009) Neural Circuits – It has been argued that novelty seekers have stronger **hippocampal-striatal connectivity** than reward seekers. Reward-seekers have stronger **prefrontal striatal connectivity** than novelty seekers.

Motivation/Salience

Tulving et al. (1996) Novelty/Encoding Hypothesis: Novelty assessment represents an early stage of LTM memory encoding; the probability of storage depends on the novelty of the information.

Novelty acts as an exploration bonus.

Encoding Strategies

Can be influenced by **strategy (levels of processing), motivation/salience (novelty and reward) and genetic make up.**

Strategy: Craik & Lochardt (1977) Study of effects of orthographic, phonological and semantic features of words (with the latter words eliciting the best recall due to deeper processing).

Individual Differences in fMRI: Kirchoff & Buckner (2006) Participants asked to study pairs of objects (banana and lorry) in preparation for future memory test (but no instructions were given as to how). People used verbal strategies and visual strategies. Signal changed in particular brain regions according to strategies. **Verbal strategies** correlated with high activation of **right prefrontal cortex** (language area), **lateral occipital cortex** activated highly in those using visual strategies. People vary according the strategy they use and the brain structures they utilise, in the same task.