Starvation affects several areas of functioning: eating behaviour, cognitive processing, emotional functioning, interpersonal relationships.

The other layers of an eating disorder

Abnormal eating is at the core but also the other changes around the edge.

Cognitive functioning: set shifting
- Set-shifting ability is the difficulty/ability changing rules, from one task to another
- In acute state: small to medium sized difficulties in adults as well as in adolescent samples of AN, BN and BED
- Women ill with AN have set-shifting inefficiencies (Tchanturia et al., 2011) in that they tend to perseverate on previously applicable rules (Roberts, Tchanturia, Stahl, Southgate, & Treasure, 2007). Such findings are consistent with the clinical observation that these patients tend to be cognitively rigid and persistent (Brewerton, Hand, & Bishop, 1993).
- Recent evidence suggests that set-shifting inefficiencies not only occur across adults with AN but also other subtypes of eating disorders, such as bulimia nervosa (Roberts, Tchanturia, & Treasure, 2010). and seems to persist after individuals with AN have restored weight (Tchanturia et al., 2004)
- Roberts, Tchanturia, Treasure (2010) – 270 females with current AN and Bn, poor set shifting was found at a higher rate in those with binge/purge subtypes.
- Set-shifting difficulties are also present in children of women with EDs and 1st degree relatives (sisters, twins, parents)
- Set shifting tasks are associated with increased frontal and parietal and decreased striatal activation (Zastrow et al., 2009)
- Given that set-shifting has been associated with brain dopamine (DA) function (Floresco, Magyar, Ghods-Sharifi, Vexelman, & Tse, 2006) and that the pathophysiology of AN may involve DA alterations (Frank et al., 2005; Kaye, Frank, & McConaha, 1999), it is possible that alterations in set-shifting in AN represent changes to the DA system.

Cognitive functioning: central coherence