**Title:**

Genetic and environmental influences on cognitive reserve and its relation to frailty

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**Description:**

Cognitive reserve (CR) is the dynamic construct referring to adaptability allowing for better-than-expected cognitive outcomes given cognitive adversity factors (Stern, 2012; 2020). Despite the myriad needs to identify underlying mechanism of CR, the existing evidence is surprisingly mixed. Using a residual approach, we measured CR as the variance of cognitive performance unaccounted for by demographic variables and brain measures (Reed et al., 2010) in CATSLife and LTS. To examine the construct validity of CR, we included measures such as impulsivity, conscientiousness, cognitive activity, etc. Frailty was measured as in index for the accumulation of deficiencies across 26 physical and psychosocial functions. We used bivariate biometric models to examine the genetic and environmental overlap between CR and frailty.

Initial work with 627 participants revealed modest phenotypic associations between CR and frailty. Moreover, bivariate Cholesky model suggest genetic overlap played a larger role in such associations. This project is pre-registered at the OSF (<https://osf.io/6mkxg/?view_only=1e753939ad144ec68fce8944258cf269>).

Last Presentation: GSA 2022

Plans: use updated CATSLife data

**Sample:**

CATSLife, LTS

**Process:**

Analyses and writing begun

**Start:**

2022/02

**Last:**

2022/07