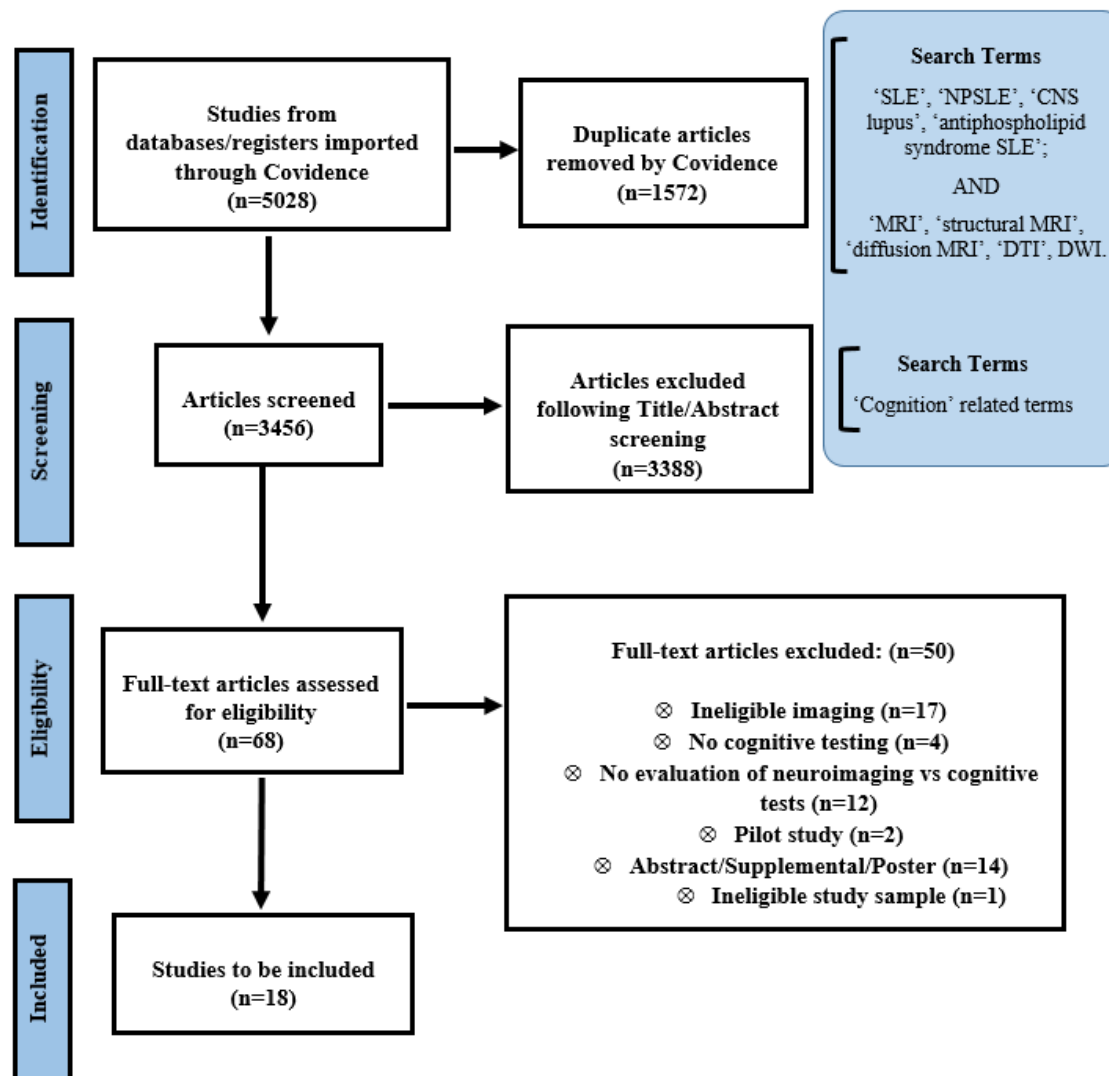


Supplementary File S1: Detailed Search Strategy



Supplementary Figure S1: Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram describing the search strategy utilized to screen existing MRI studies in SLE.

1) Identification: Database search included PubMed, MEDLINE, Embase, Web of Science, Google Scholar, and Cochrane. Search terms included: 'systemic lupus erythematosus (SLE)', OR 'neuropsychiatric lupus (NPSLE)', OR 'central nervous system (CNS) lupus', OR 'antiphospholipid syndrome SLE'; AND 'magnetic resonance imaging (MRI), OR 'structural

MRI'; OR 'diffusion MRI', OR 'diffusion tensor imaging (DTI)', OR 'diffusion weighted imaging (DWI)'.

2) Screening: A manual search for any term related to 'cognition' on each identified article's title and abstract was independently performed by all co-authors. Examples of keyword terms were: cognition, cognitive performance, cognitive function, cognitive dysfunction, cognitive impairment, cognitive deficit, memory impairment, memory deficit, executive function, executive dysfunction, attention, processing speed, psychomotor speed, and reaction time.

3) Eligibility: Peer-reviewed observational (cross-sectional or longitudinal) neuroimaging studies that utilized advanced structural (T1-weighted) and/or diffusion MRI and that evaluated cognitive function in SLE. A full text review of potentially eligible articles was carried out by the two first co-authors (DVC, TE).

4) Included: Eighteen final articles were selected by consensus.



Supplementary Figure S2: Risk of Bias Assessment for all included articles. Overall Methodological Quality: Poor = High Risk of Bias, Fair = Unclear Risk of Bias, Good = Low Risk of Bias.