Objectives and main question

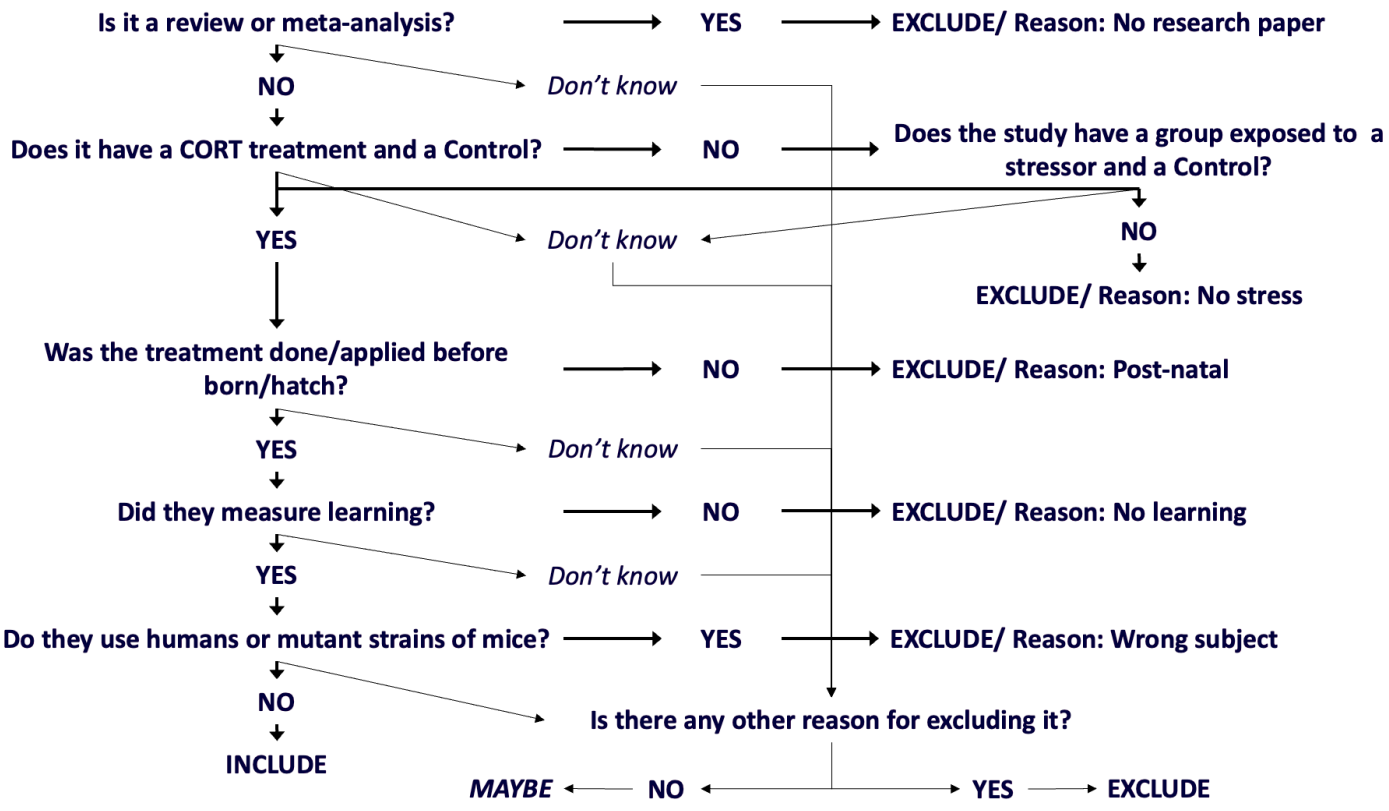
The main objective of the meta-analysis is examine how elevation of GCs during embryonic development affects learning abilities: **Does prenatal exposure to GCs affect learning?**

To do so, I need to identify studies that conducted some GCs-related manipulation on dams or eggs before hatchling and then measured learning abilities. More specifically, I will use studies testing the differences in learning performance of offspring coming from dams or eggs treated with GCs or submitted to any kind of stressor versus a control group.

In addition, I will also aim to test the influence of incubation temperature on prenatal GCs effects: **Does the incubation temperature influence the effect of GCs-related treatment?**

For that - if the number of studies is enough -, I will examine the impact of early thermal environment by employing only those studies that include the incubation temperature of eggs and investigating the relationship between temperature and GCs' effect.

Screening papers – Selection criteria:



Concepts in decision tree:

- Definitions and examples of CORT and stressors:
    - Other synonyms of CORT are Corticosterone, Cortisol, Glucocorticoids (GCs)
    - Some procedures considered stressors in rats: learned helplessness, the forced swimming test, the tail suspension test, isolation, chronic mild stress, and sleep deprivation
    - We will consider a stressor anything else that is stated as a stressor directly by the authors
    - If there is a treatment but we do not know if it can be stressful or not, then is a "Don't know" (see decision tree)
- Definitions and examples of learning:
    - Memory or cognition can be used as synonyms
    - Spatial or associative tasks can be synonyms of learning
    - Also, another learning test usually used with rats is the Morris-water task/water task
- What is a "mutant strain" of mice/rats?

    In some papers, they use laboratory reared strains of mice or rats that may be more sensitive to CORT or the stressor used; unless they also use a 'wild-type' mice, we will exclude those papers