

Exploring the association between depression and educational attainment in children and young people

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Changes in school performance over time

- We are looking at how children's school performance changes over time.
- This will help us to understand who struggles most with school performance throughout their school career, and then we can ask whether this is linked to their mental health.

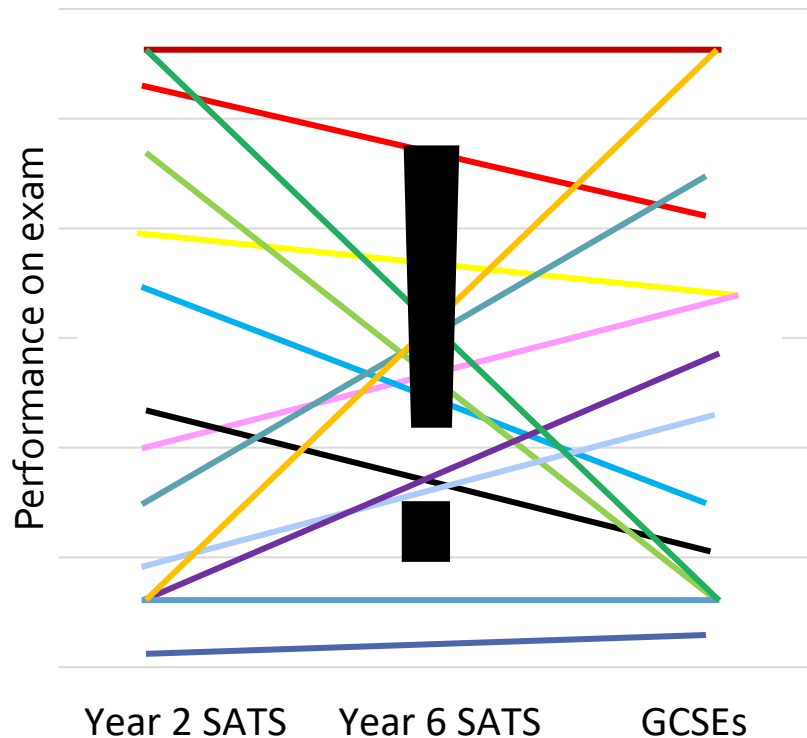
2-step study:

1. Describe changes in school performance over time in the general population
2. See how this is associated with mental health

How do we describe patterns of school performance in the general population?

1. Take a sample of children and adolescents from South East London (~222,000)
2. Measure their performance in their Year 2 SATS, Year 6 SATS, and GCSEs
3. Sort them into groups, based on their performance in these exams

A hypothetical example:



Pupils who always get above average grades

Pupils who always get below average grades

Pupils whose grades improve over time

Pupils whose grades get worse over time

?

?

So how do we decide how many groups is best?

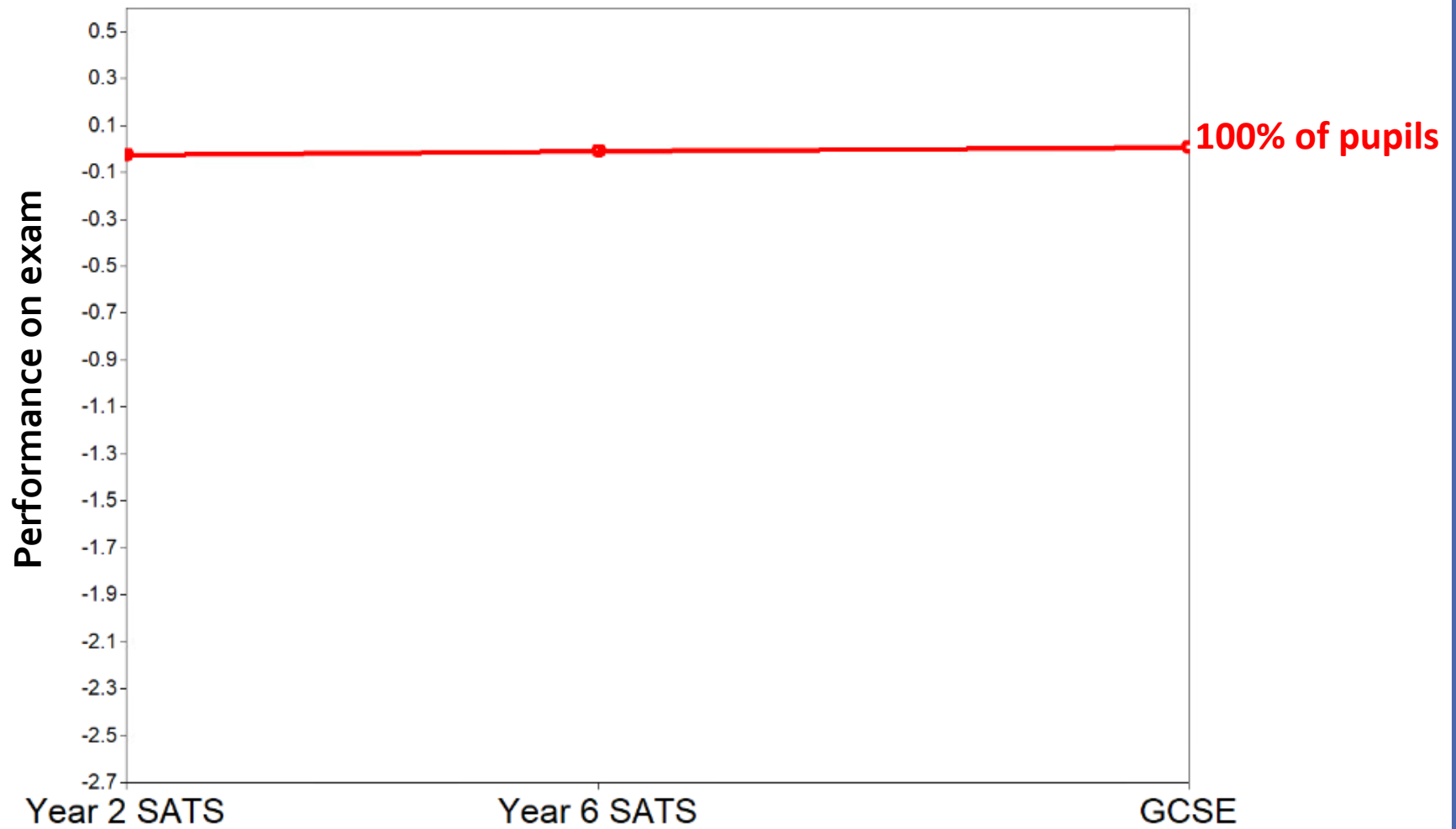
We want to:

- Describe as many people in the population as possible
- ...But using as few groups as possible, only adding in a new group if it is really meaningful

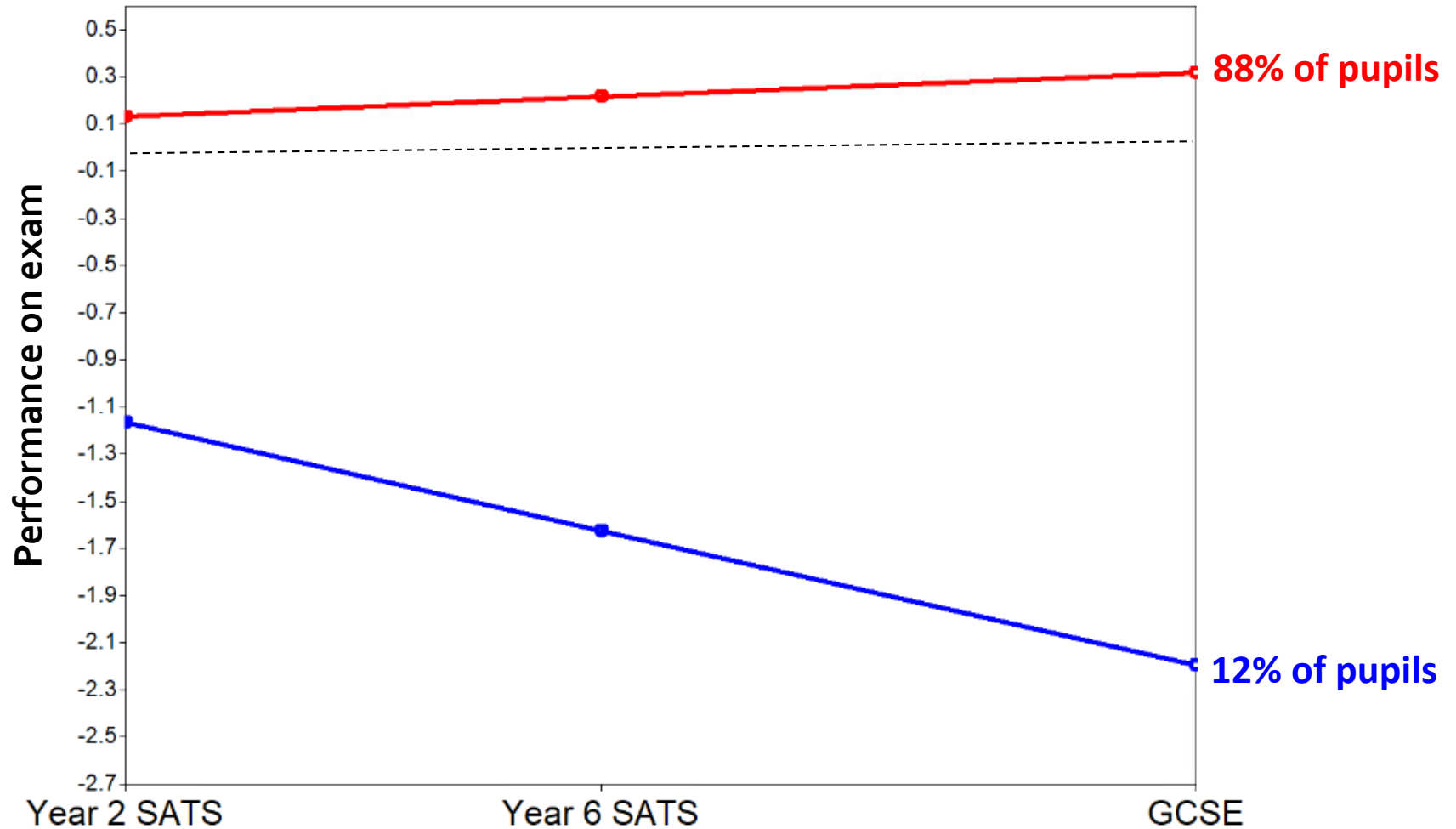
We decide this based on a combination of maths, and what we know about the subject area.

This is where you come in!

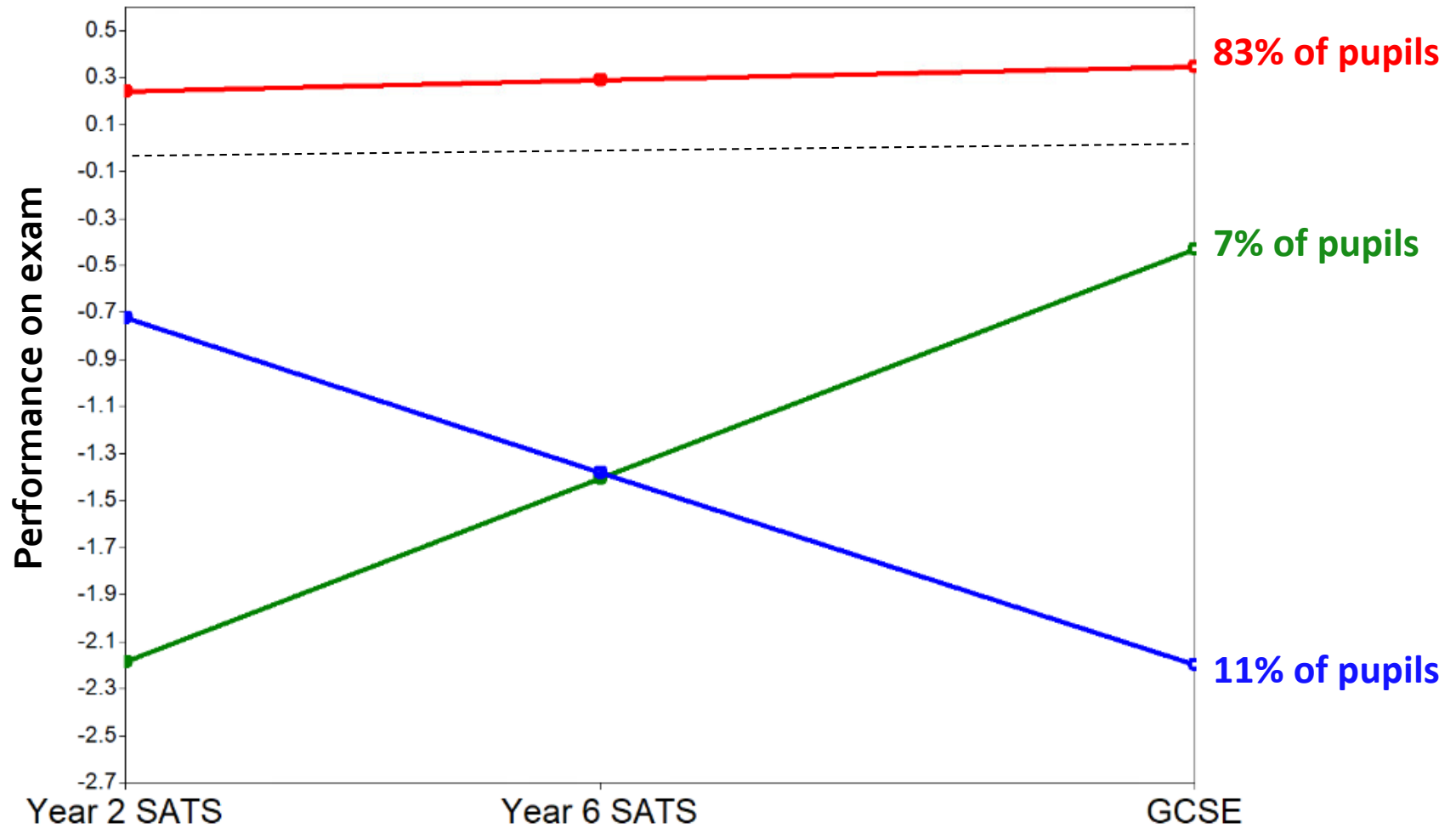
1 group



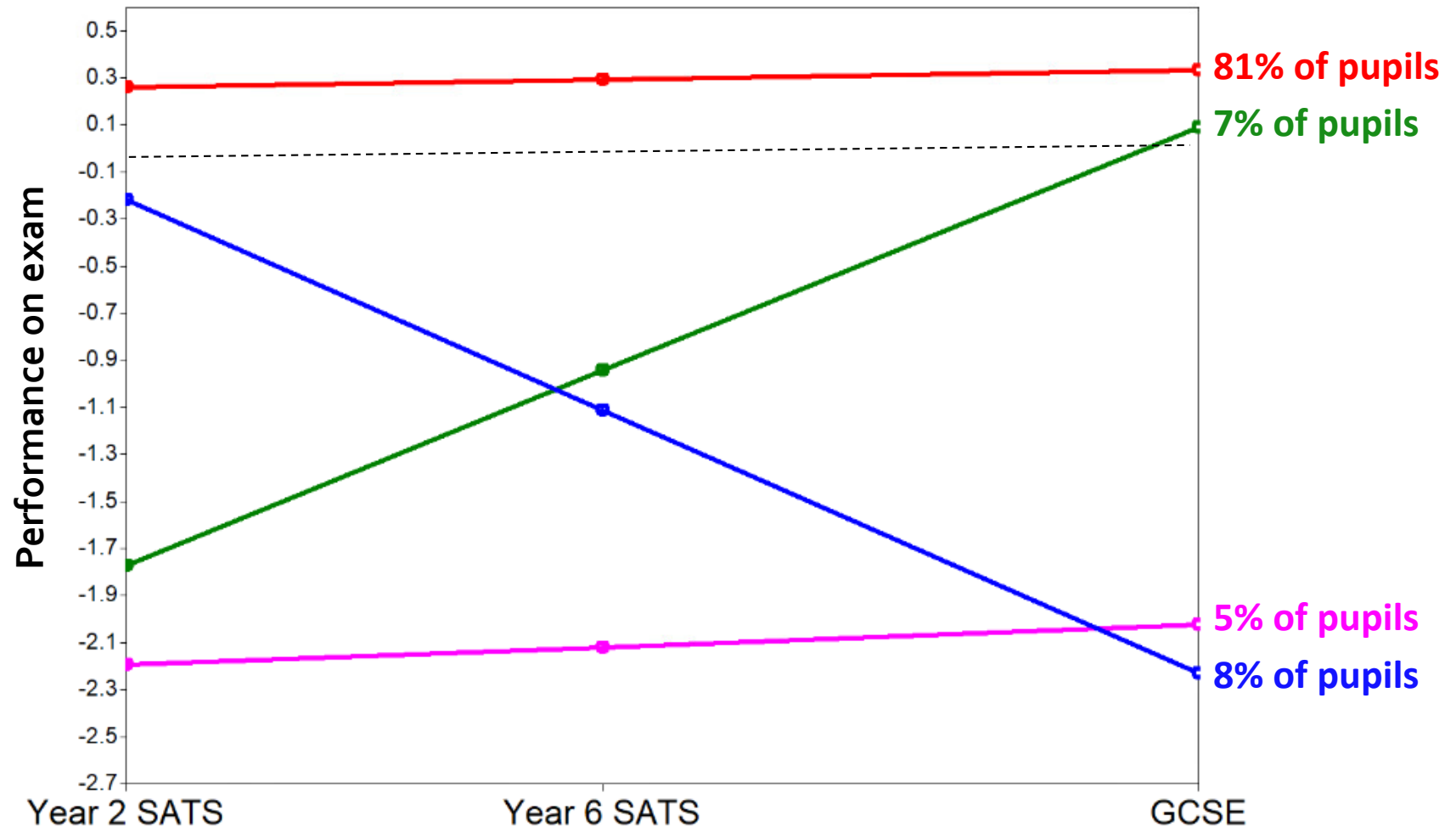
2 groups



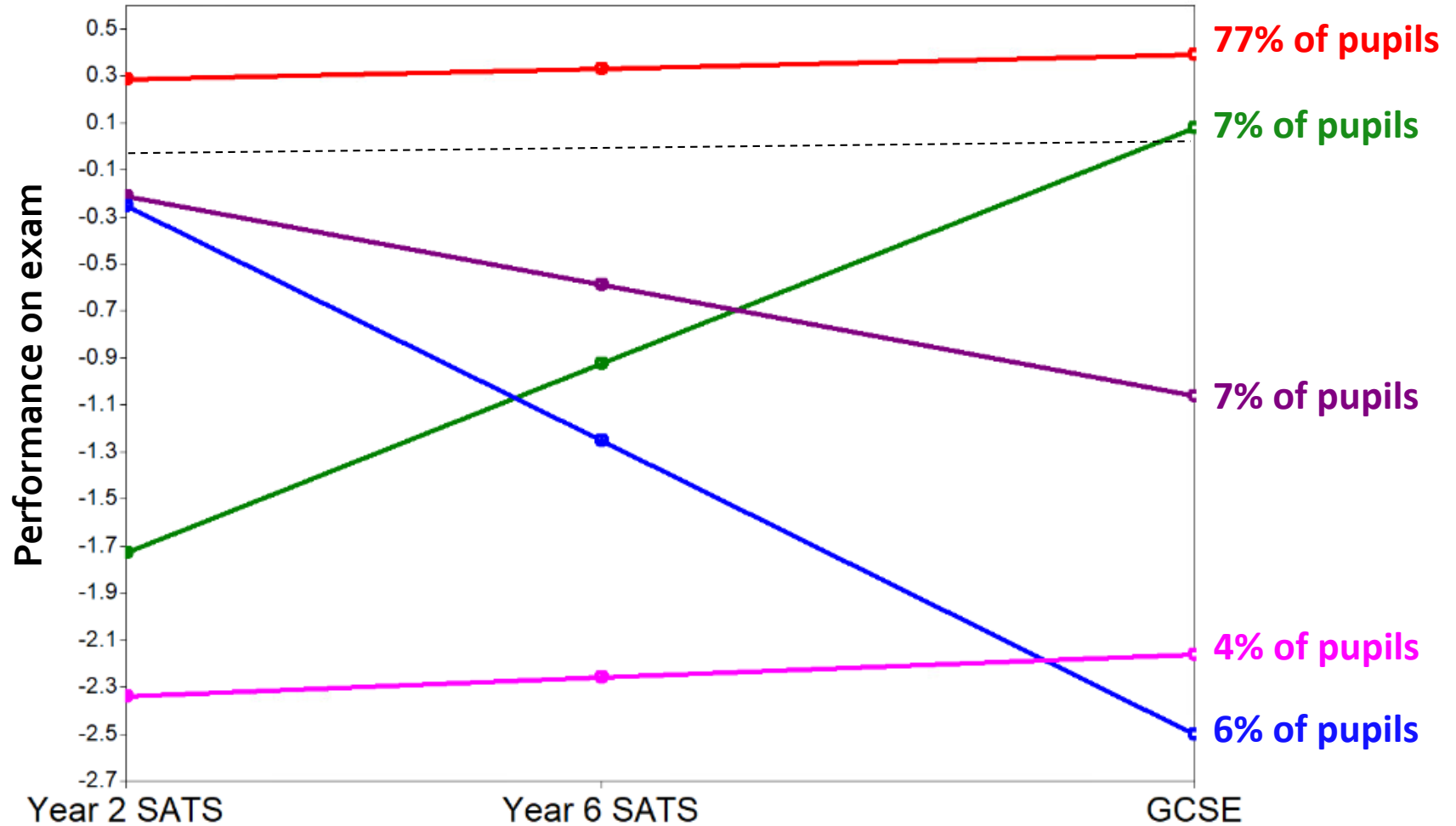
3 groups



4 groups



5 groups



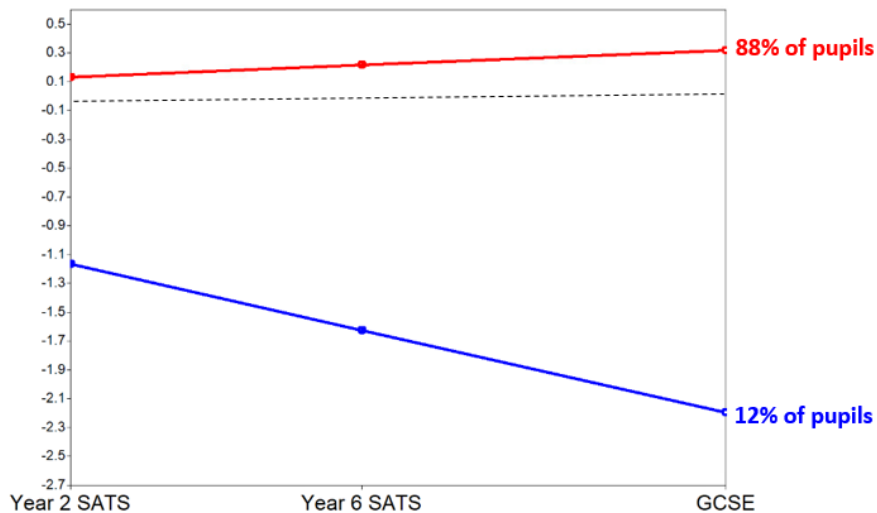
Now to decide how many groups we should pick

Remember, we want to:

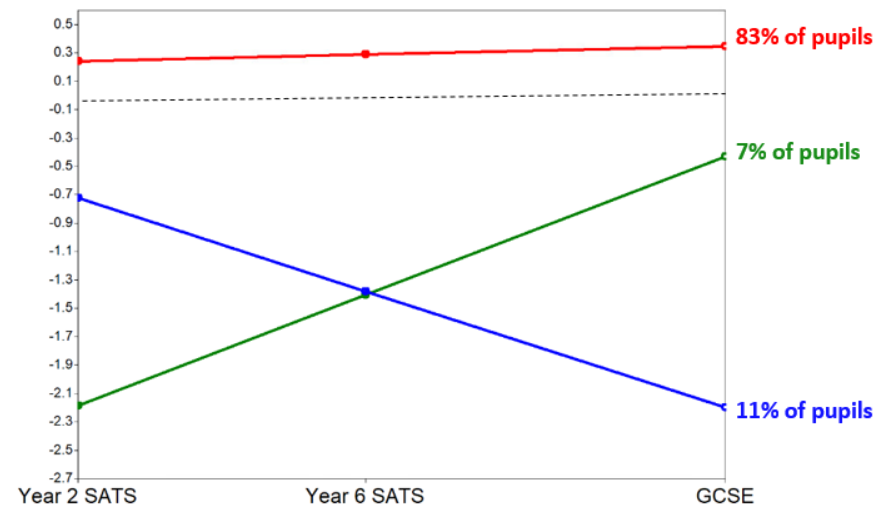
- Describe as many people in the population as possible
- ...But using as few groups as possible, only adding in a new group if it is really meaningful

Is 3 groups better than 2?

2 groups



3 groups

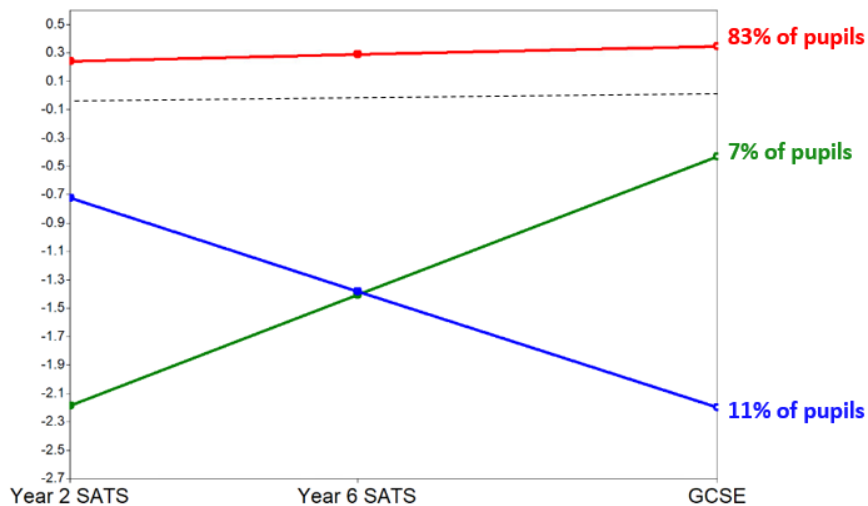


Questions that might help you to decide:

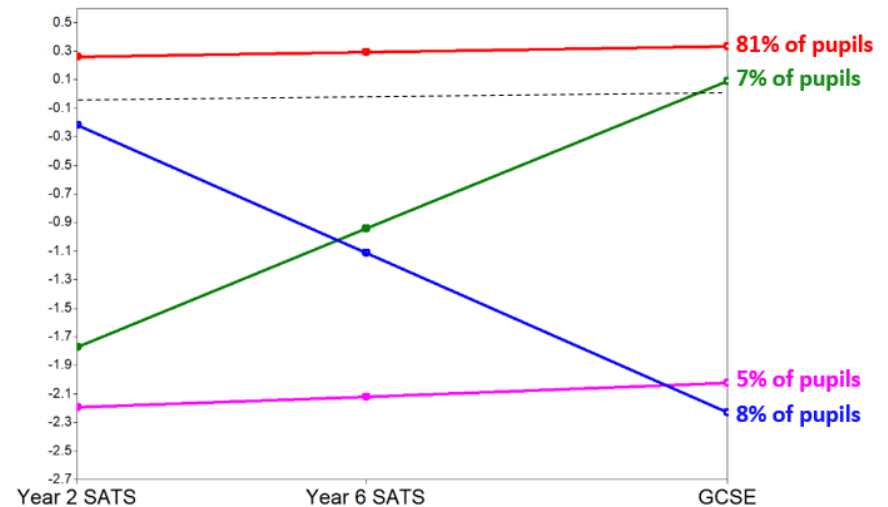
- Is the green group very different from the red group and blue group?
- Can you think of people at school whose grades might look much more like this green group than any of the other groups?

Is 4 groups better than 3?

3 groups



4 groups

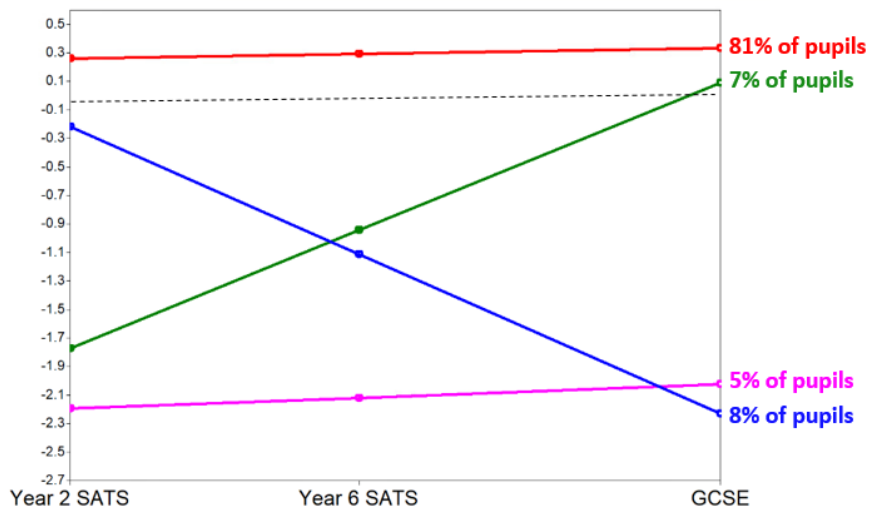


Questions that might help you to decide:

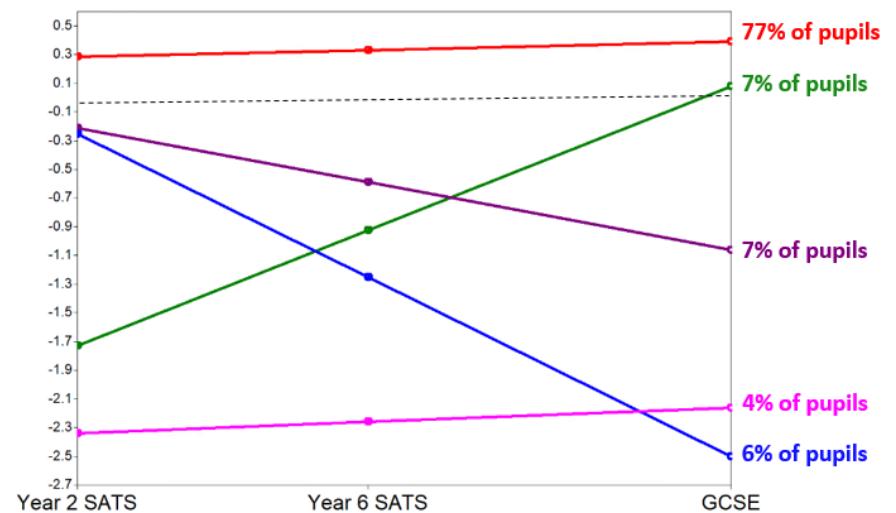
- Is the pink group very different from the red, blue and green groups?
- Can you think of people at school whose grades might look much more like this pink group than any of the other groups?

Is 5 groups better than 4?

4 groups



5 groups



Questions that might help you to decide:

- Is the purple group very different from the red, blue, green and pink groups?
- Can you think of people at school whose grades might look much more like this purple group than any of the other groups?

Thank you!