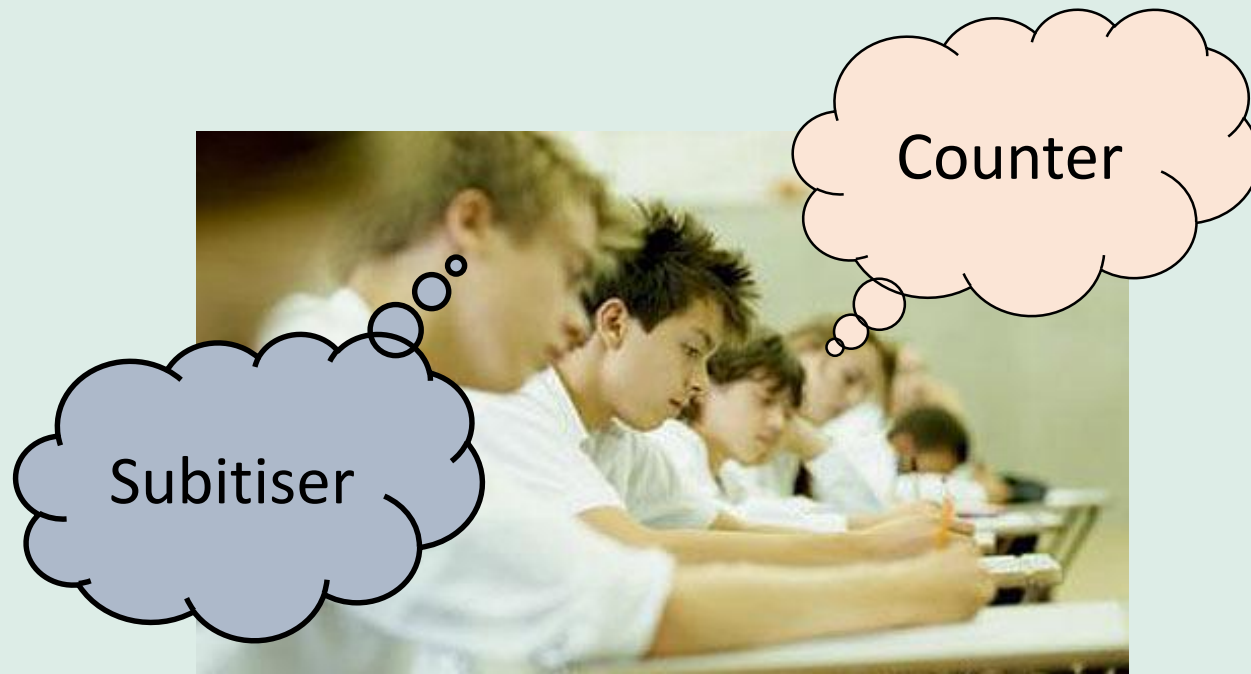


# The Psychological Effects of Poor Number Sense Processing in Adolescence

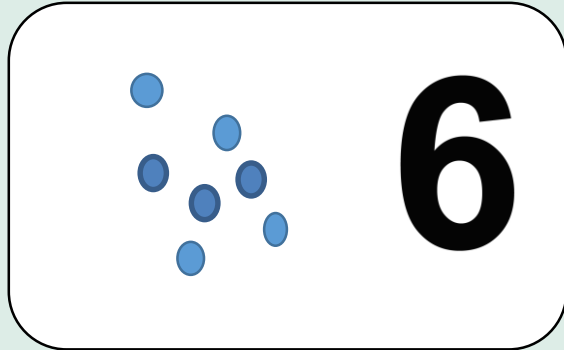
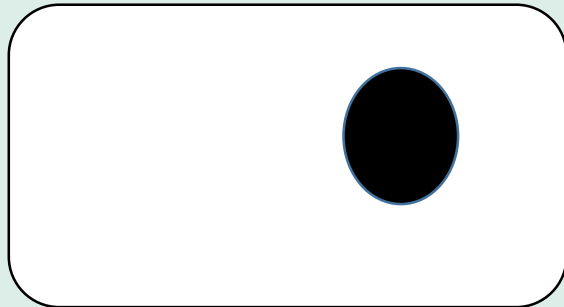
Eleanor Willard  
Leeds Beckett University



## The aims for this section of the research

- To examine the psychological effects on secondary school students presenting with dyscalculia
- To compare these perspectives with students who also have problems with mathematics, but for different reasons
- To compare these perspectives with students who are mathematics competent

# The procedure 1 : Screening



How many spots are there?

Does this match the number?

Which number is more than the other number?

Is this sum correct?

$$8 + 3 = 11$$

$$3 \times 2 = 8$$

N = 375  
(22 identified as presenting dyscalculia)

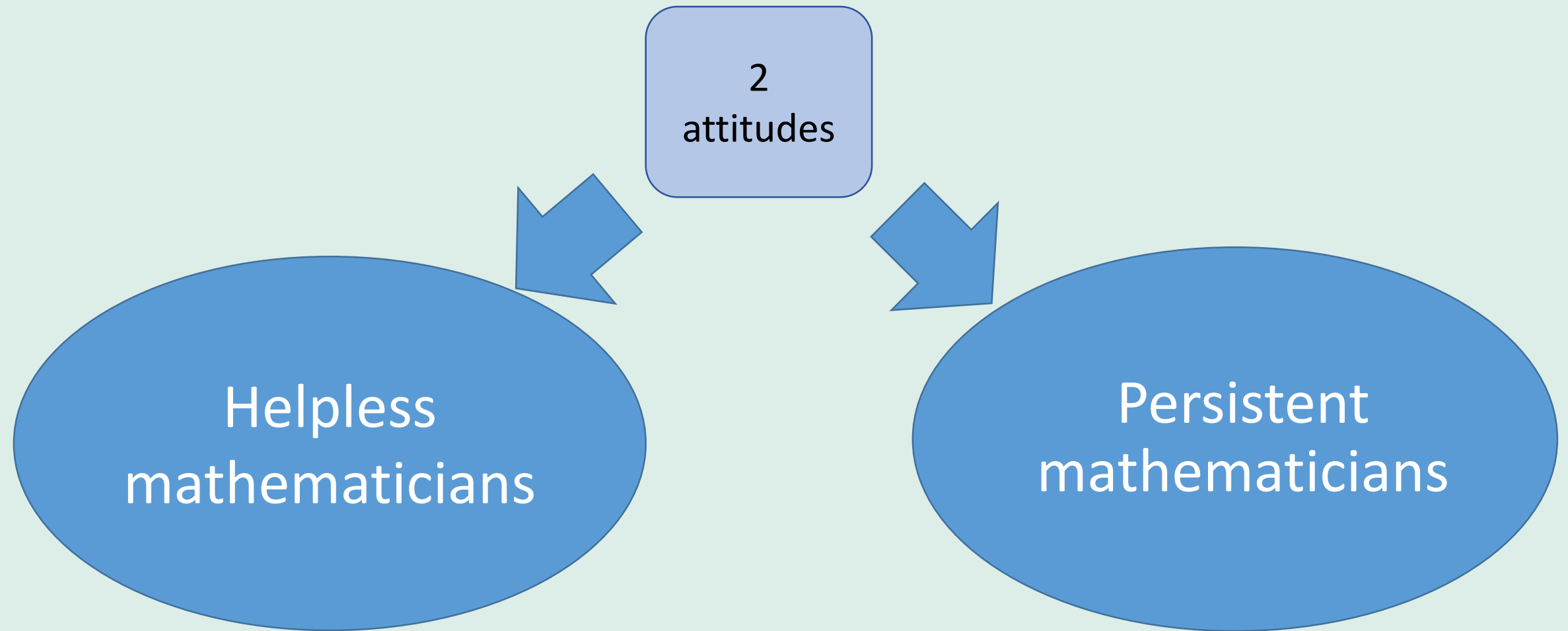
# The procedure 2: Measuring the psychological effects

33 item Q sort

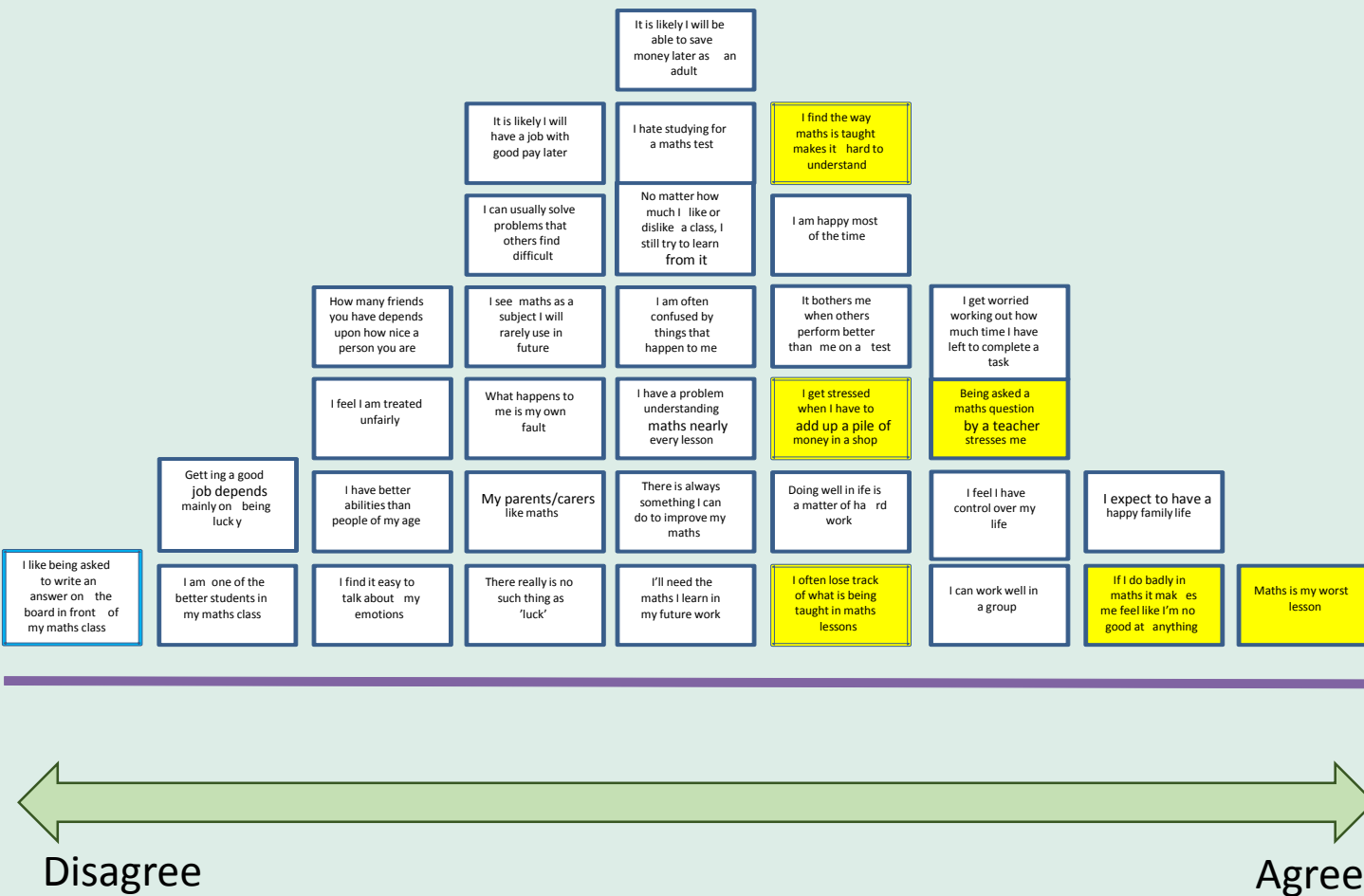


N = 34

# Dyscalculia Factors

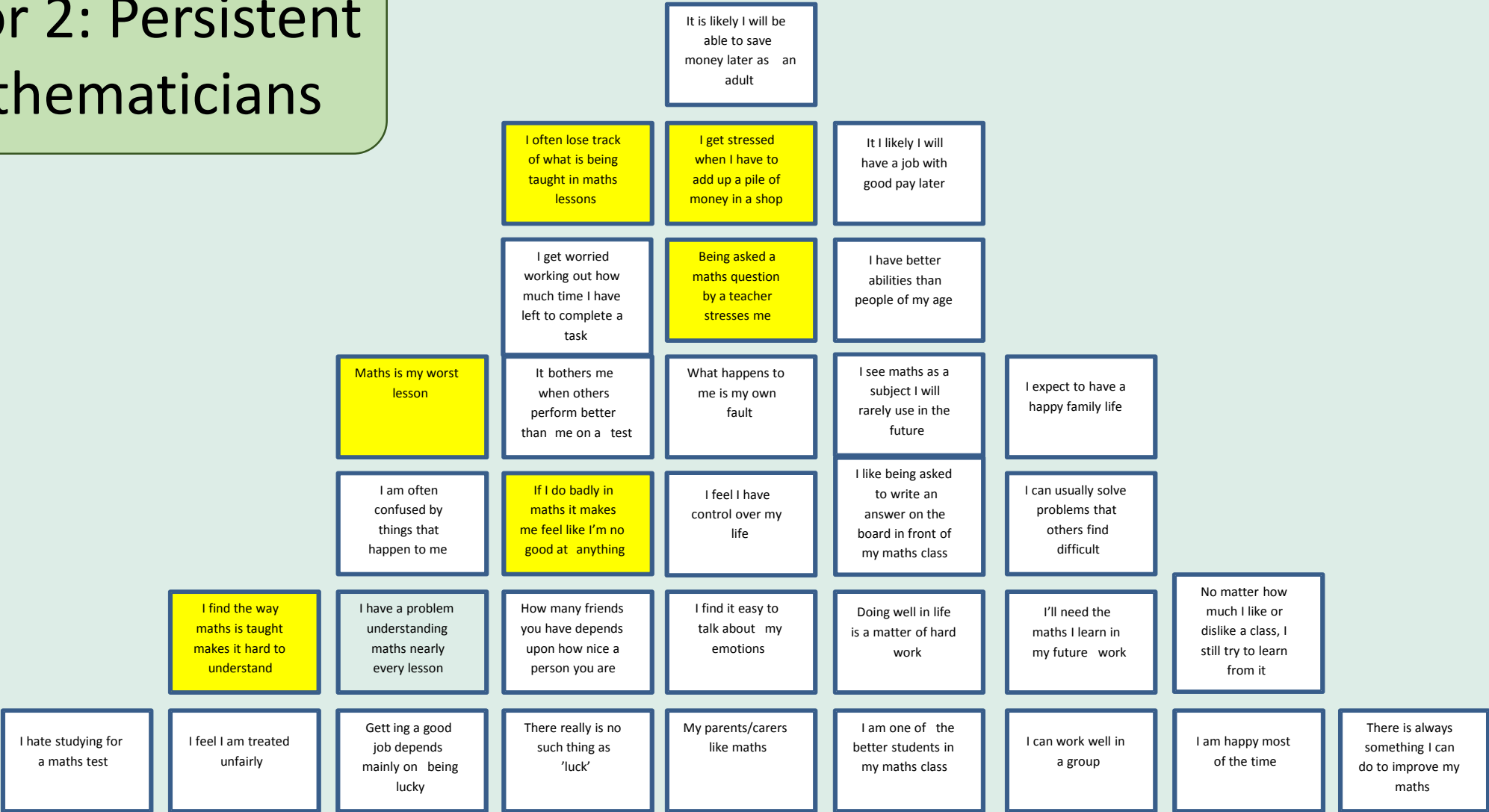


# Factor 1: Helpless mathematicians



- Maths is my worst lesson
- If I do badly in maths it makes me feel like I'm no good at anything
- Being asked a maths question by a teacher stresses me
- I often lose track of what is being taught in maths
- I get stressed when I have to add up a pile of money in a shop
- I find the way maths is taught makes it hard to understand

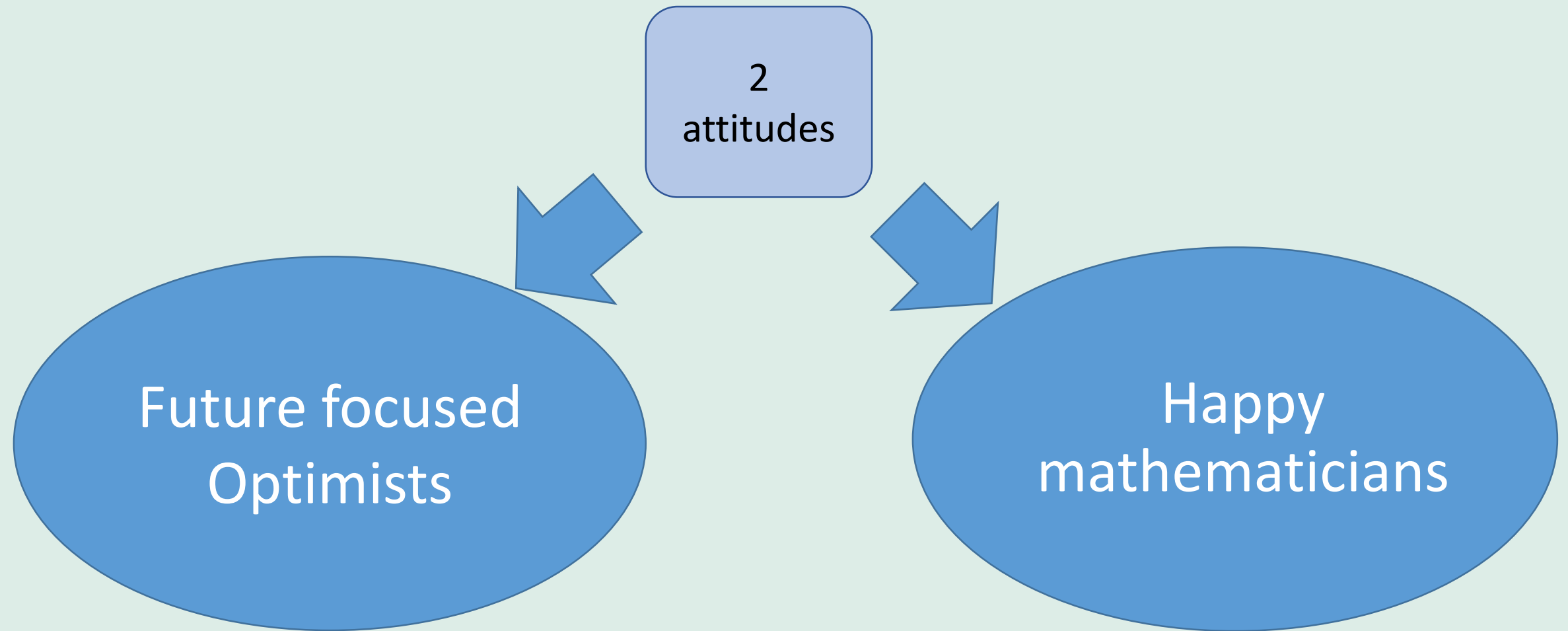
# Factor 2: Persistent mathematicians



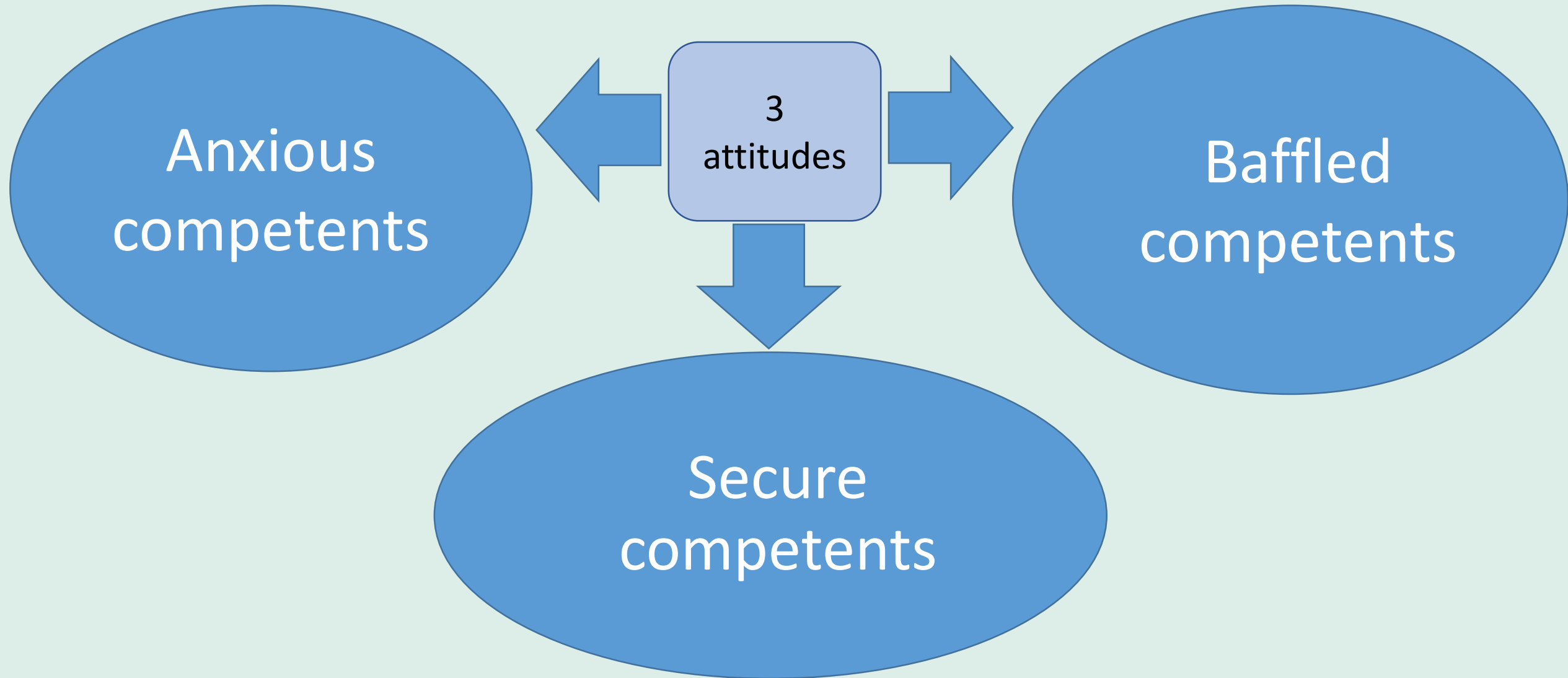
	Helpless mathematicians	Persistent mathematicians
<b>I hate studying for a maths test</b>	<b>0</b> (neutral)	<b>-4</b> (strongly disagree)
<b>No matter how much I like or dislike a class, I still try to learn from it</b>	<b>0</b> (neutral)	<b>3</b> (strongly agree)
<b>I am one of the better students in my maths class</b>	<b>-3</b> (strongly disagree)	<b>1</b> (agree)
<b>I like being asked to write an answer on the board in front of my maths class</b>	<b>-4</b> (strongly disagree)	<b>1</b> (agree)



# Low achievers / Non Dyscalculia



# Competent Mathematicians



Group	Factor	Strongly agree	Strongly disagree
Low achievers	Future-focused optimists	I'll need the maths I learn in my future work	I see maths as a subject I will rarely use in the future
Low achievers	Happy mathematicians	I expect to have a happy family life	It bothers me when others perform better than me on a test
Mathematics competent	Secure competents	There is always something I can do to improve my maths	I feel I am treated unfairly
Mathematics competent	Anxious competents	It bothers me when others perform better than me on a test	I'll need the maths I learn in my later work
Mathematics competent	Baffled competents	I feel I am treated unfairly	What happens to me is my own fault

Key themes arising from the sorts and the comparison...

Mind set

Optimism

Ability level in  
set

Salience

Resilience

Any Questions?

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