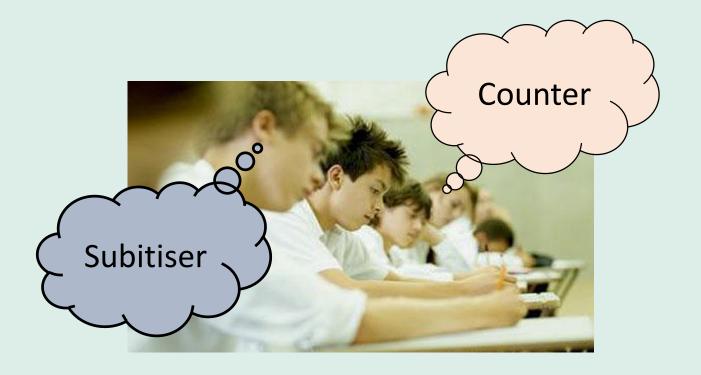
The Psychological Effects of Poor Number Sense Processing in Adolescence

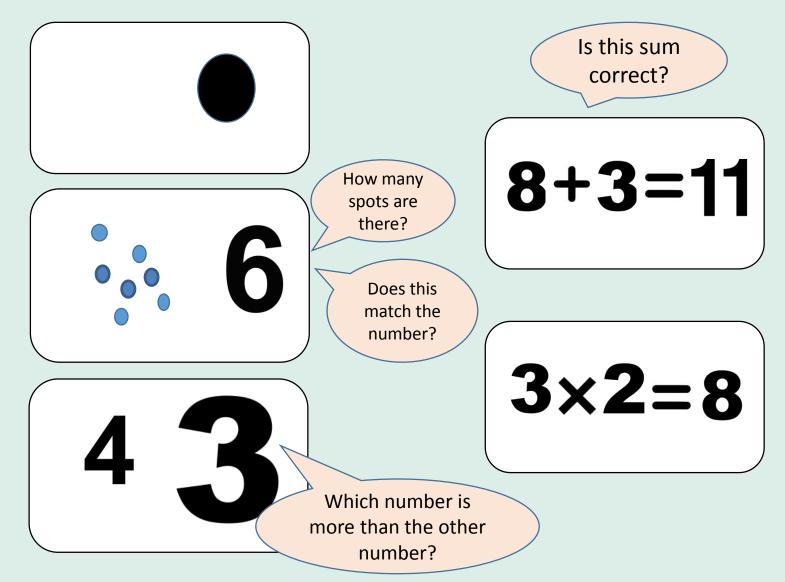
Eleanor Willard
Leeds Beckett University



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



N = 375 (22 identified as presenting dyscalculia)

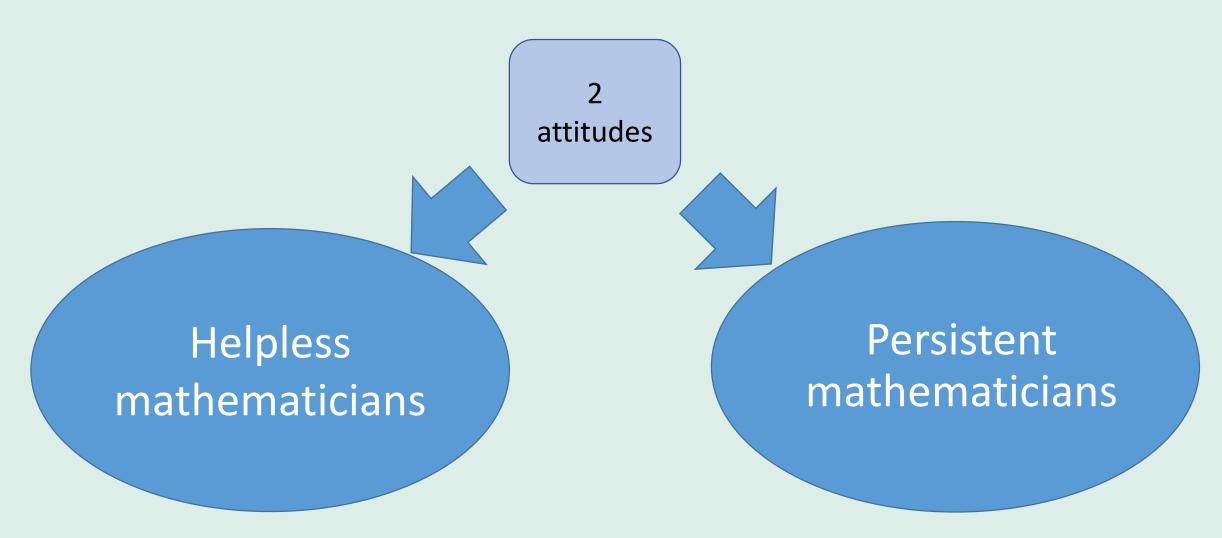
The procedure 2: Measuring the psychological effects



33 item Q sort

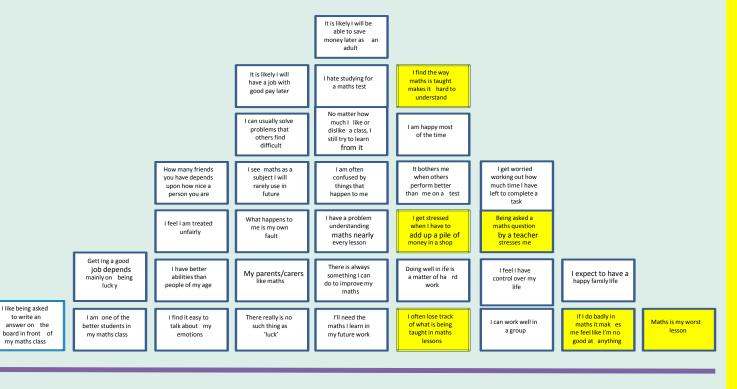
N = 34

Dyscalculia Factors



Factor 1: Helpless mathematicians

Disagree



- 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 teachers 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

Agree

Factor 2: Persistent mathematicians

It is likely I will be able to save money later as an adult

I often lose track of what is being taught in maths lessons

I get stressed when I have to add up a pile of money in a shop

It I likely I will have a job with good pay later

I get worried working out how much time I have left to complete a

Being asked a maths question by a teacher stresses me

I have better abilities than people of my age

Maths is my worst lesson

It bothers me when others perform better than me on a test What happens to me is my own fault

I see maths as a subject I will rarely use in the future

I like being asked

to write an

answer on the

board in front of

my maths class

I can usually solve problems that others find

I expect to have a

happy family life

I am often confused by things that happen to me

If I do badly in maths it makes me feel like I'm no good at anything

I feel I have control over my

> Doing well in life is a matter of hard work

I'll need the maths I learn in my future work

difficult

No matter how much I like or dislike a class. I still try to learn from it

I find the way maths is taught understand

I have a problem understanding maths nearly every lesson

How many friends you have depends upon how nice a person you are

I find it easy to talk about my emotions

I can work well in a group

I am happy most of the time

There is always something I can do to improve my maths

makes it hard to

I feel I am treated unfairly

I hate studying for

a maths test

Gett ing a good job depends mainly on being lucky

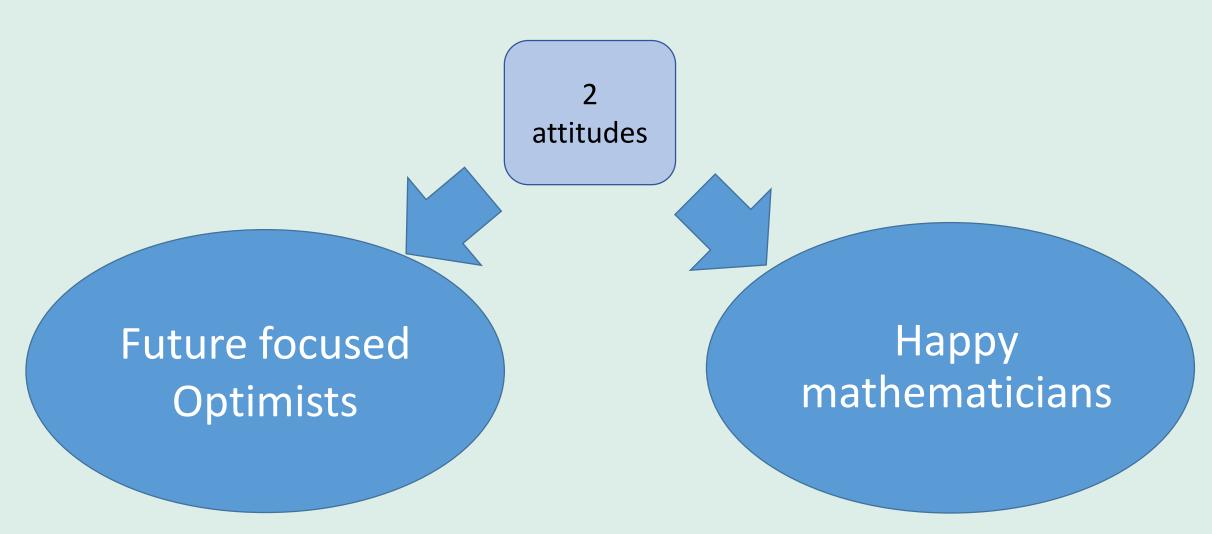
There really is no such thing as 'luck'

My parents/carers like maths

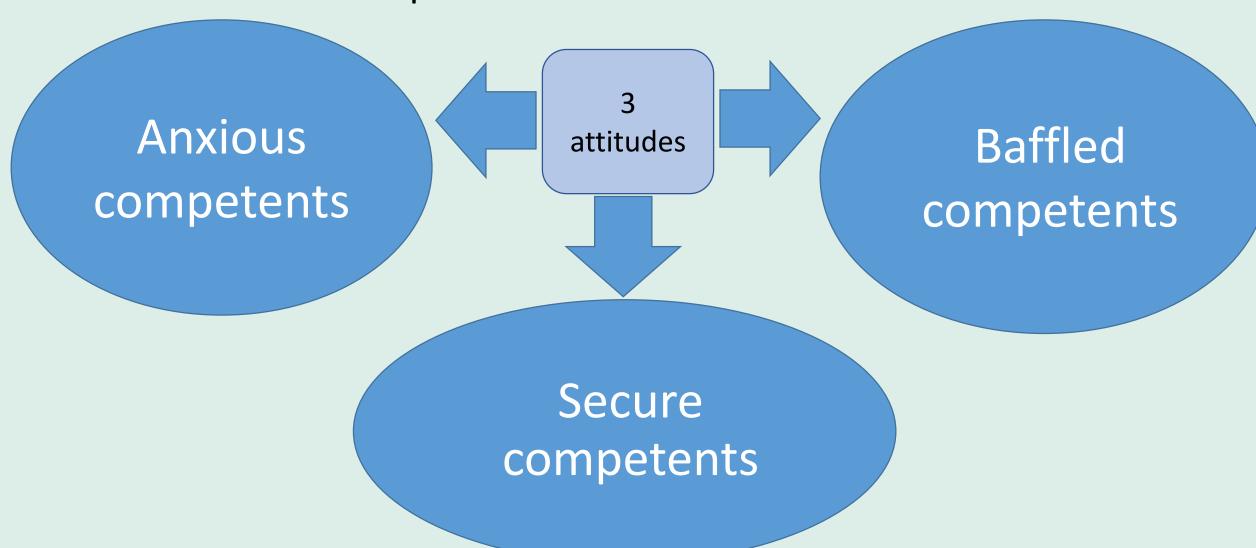
I am one of the better students in my maths class

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

Ability level in set

Optimism

Salience

Resilience

Any Questions?

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