



# Results of math anxiety survey in Poland

*by Katarzyna Zapła*

# My inspirations to deal with the issue of „math anxiety”

- Dismantling racism in mathematics (see *A Pathway to Equitable Math Instruction Dismantling Racism in Mathematics Instruction Exercises for educators to reflect on their own biases to transform their instructional practice* published in 2021). [www.equitablemath.org](http://www.equitablemath.org)
- With respect to anti-racism, anti-colonial **language** being added to the curriculum, it felt like there was an understanding of our experiences.
- Problem is not only **cognitive** but **emotional**.

## Some **intro to the survey**

- 0 The survey was conducted in April and half of May 2023.
- 0 The aim of the survey was **to investigate the level of negative feelings (anxiety, fear) that accompany the Polish adults** in everyday situations related to the use of mathematical skills.

# The **questionnaire** of the survey

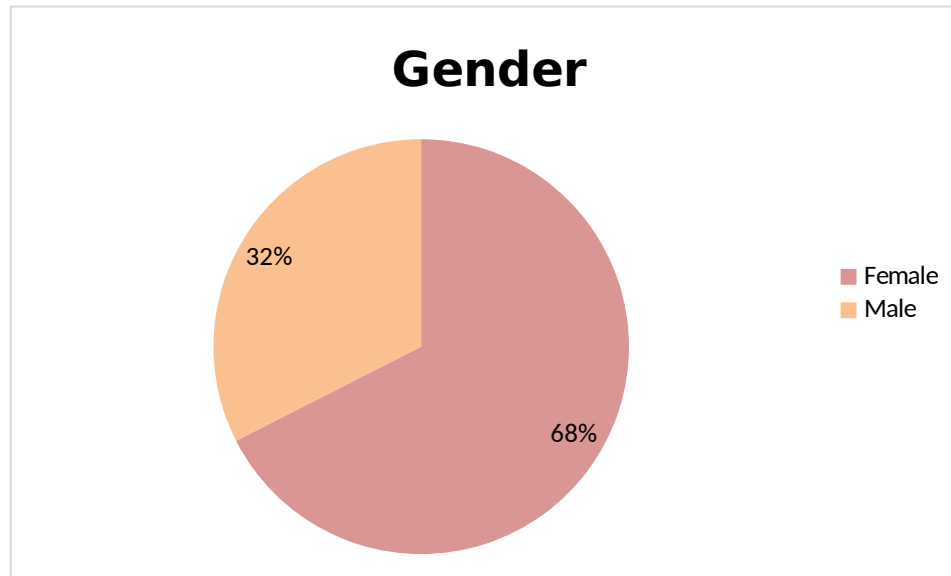
Consists of two parts (part A and part B)

- 0 Part A contains 10 closed questions, and was inspired by a similar study published in THE NEW YORK TIMES (issue of 24.08.2015).
- 0 The aim of the first part is **to determine the anxiety related to everyday situations** with mathematical backgrounds.

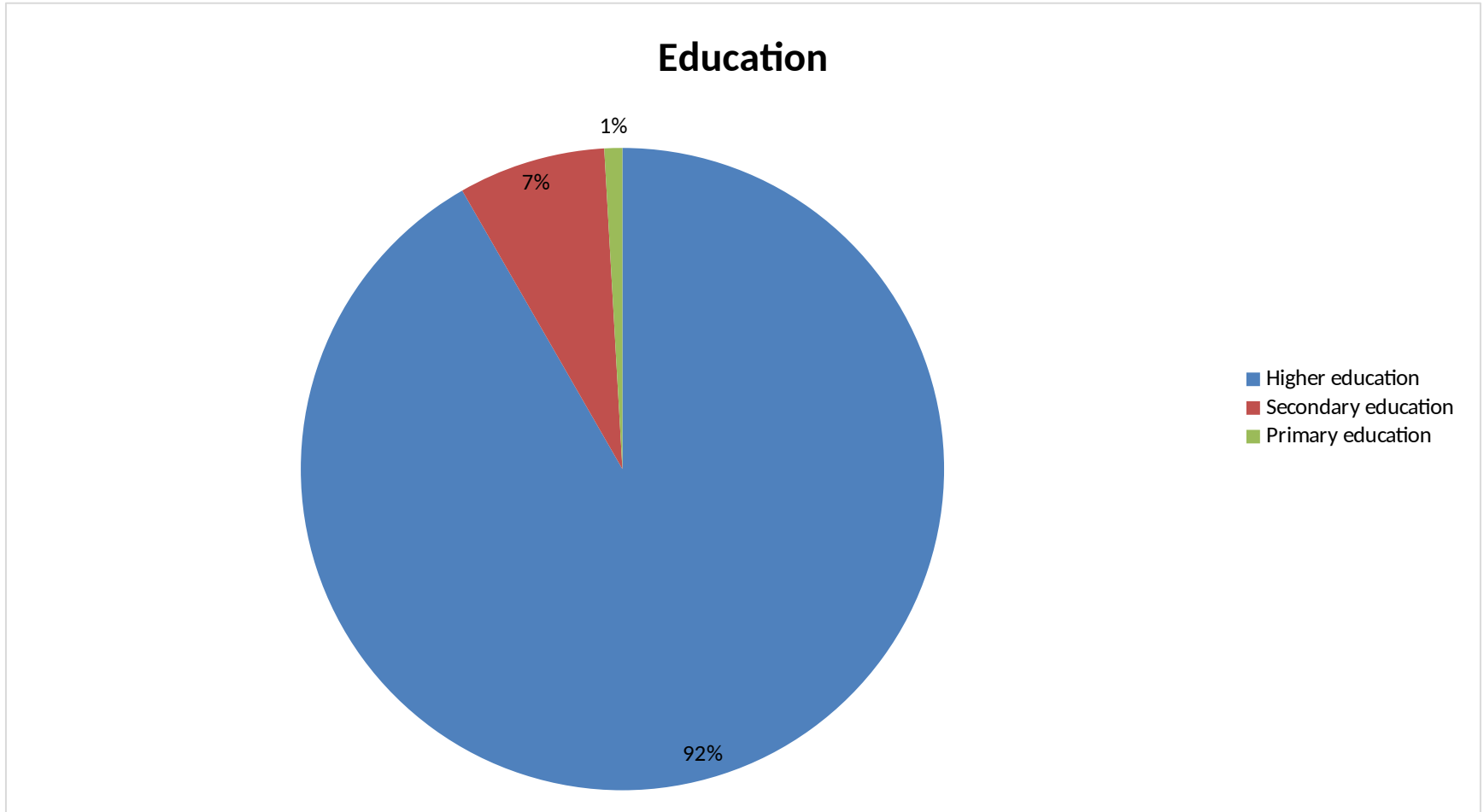
- o Part B contains 12 questions (7 closed and 5 open ones).
- o It is focused on **discovering the types of behaviour toward people** who lacks of mathematical skills.

# Who has carried out the survey?

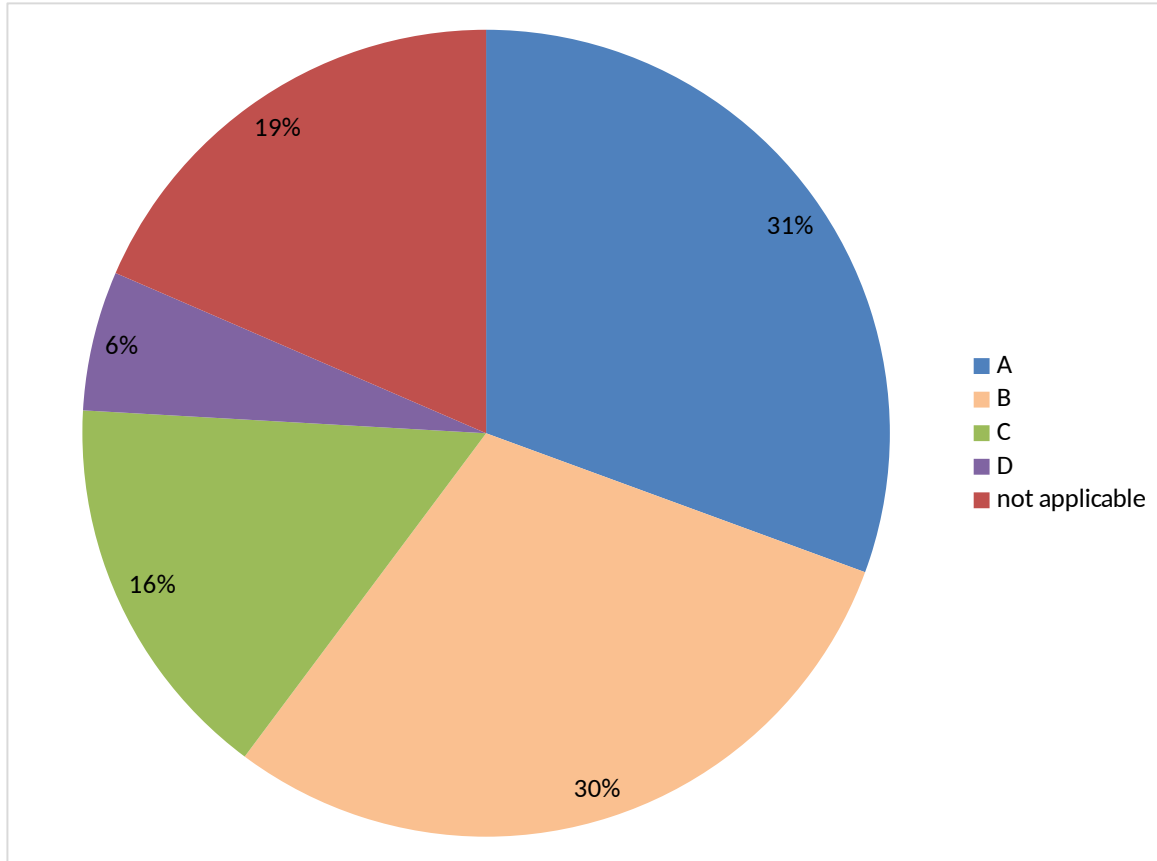
## 108 Polish citizens



# Education background

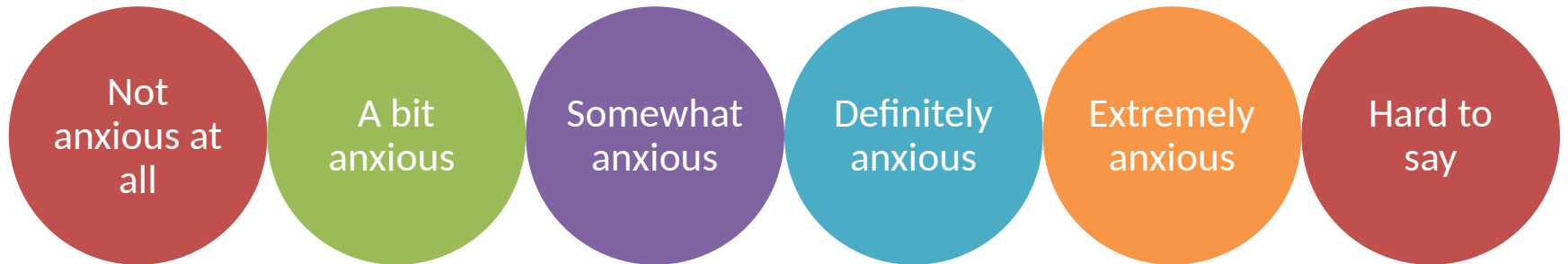


Grade in mathematics on the secondary school leaving certificate





## PART A – PRACTICAL USAGE OF MATHEMATICS IN EVERYDAY LIFE



Six questions were to examine the practical usage of mathematics skills – how responders deal with the estimation of simple arithmetic operations (questions: 1, 2, 3, 4, 6, 7).

Thus they were asked to assess their level of anxiety when:

- they are given a set of arithmetic problems involving fractions
- they are to figure out the tax on a purchase
- they are to figure out the cost of products in the supermarket checkout line
- they are to split the check in the restaurant with friends
- they are to calculate the amount of money they save when buying something on sale
- they are to figure out how much they would earn working 17 days (150 EUR/day)

## The answers

- 0 The answers for the above questions were varied but still positive – since the majority of respondents **do not feel anxious in facing those situations** (here the percentage of the answers “Not anxious at all” and “A bit anxious” were from 74,1% to 87%).
- 0 Question 5 was to examine the ability to interpret the data from graphs, tables shown on the news. And here 82,4% responders **feel good when facing such an activity**.

## Question 8: Learning a new math skill

0 here appeared the **largest number of answers indicating the anxiety - 23,2%.**

## Questions 9 and 10

- o Similar values appeared for the answers to questions no 9 and 10 where responders declared to **feel fear when they are in the position to open the math workbook (19,5%)** or **explain somebody a math problem (20,3%)**.

## PART B – Additional information

- 0 Part B is focused on **discovering the types of behaviour toward people who lacks mathematical skills.**
- 0 In 5 open questions responders had the possibility to describe the everyday **situations** related to maths skills and the **feedback** they received.

Do you recall how you were referred to by people **in whose presence your deficiencies in mathematical skills appeared?** – What did they hear?

- *She's a humanist.*
- *You should have been able to do it a long time ago.*
- *You don't know anything, I'm not going to let you take the baccalaureate exam.*
- *But you must know maths! You'll need it for your job!*
- *How can you not know the multiplication tables!*
- *It's so simple. It's impossible for you not to understand.*
- *Why are you crying! You have to memorise the multiplication table.*
- *I haven't met one so stupid yet.*
- *You don't know how to count anything. After all, it's easy.*

Do you recall how you were referred to by people in **whose presence your deficiencies in mathematical skills appeared?** – How did they feel?

o **Humiliation**

- o *At the school stage some pupils were able to **discourage** further development. Adults also.*
- o *Complete **disapproval**, I have great difficulty in concentrating. Over many years of learning, I have not been able to understand and maintain my attention to assimilate maths material. (Despite great desire and many years of tutoring). No teacher was willing to help. I was repeatedly told by the teachers that **I was useless** and would not pass my exams. (I did not take the exam for health reasons).*
- o *They tried to **embarrass** me.*



Do you think your mathematical deficiencies affect your career choices?

**25%** answered Yes.

- *If I were better at maths, I would do something else.*
- *I cannot undertake tasks of a strictly financial or analytical nature.*
- *My career choices would be different if the level of my mathematical skills were higher.*
- *Yes, I would choose a technical professional field.*
- *I choose a job in which I do not have to make calculations, possibly assisted by a comp. program or calculator.*

*Once a person has become frightened of math, she or he begins to fear all manner of computations, any quantitative data, and words like „proportion“, „percentage“, „variance“, „curve“, „exponential“.*

- Shelia Tobias

This is not the end!