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## Data Science for Social Good

———— DSSGx UK Summer Fellowship ————

# Predicting the risk of an individual becoming NEET



# Definition

**Not in  
Education  
Employment or  
Training**

**Age 16**



**Age 24**

# Problem

**4.5% NEET (aged 16-17)**

**14.5% NEET (aged 18-24)  
in England**



**10 years**

**remain disadvantaged in  
their level of attainment**

**50% higher**

**risk of depression  
and anxiety**

**2.5 times**

**higher chances to work in  
low-status occupations**

**2.8 times**

**likely to be  
economically inactive**

# Goal

Create a data-driven solution to predict the risk of becoming NEET and provide intelligence for efficient and effective preventative interventions.



# Solution

**Identify datasets  
Build a processing pipeline**

## Council Data



Post-16 Demographics  
School Census  
KS4 Attainment

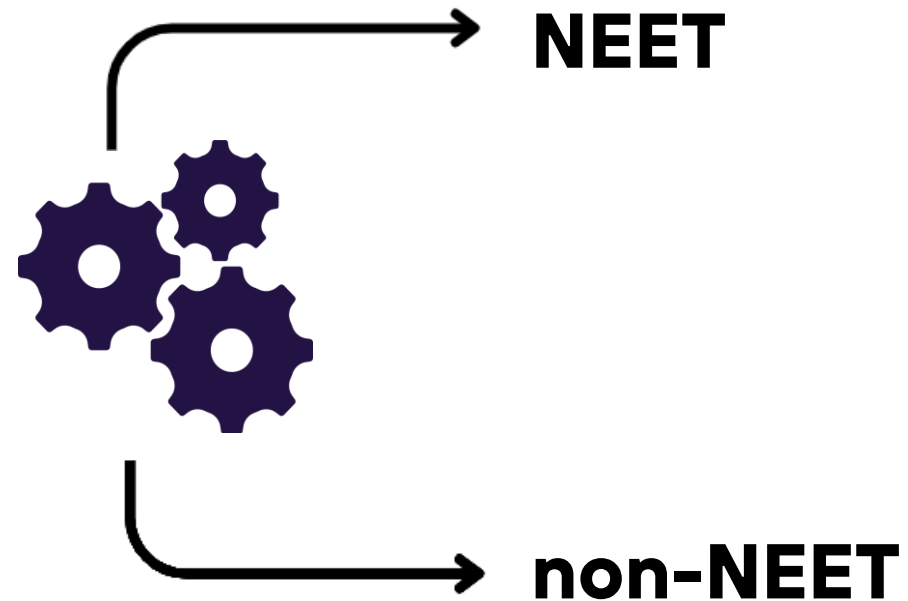
## Government Data



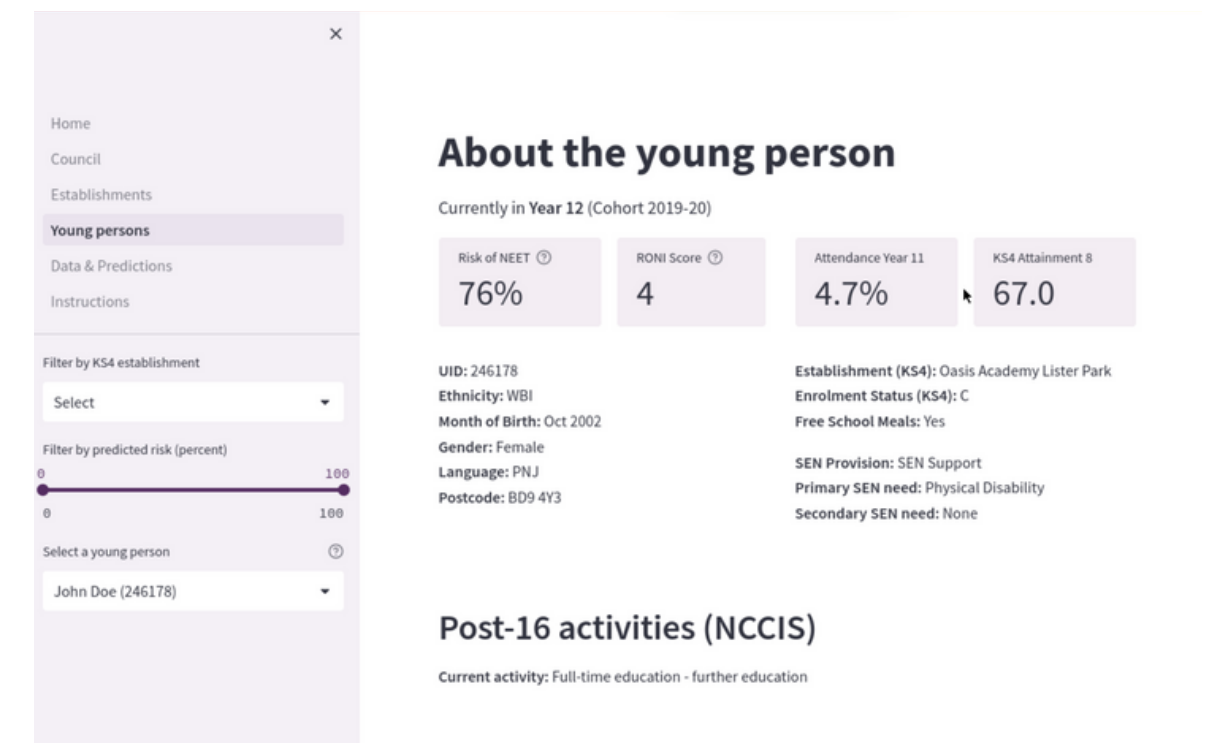
Socio-Economic Indicators  
School Level Factors

**Develop predictive models  
for decision making**

## Machine Learning Algorithms



**Create an open-source  
visualisation tool**



# Results

**Actual**

**NEET**

**non-NEET**

RONI Tool



NEET'22



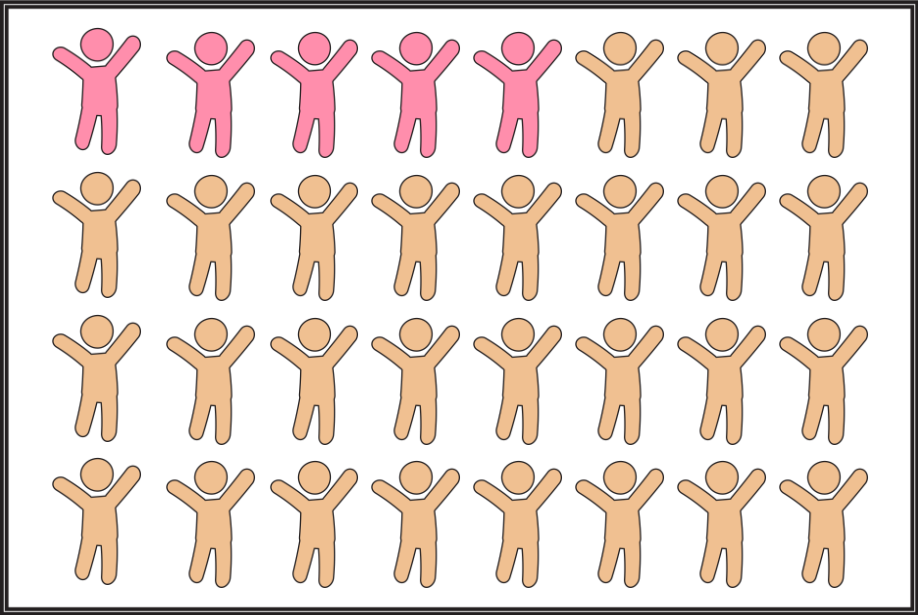
NEET'23



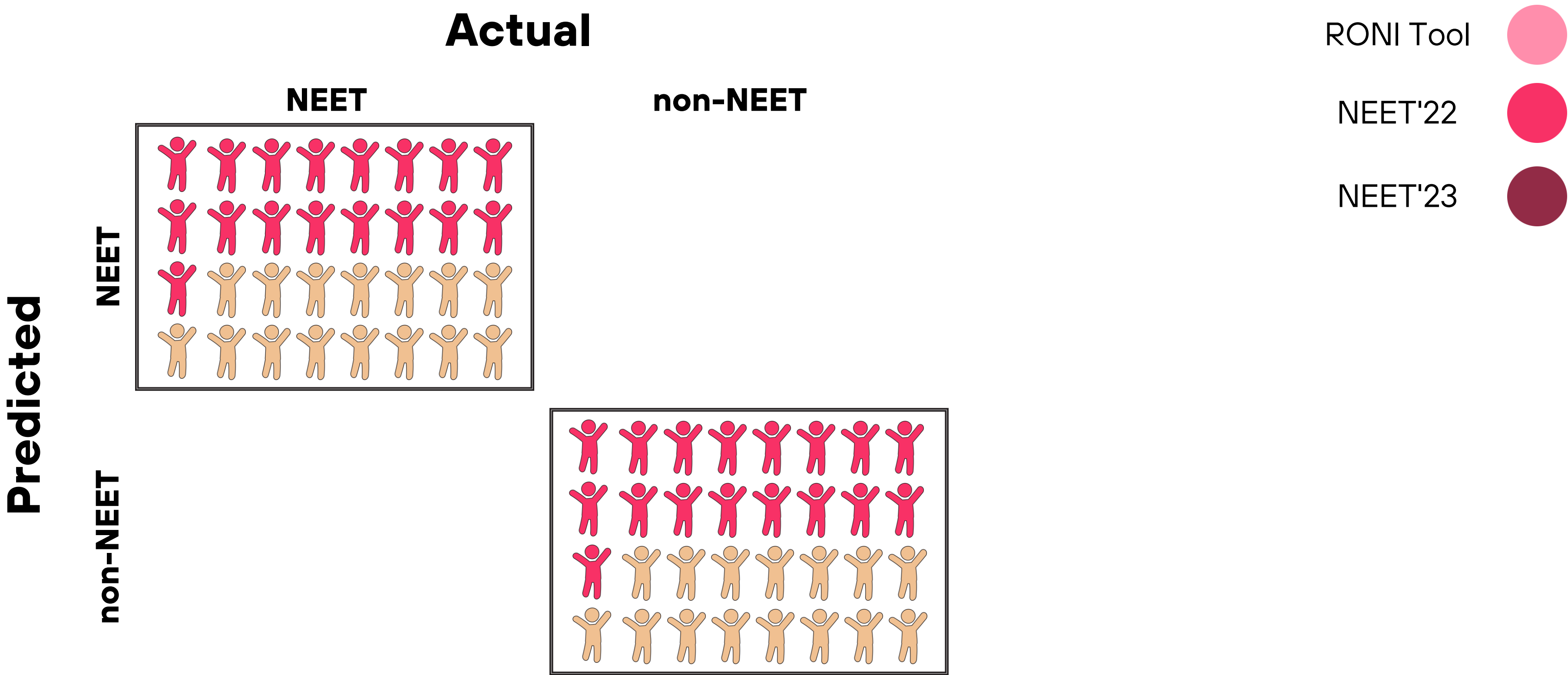
**Predicted**

**NEET**

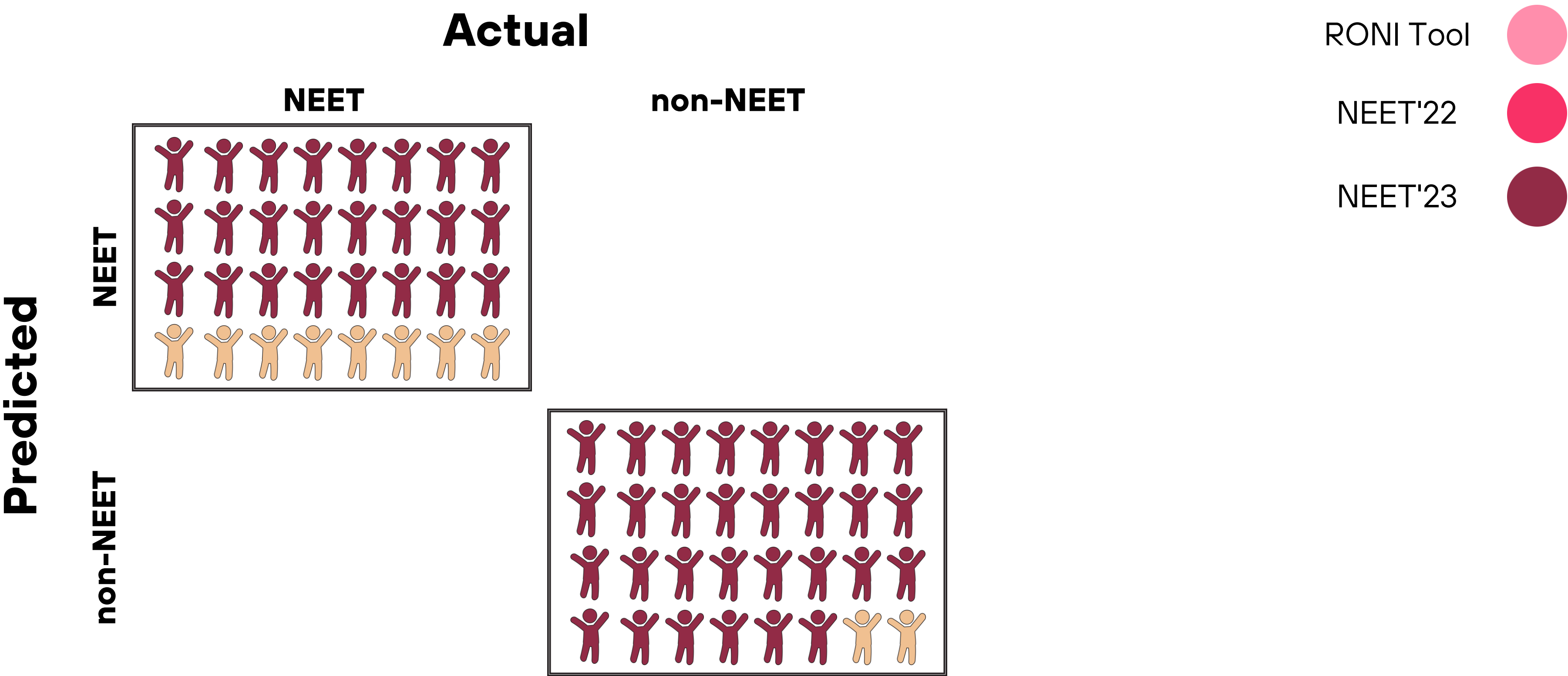
**non-NEET**



# Results

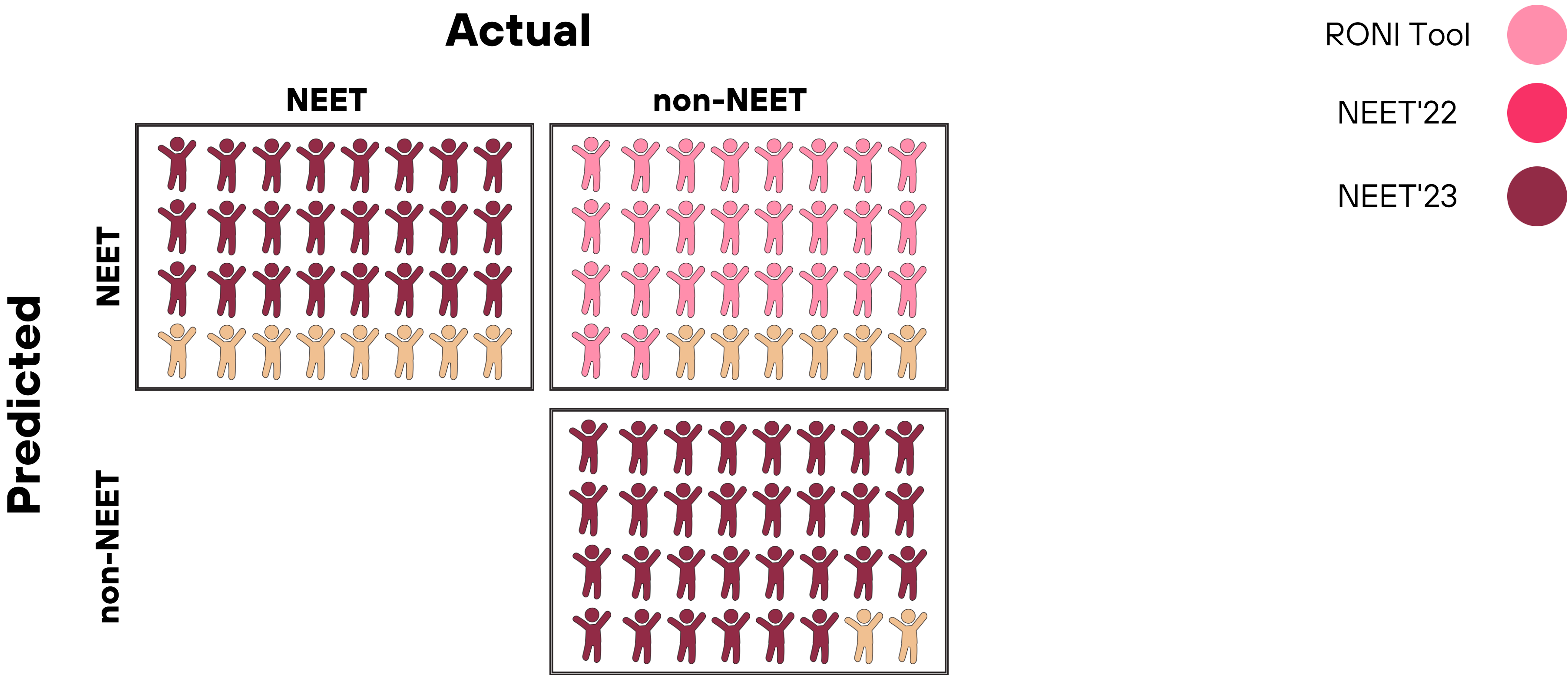


# Results

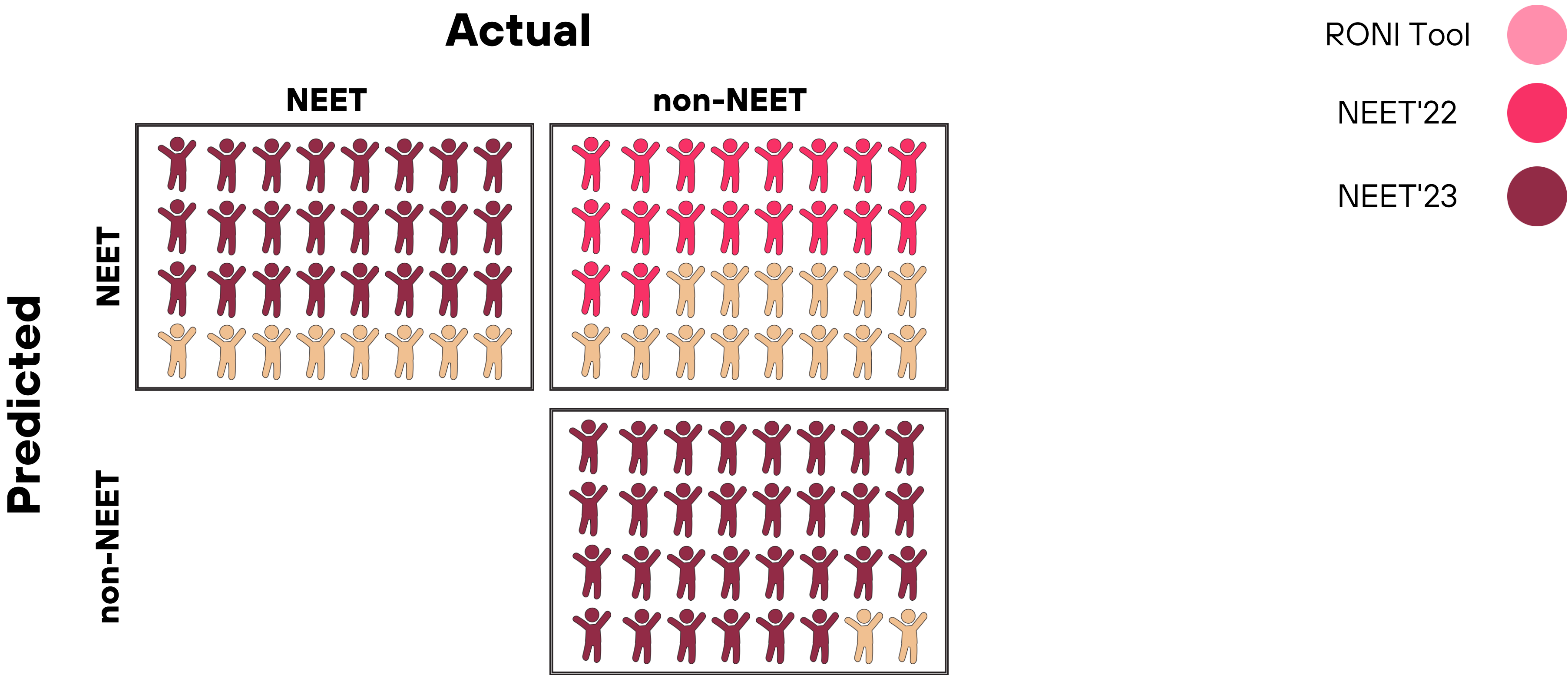




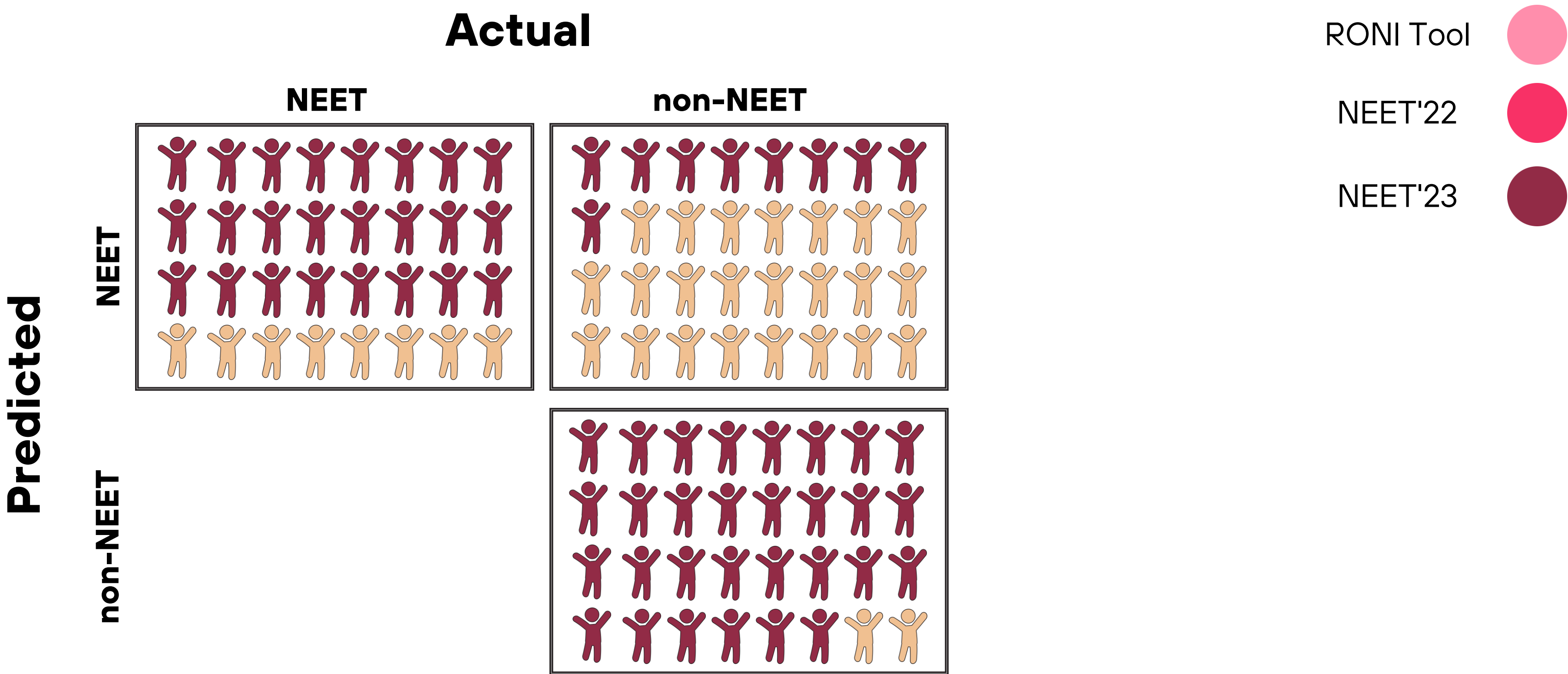
# Results



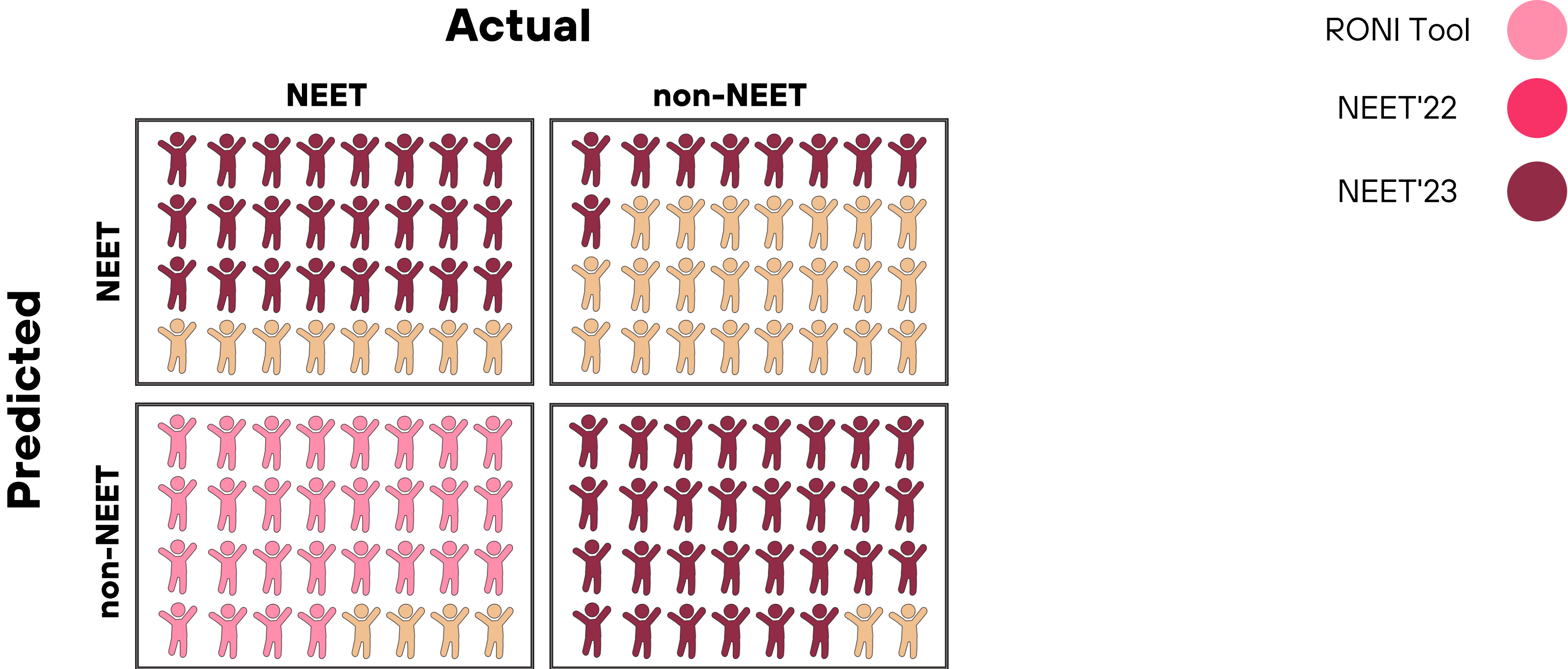
# Results



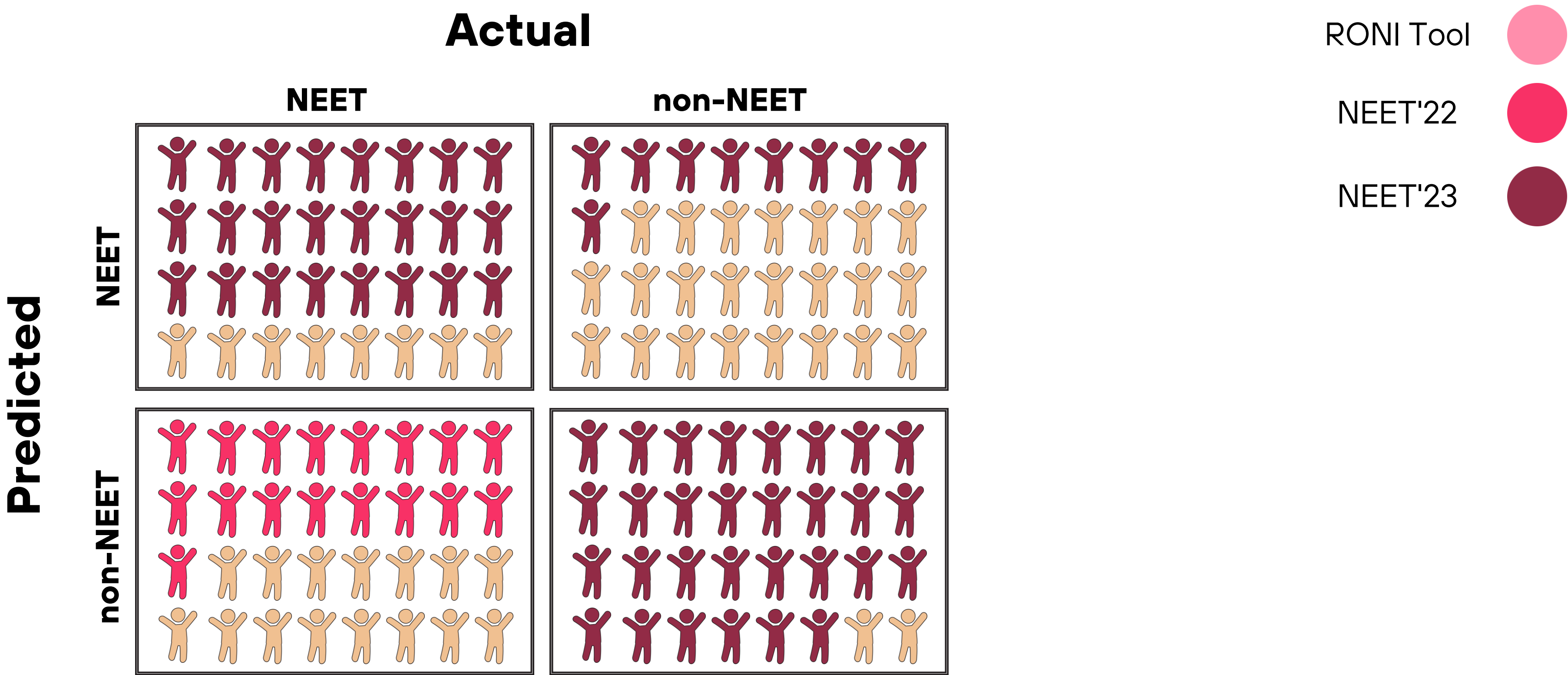
# Results



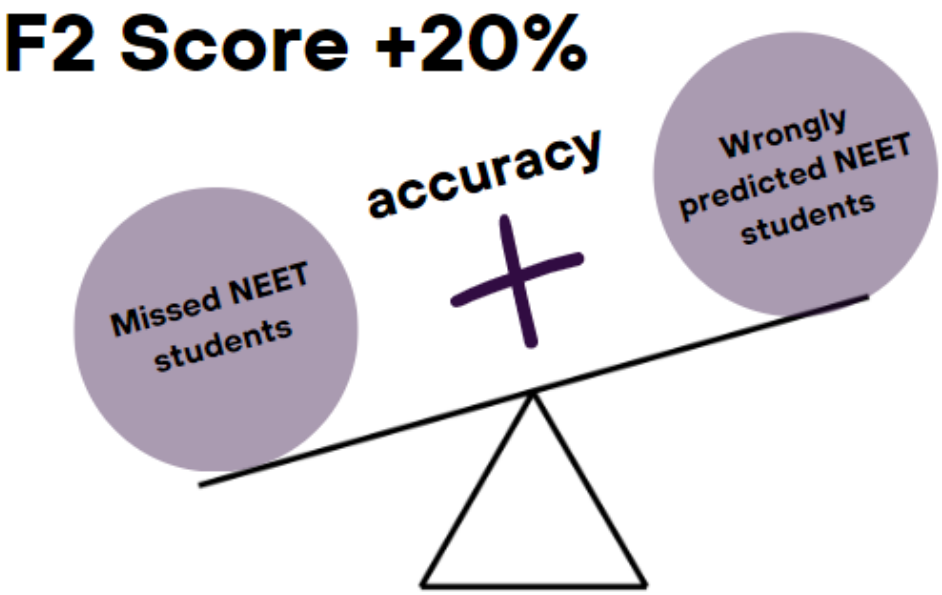
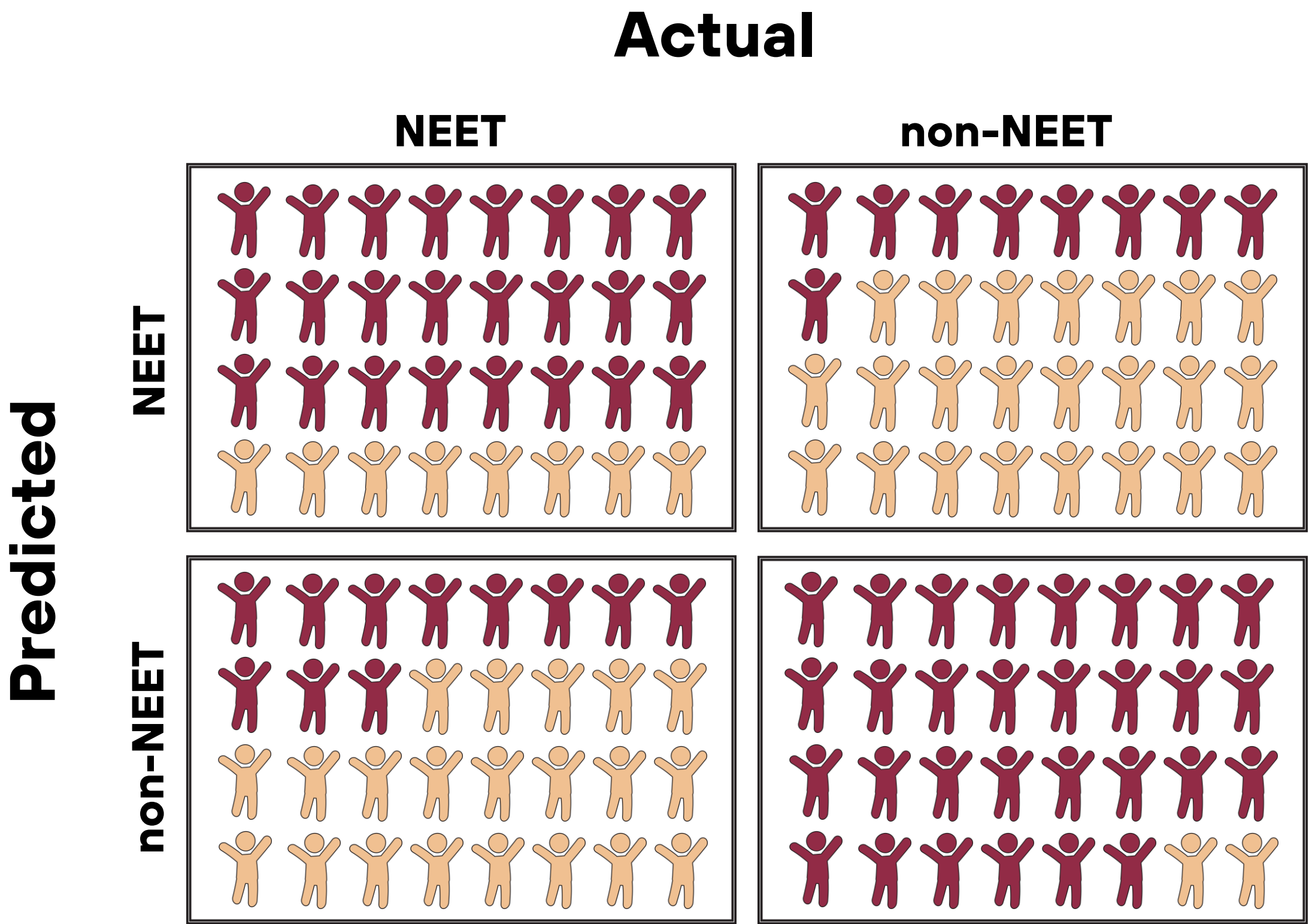
# Results



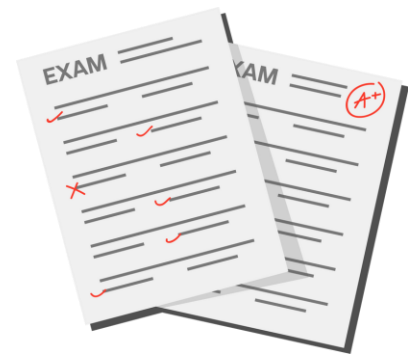
# Results



# Results



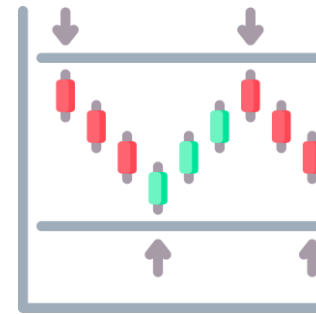
# Insights



**GCSE  
Attainment**



**Absences**



**Support Level**



**School to  
Home  
Distance**



**Free School  
Meals**



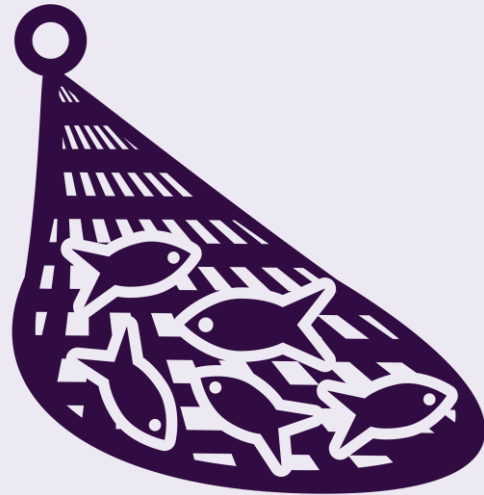
**Special  
Education Needs**



**Deprivation Indices**

# Impact

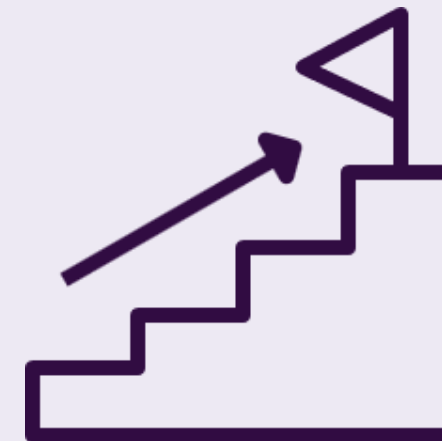
**Non-discriminatory  
methodology.**



**Effective and efficient  
interventions**



**Potential to scale at a  
national level**





# Opportunities



# Thank you for your time!

We are more than happy to  
answer your questions at the  
poster session

