



Investigating the relationship between NSC results and academic success in University first year

Nthabeleng Lepota

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Establishment of Umalusi

- In terms of the GENFETQA Act of 2008 (as amended), Umalusi is mandated to among others:
 - Conduct the assessments free of any irregularities
 - Quality assure exit point assessments for qualifications in **schools (NSC)**, TVET Colleges and for Adult learners

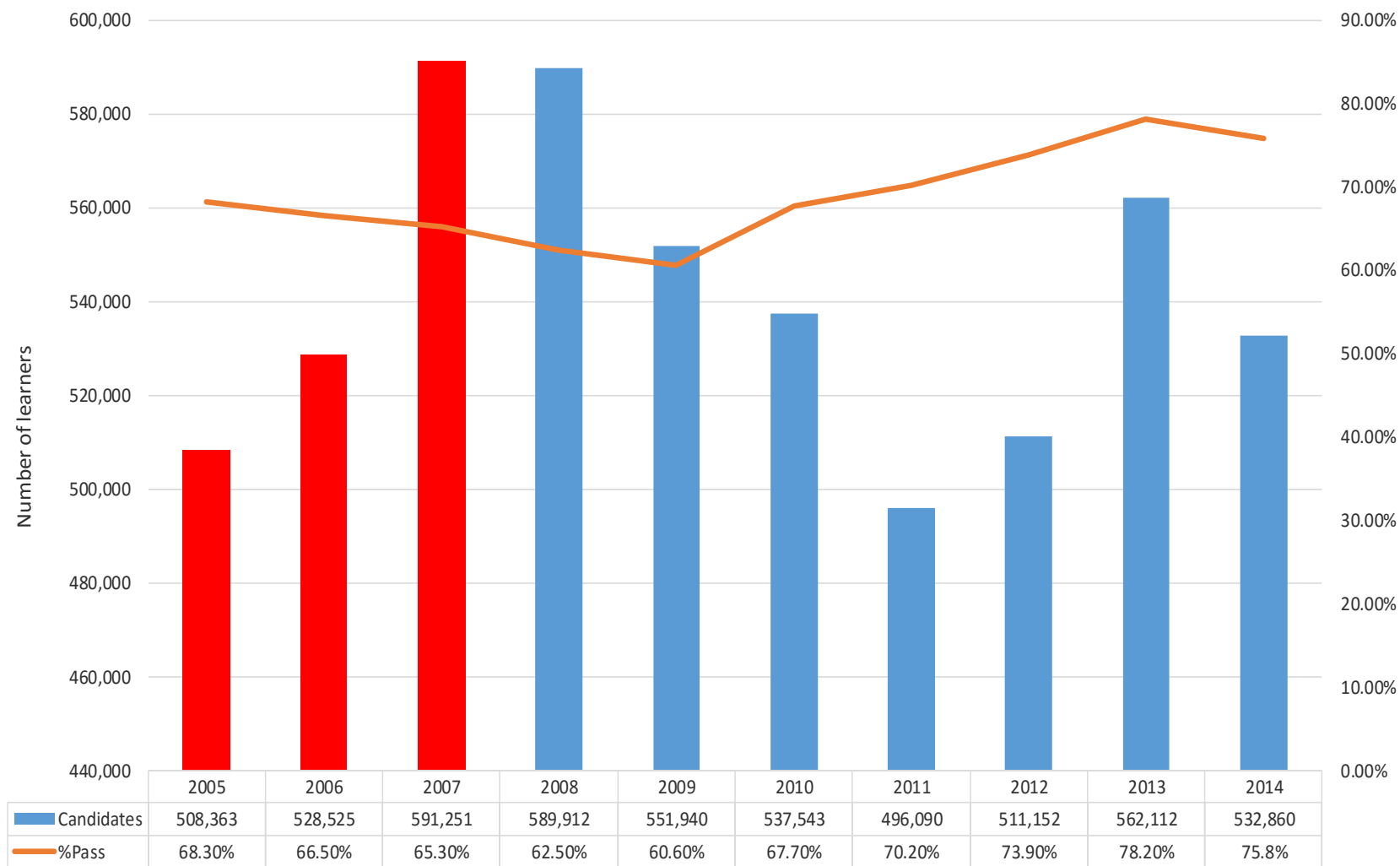
Background

- The National Senior Certificate (NSC) is the school leaving certificate in South Africa
- The purpose of NSC is to enable access to learnership programs, labour markets
- Also to prepare learners for further studies
- NSC results are used in Higher Education Institutions for admission purposes
- NSC qualification replaced the Senior Certificate (SC) with effect from 2008

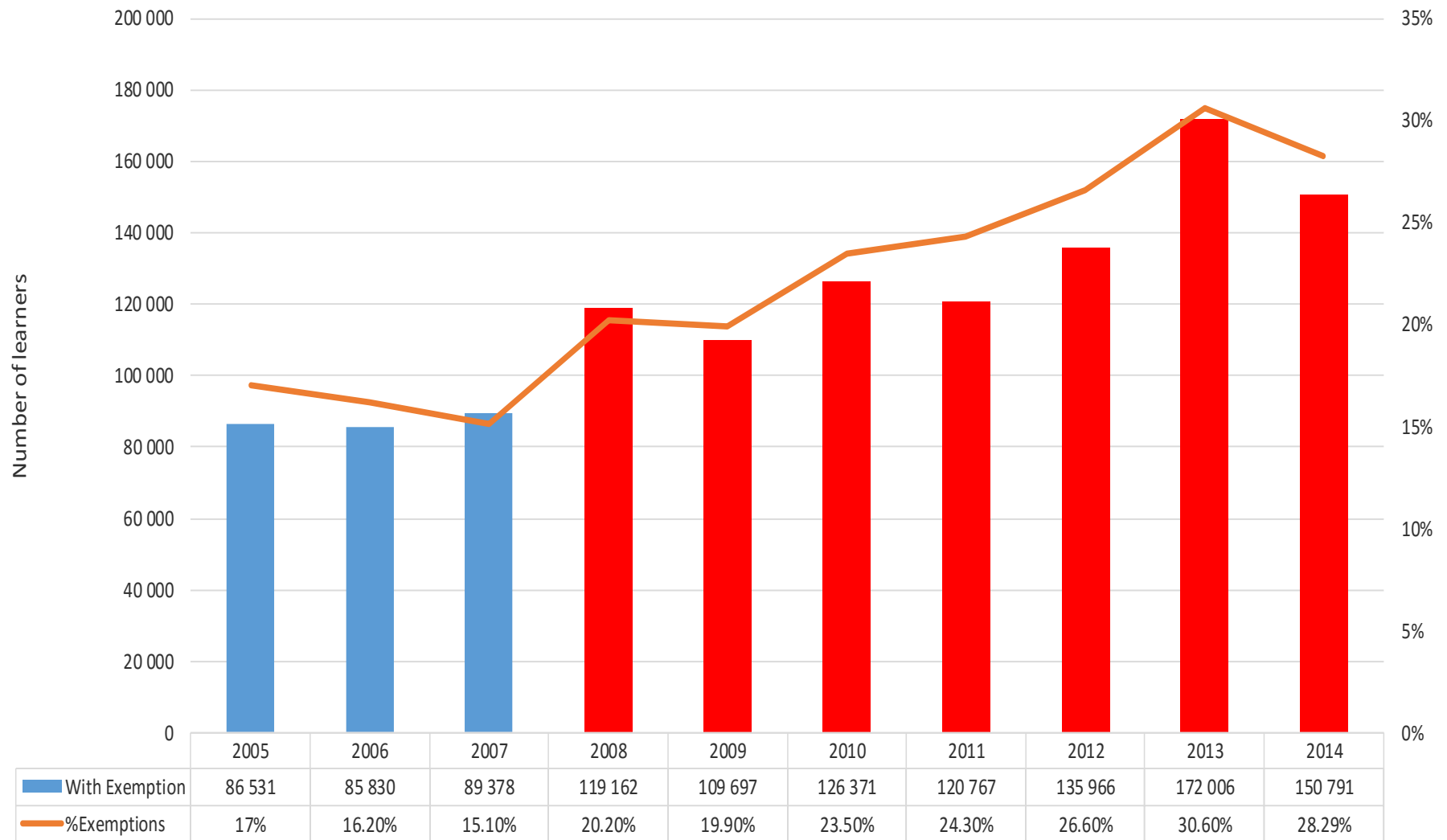
Background

- The introduction of a new qualification in 2008 created uncertainties among universities:
 - With NSC all subjects are taken on the same level – there is no Higher or Standard Grade as it was in the past with SC
 - The 2008 NSC exams produced an unusually high Bachelor rates
 - In 2009, several Higher Education Institutions complained of higher-than-normal failure rates

Pass rates from Senior Certificate to National Senior Certificate



Learners qualifying for University Entrance from SC to NSC



Purpose of the study

To investigate the relationship between NSC subjects (English, Mathematics, and Physical Sciences) and academic success in University first year.

Research question

Is there a relationship between NSC subjects and academic success at Higher Education institutions?

Methods

- This was a joint study with seven Higher Education Institutions
- Institutions participated voluntarily
- Each institution was provided with a data tool with variables for data collection
- The data tool had 36 variables, of which 11 were compulsory

Methods...

Compulsory variables:

- Faculty
- Academic year
- Matric year
- First year results (Pass/Fail)
- Age
- Final year mark (GPA)
- Marks for NSC subjects (English FAL/HL, Mathematics, Physical Sciences)

Methods...

Delimitations:

- South African students
- Matriculated with NSC qualification
- Passed Grade 12 on the first attempt
- Have not enrolled previously for any other tertiary study
- Maximum age of 21 years

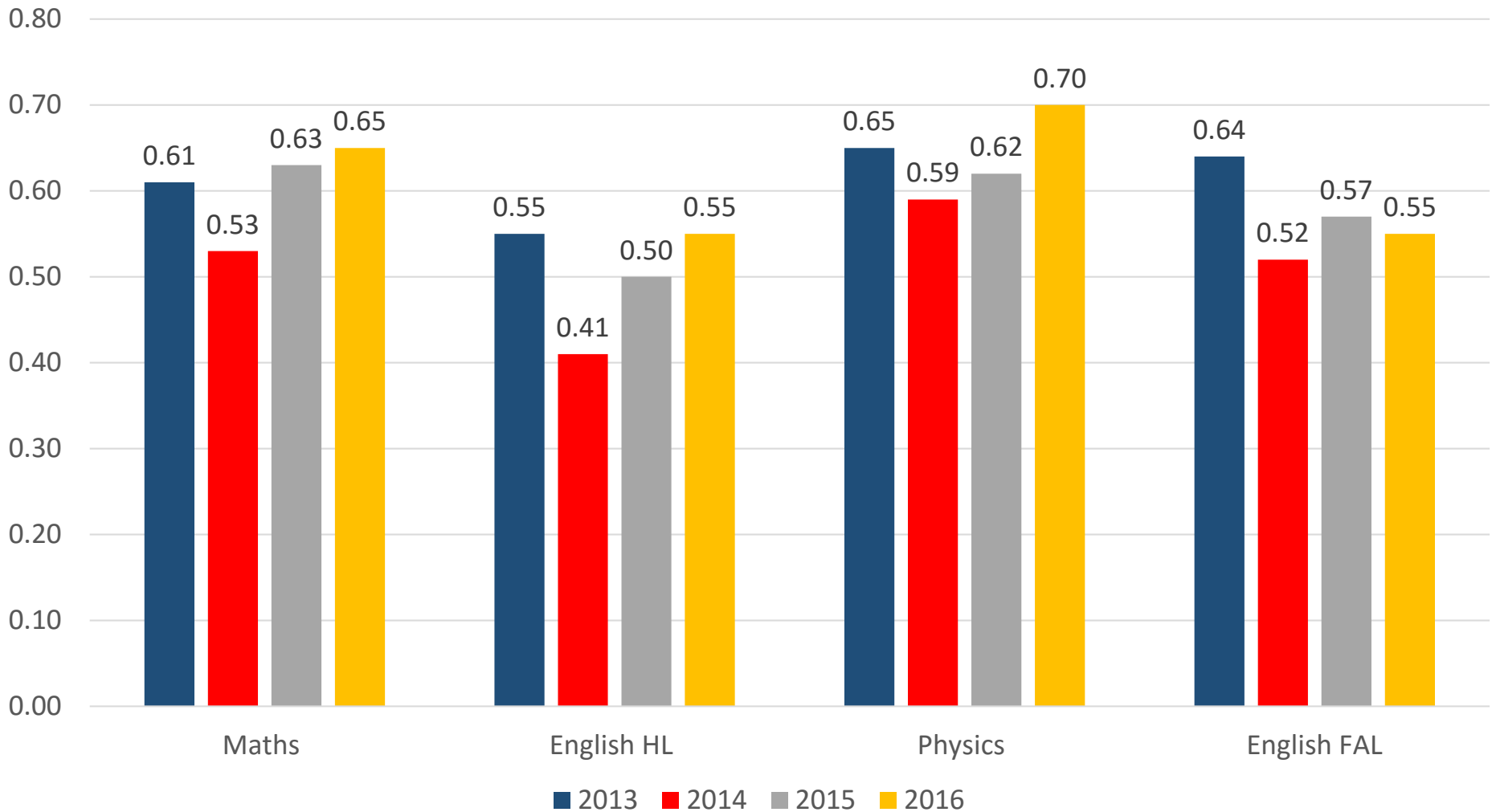
Analysis

- **Spearman's Rank Correlation (Rho)** was used to measure the relationship between NSC subjects and the final year outcome
- Rho evaluates the degree to which individuals with high rankings on one variable were observed to have similar rankings on another variable
- Spearman's correlation interpretation is similar to that of Pearson's and constrained within the boundaries: -1 and 1.

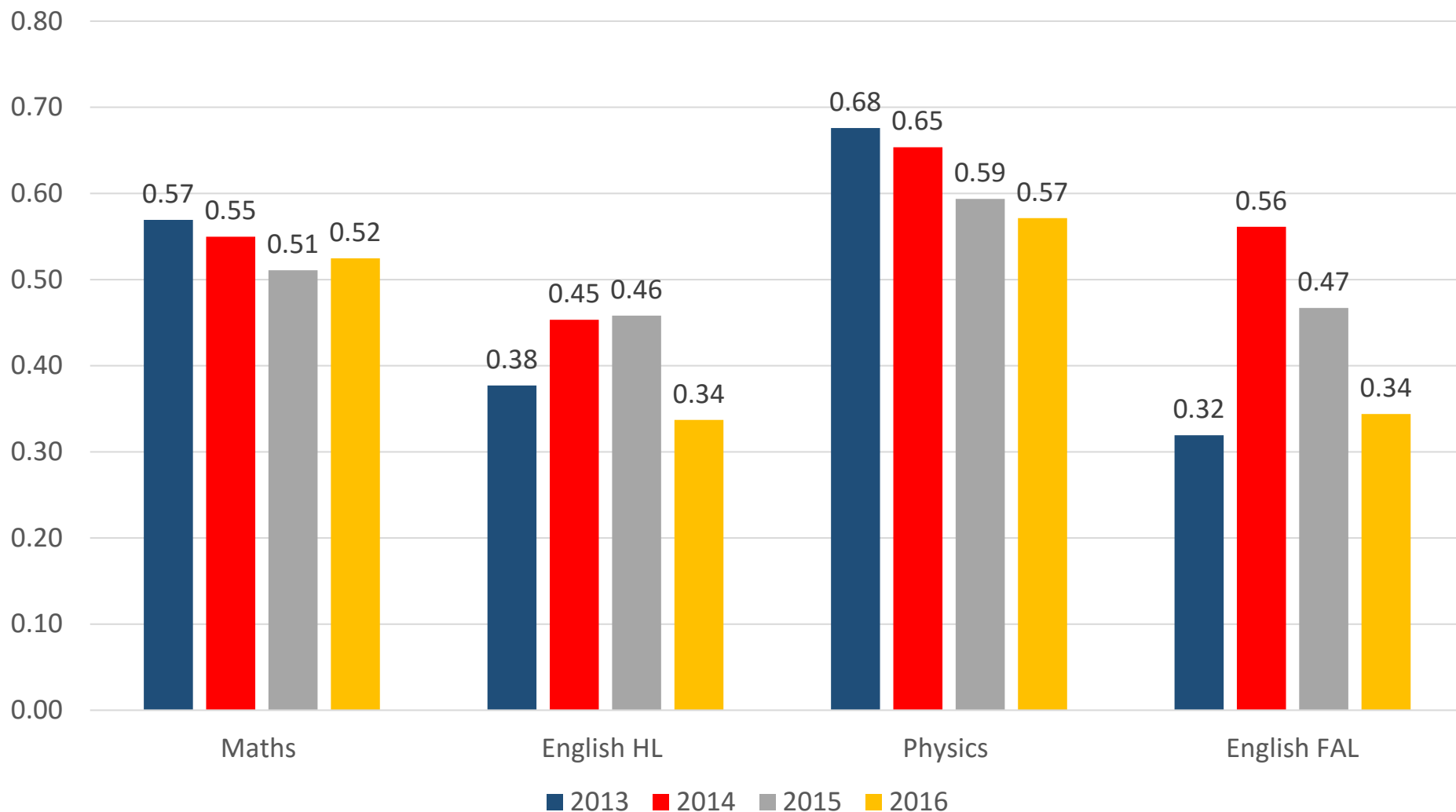
Analysis...

- The analysis was done at faculty level
- Report on three institutions (A-C) and two faculties each from 2013-2016:
 - **Health Sciences**
 - **Humanities**

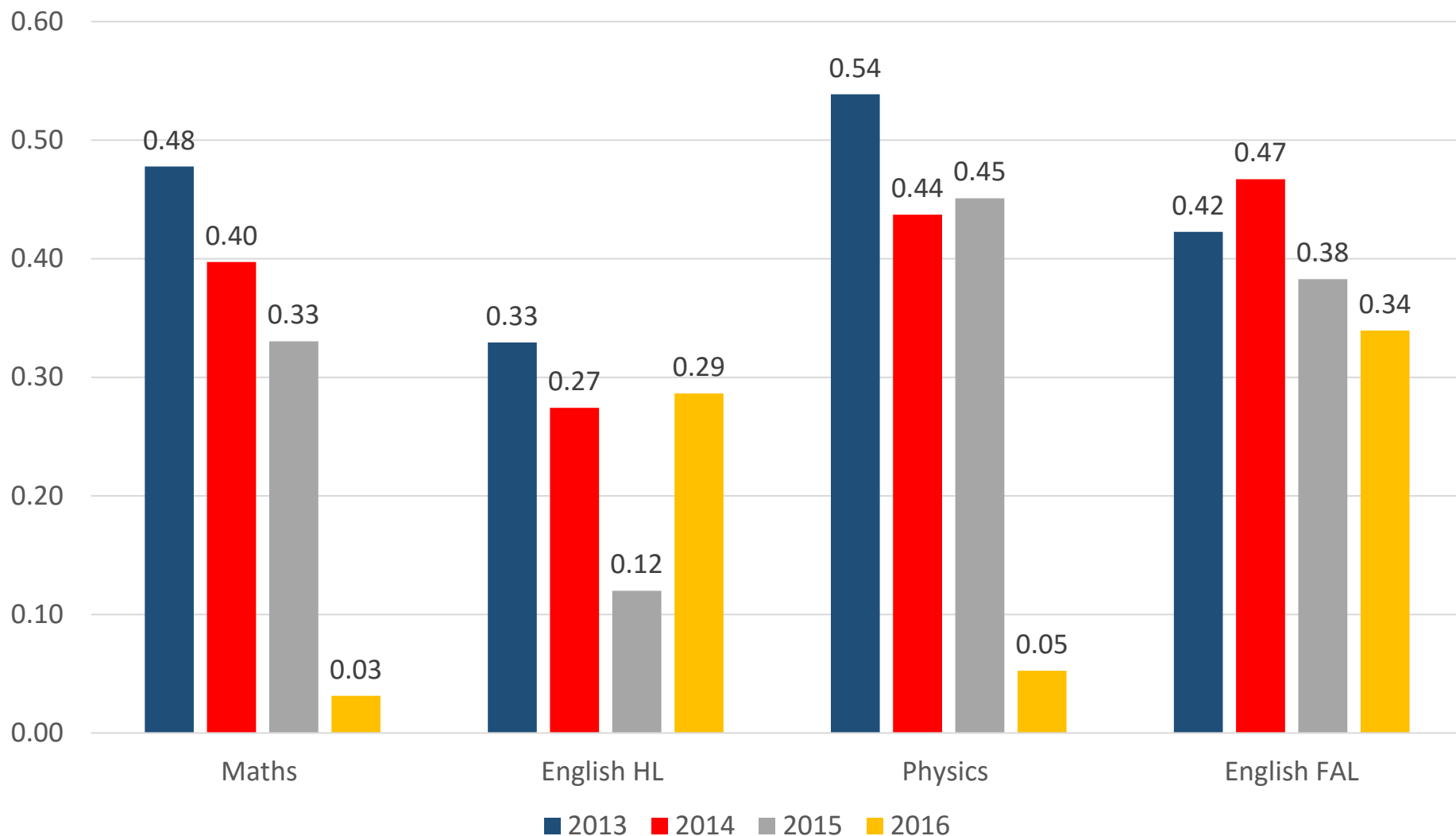
A:Health Sciences



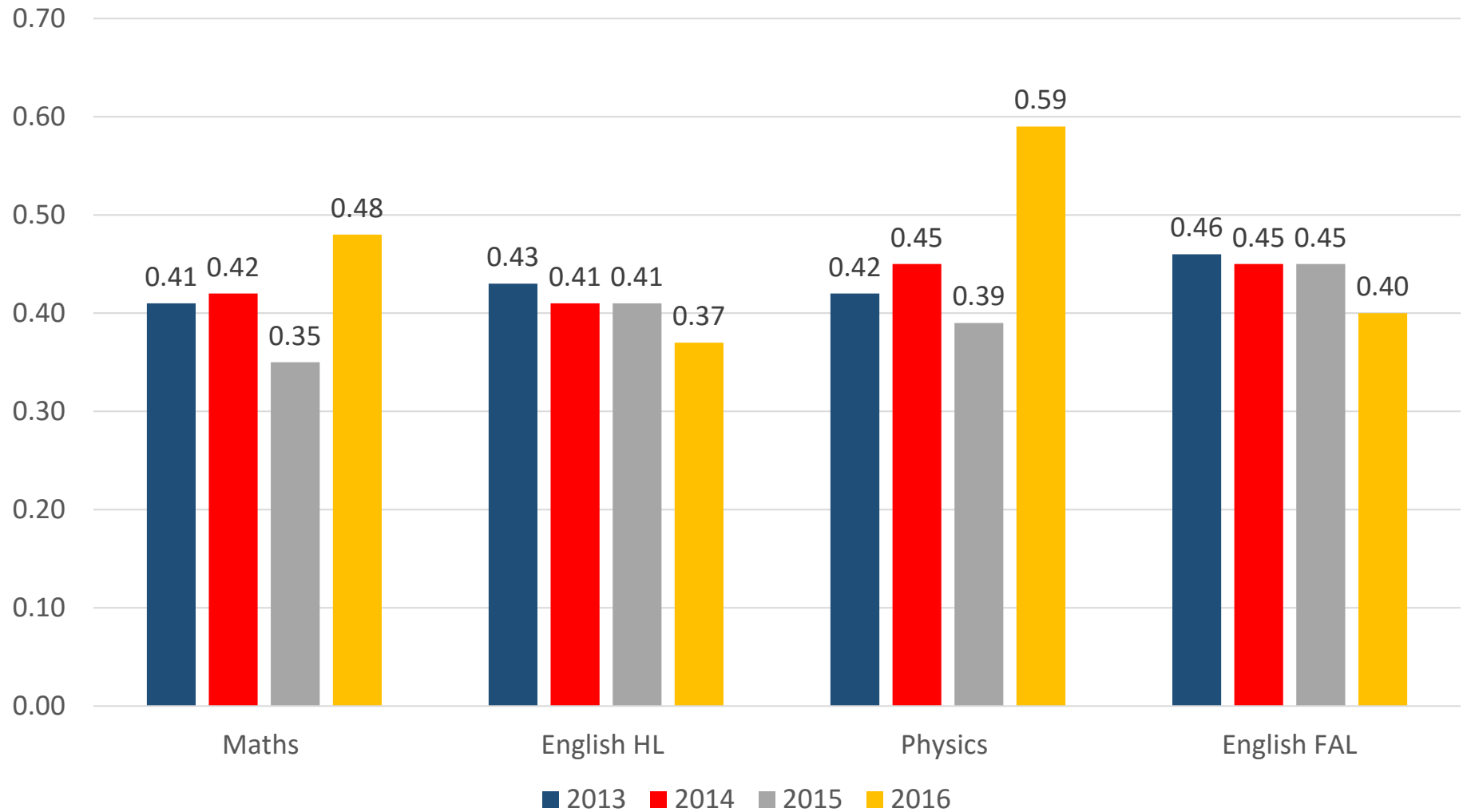
B:Health Sciences



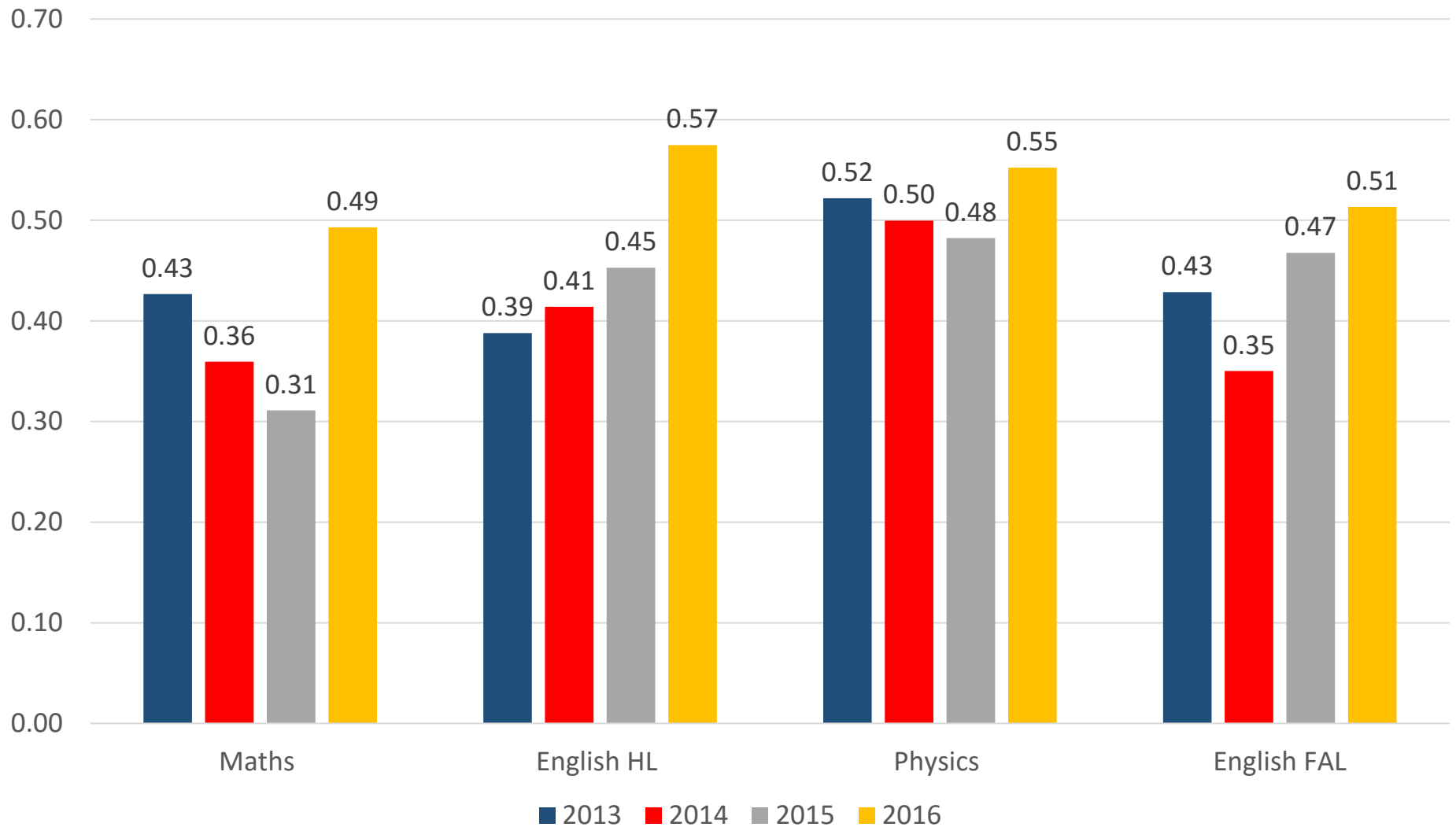
C:Health Sciences



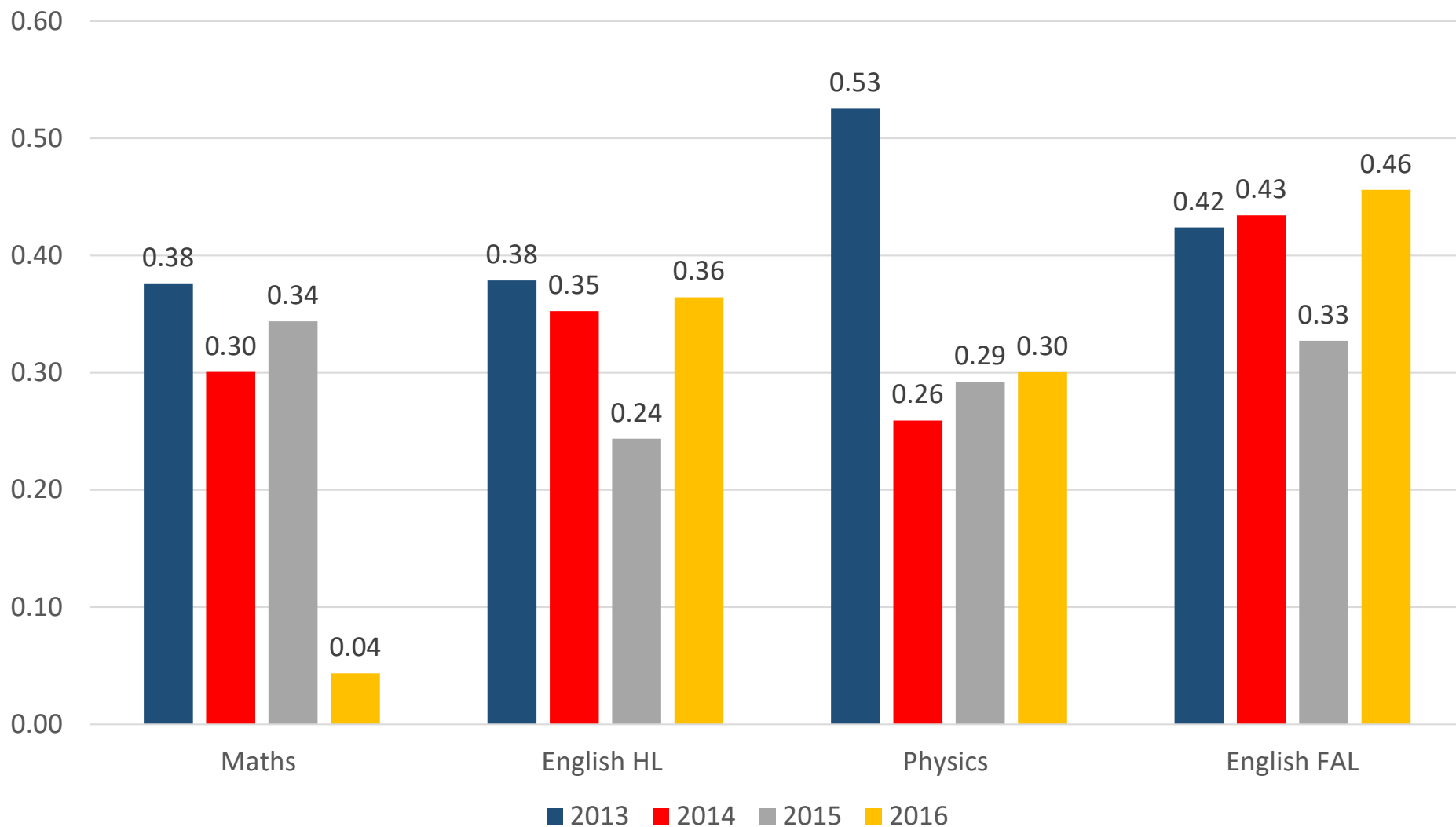
A: Humanities



B:Humanities



C:Humanities



General Findings

Institution	Health Sciences	Humanities
A	<ul style="list-style-type: none">Physical sciences leading with highest correlations	<ul style="list-style-type: none">English FAL leading with highest correlations
B	<ul style="list-style-type: none">Physical Sciences leading with highest correlations	<ul style="list-style-type: none">Physical Sciences leading with highest correlations
C	<ul style="list-style-type: none">Physical Sciences leading with highest correlations	<ul style="list-style-type: none">English FAL leading with highest correlations

General Findings

- Correlation observed between NSC subjects and the GPA is of moderate strength & few cases with strong correlation
- There are no clear trends
- Faculty of Health Sciences revealed that Physical Sciences had the strongest correlations
- Physical sciences is not required in Humanities, however it demonstrated the highest correlation with the GPA

Limitations

- The Grade Point Average (GPA) was calculated differently per institution
- Did not consider the University re-admission policy in terms of credits
- The relationship of NSC subjects with GPA was measured at the end of the year.

Limitations...

- Not possible to account for unknown covariates
 - E.g. various interventions
- Aggregated data analysis might have contributed to the distorted trends

Returning to the research question

- **Is there a relationship between NSC subjects and academic success at Higher Education institutions?**
 - Yes, there is a relationship between NSC subjects and academic success.
 - However, Physical Sciences produced high correlations.
 - The correlations were of varying strength mostly dependent on the faculty.

Way forward

- Disaggregate the analysis to programme level
- Increase the sample size by relaxing the delimitations
- Factor in the achievement variations

THANK YOU!