The Power of an on entry measure: Links to GCSE

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Outline

- Background
- The data
- A single baseline item linked to GCSE
- GCSE: correlations with sub-scales & total BLA
- GCSE: predicting with variables from Reception
- Predictions to ages 5, 7, 11 and 16
- GCSE predicted from KSs and baseline
- Complications
- Issues that could/should be addressed

The PIPS on-entry assessment

- Brief demonstration

- NB Forty six papers published

Map of items and pupils

```
TABLE 12.2 SOR England Data v2.sav          ZOU083WS.TXT  Jan  8 14:33 2014
INPUT: 19504 PERSON  168 ITEM  REPORTED: 5440 PERSON  165 ITEM  334 CATS WINSTEPS 3.74.0
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MEASURE    PERSON - MAP - ITEM
             <more>|<rare>
     6           +
                 |  M or L 8 more t
                 |  M or L 21 more
                 |
     5           +  M or L 6 less t  Sums B  half of  Sums B 4+11
               |T M or L 10 less   Sums B 9-6
             .  |  Sums B 15+21
                |  Sums B 7+3
     4       .  +
             .  |  M or L 3 less t  Sums B 42-17     Sums B Sequence
             .  |  M or L 3 more t  Num 3dig1        Pass  Walking t
             .  |  Num 3dig2        PV cosmetics     PV yacht
     3       .  +  Num 3dig3        Sent  Sentences  Sums B Sequence
             .  |  M or L 2 more t  Sent  Sentences  Sent  Story 2   Sums B  12p ora
             .  |  IAR full         Num 2dig1        Sent  Story 1
             .  |S Num 2dig2        Sent  Sentences  Sums B 15-4
     2      .# T+ IAR capital       Num 2dig3        Sent  Sentences  Sent  Sentences  Sums A rockets  W ball        W tree
           .## |  Sent  Sentences  W cat            W flower         W house
           .## |  IAR sentence      Num 3dig4        Pass  Cats long  W car          W duck          W rabbit
          .#### |  IAR start        Num teen2        W dog
     1    .#### +  Num 3dig5        Num teen1        Num teen3        Sent  Sentences  Sums B  half th  W butterfly
        .####### S|  IAR sentence     PV microscope    Sums A pips
       .######### |   W Writing        Lett D           Lett Q           M or L 1 more t  Sums A ice crea
      .########## |  Lett A            Lett H           Lett J           Lett Y         Lett t          Sums A puppies
     0 .########### +M Lett G          Lett K           PV jewellery     PV toadstool   Rep observatory  Rhy mouse       Sums A bikes   Sums B  5p appl
      .########### M|  IAR Letter       Lett B           Lett V           Lett c         Lett o          Lett u          PV padlock     Rhy bin       Rhy dish      Sums A rabbits
       .########## |  Lett F            Lett n           Lett w           PV saxophone   Rep frigglejang  Rhy pan         Rhy toes
       .########## |  IAR word          Lett L           Lett S           Lett e         Lett r          Lett z          Num 9          PV cash       Rhy cherries  Rhy drum       Rhy hat       Rhy sun       Sums B  three q
    -1   .####### +  Lett x            Num 6            Rep juxtapose    Sh hexagon
         .######## |  Lett Name Lette  Lett m           Num 0            Num 8          Rep riotous     Sums A cars
         .###### S|  Count fish here  IAM least        Lett i           Lett p         Num 7           Rep denalty
          .#### |  Count fish ther  PV pigeon        Rep enterprisin  Sums A balls
    -2    #### +  IAM shortest      Num 3            Num 5            PV bowl        PV violin
          .## |S IAR writing       Num 1            Num 2            Num 4          Rep mantle      Sh square
          .# |  Count apples th  PV windmill      Sh triangle
          .# T|  Count apples he  PV knife         PV pan
    -3     .  +  PV cherries       Rep stop
             .  |  IAM most          PV fork          PV wasp          Sh circle
             .  |  IAM tallest       IAR someone
             .  |  IAM more          PV butterfly
    -4       .  +  IAR someone       PV cupboard
             .  |  PV carrots        PV kite
             .  |  IAM smallest      PV turtle
             .  |T PV castle         Sh star
    -5          +  IAM biggest
             .  |
                |
             .  |
    -6          +
                |
             .  |
                |
    -7       .  +
             <less>|<frequent>
EACH "#" IS 41. EACH "." IS 1 TO 40
```
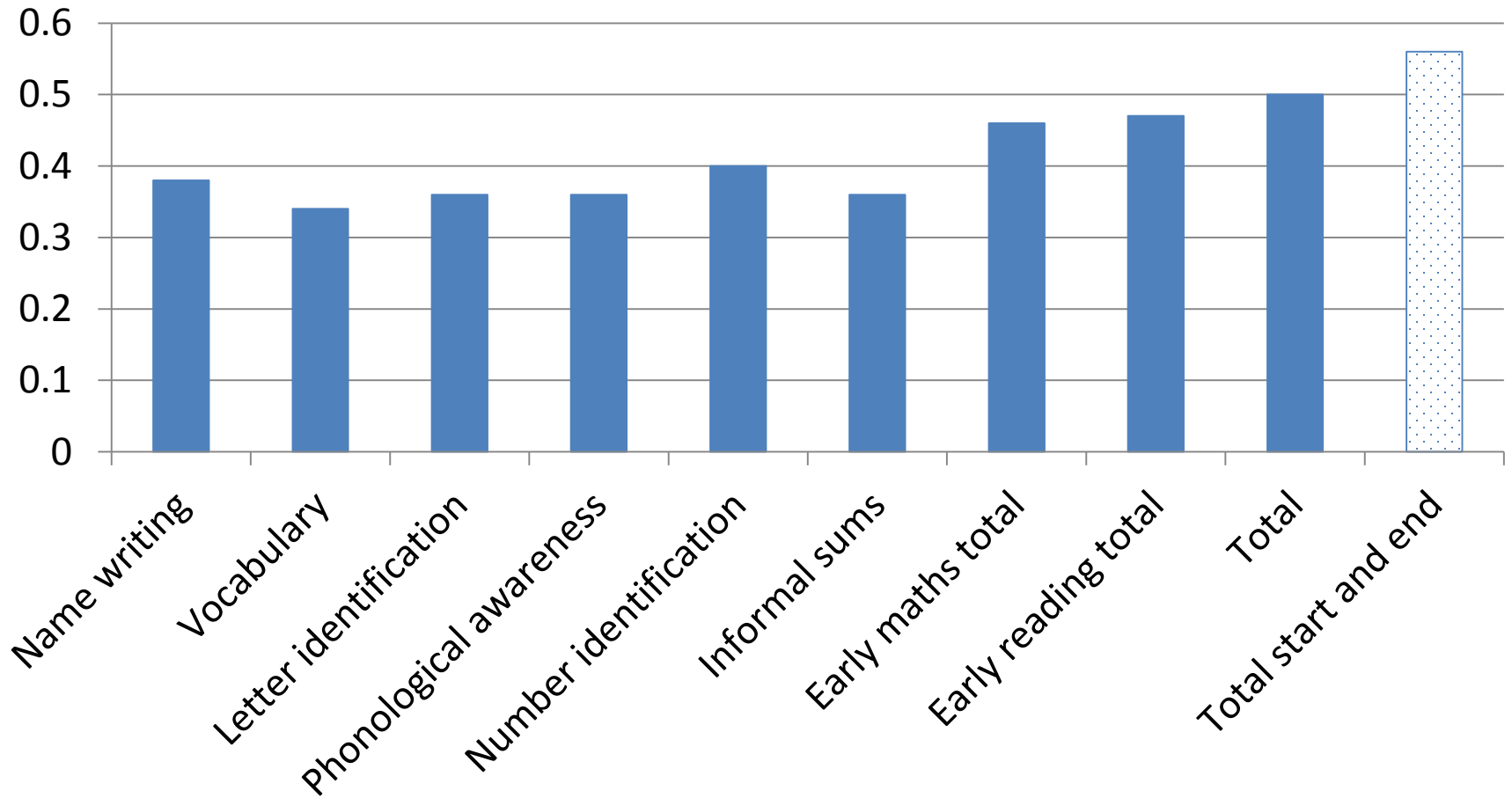
The data
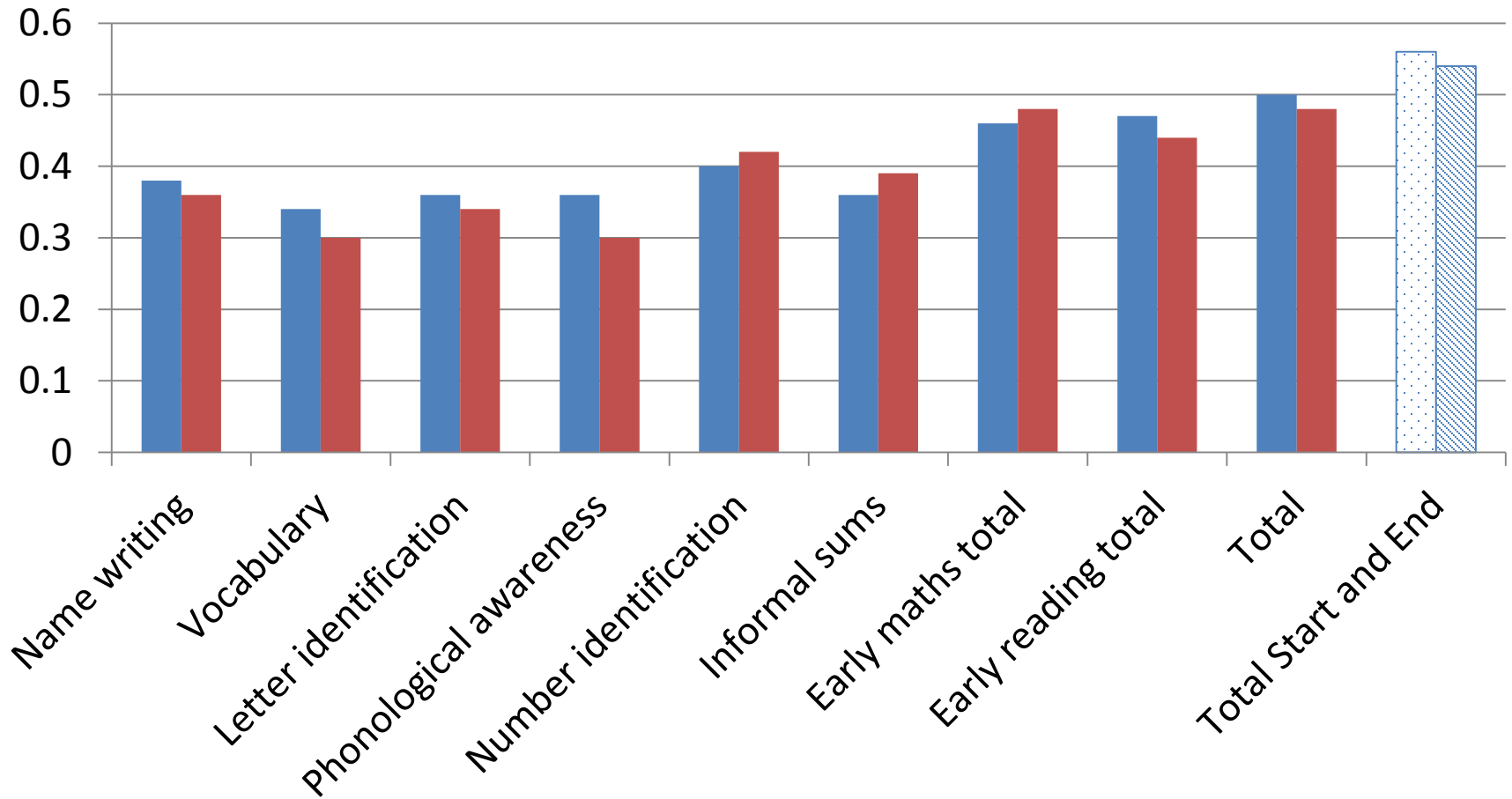
- Data matched from baseline 2000/01 to
  - End year PIPS   2001
  - KS1   2003
  - KS2   2007
  - GCSE   2012
- Approximately 54,000 cases
- Sample very broadly based
- But higher proportion of EAL now.
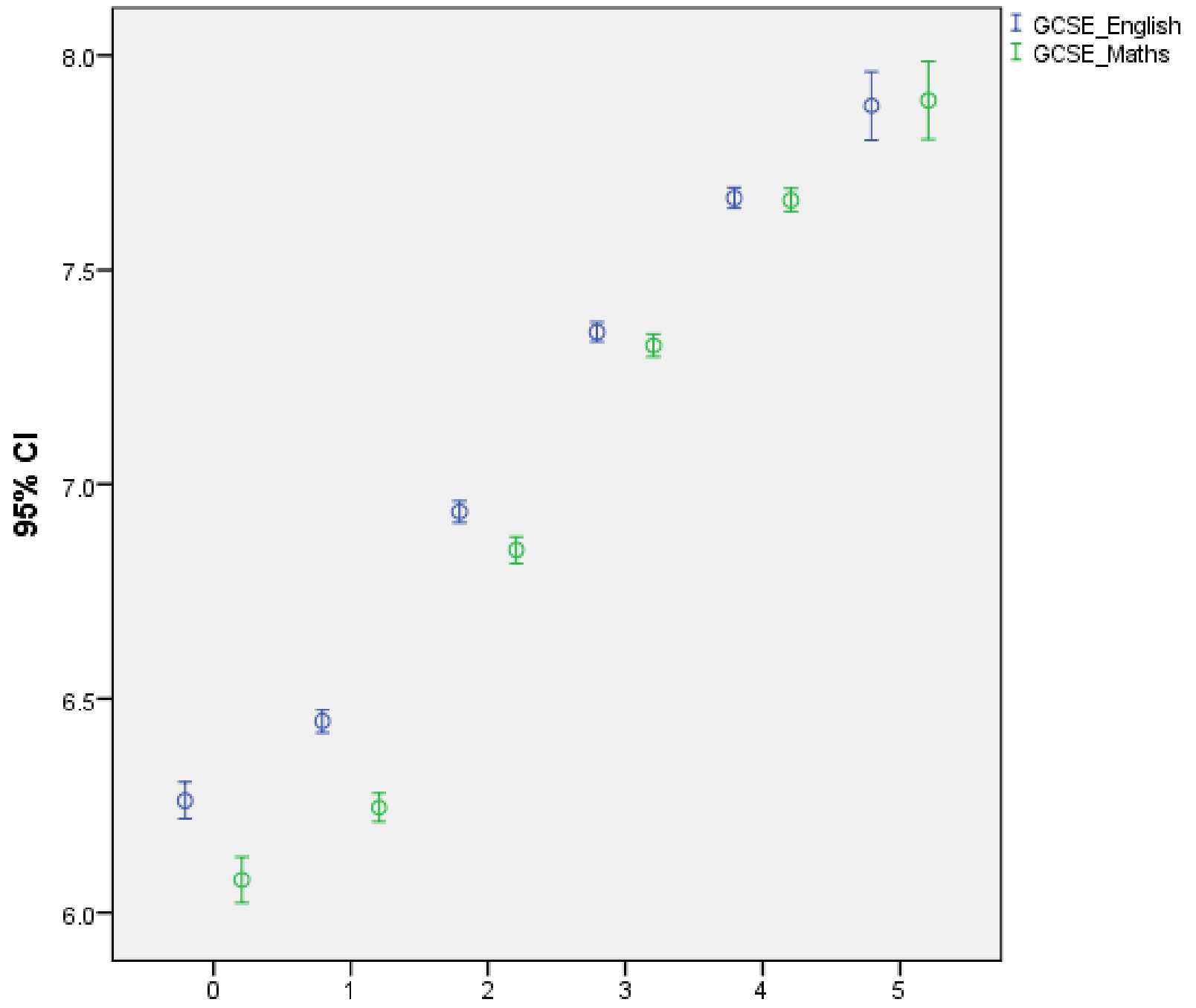
Correlations: to GCSE English

Correlations: to GCSE English & Maths

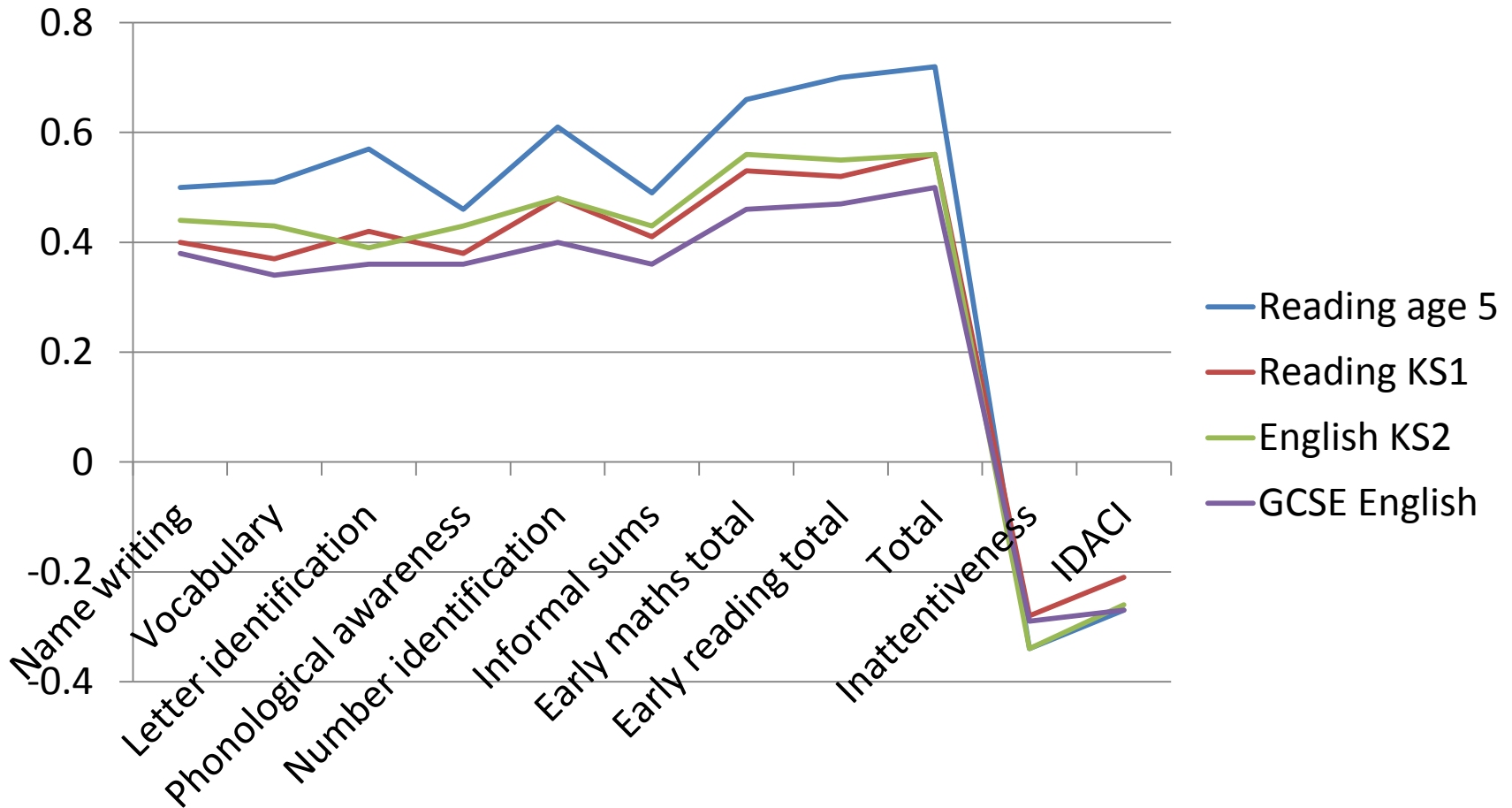# Multiple regression: GCSE English
R=0.56 (0.60) n=45,807 (43,783)

	Beta	Beta
Maths	0.20	**0.11**
Reading	0.20	**0.09**
Phonics	0.09	**0.08**
Female	0.13	**0.12**
IDACI	-0.17	**-0.15**
Inattentiveness	-0.13	**-0.10**
EAL	0.13	**0.13**
End BLA		**0.31**

Multiple regression: GCSE maths
R=0.55 (0.59) n=45,884 (43,854)

	Beta	Beta
Maths	0.29	**0.20**
Reading	0.16	**0.04**
Phonics	0.02	**0.02**
Female	-0.06	**-0.06**
IDACI	-0.18	**-0.15**
Inattentiveness	-0.14	**-0.11**
EAL	0.15	**0.14**
End BLA		**0.30**

Predictions to ages 5, 7, 11 and 16

Predictions to ages 5, 7, 11 and 16
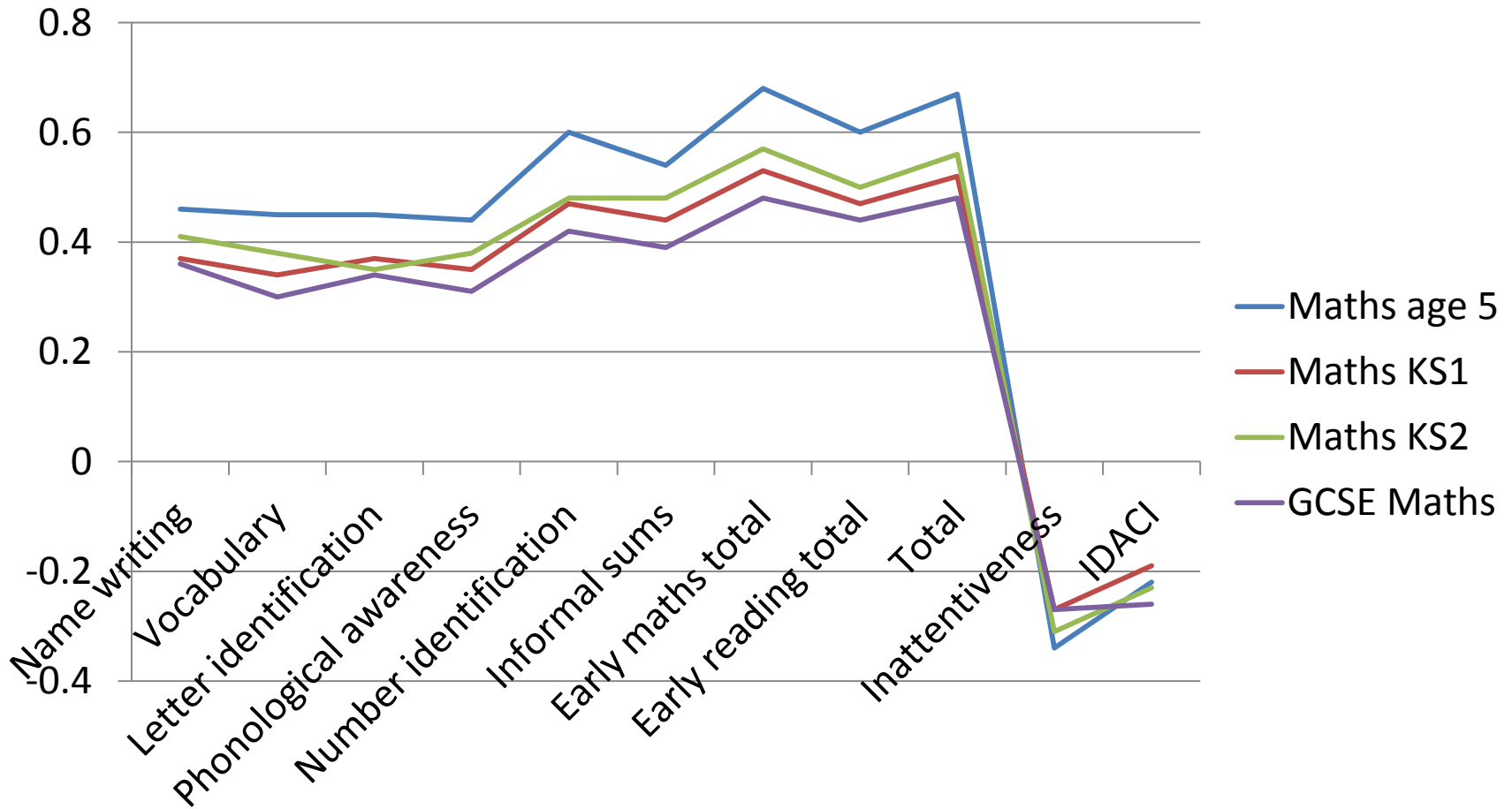
Does BLA predict over and above KS data? Multiple regression

0.74

GCSE English	Beta
KS2 English	0.62
KS1 reading	0.10
PIPS read (end)	0.04
PIPS read (start)	0.06

0.79

GCSE maths	Beta
KS2 maths	0.70
KS1 maths	0.08
PIPS maths (end)	0.03
PIPS maths (end)	0.04

Complications linked to BLA

- Teacher judgement
  - Generally biased against
    - boys, low SES & ethnic minorities
- EAL
  - Level of English acquisition is important
  - DIF is clear for language
    - but not for maths
- Age
  - Children generally start school age 4 to 5 in Sept
  - Some start in January and some after Easter
  - Some are delayed a year (red-shirting)
  - But age corrected scores are not better predictors!

Issues that could be addressed

- Long term impact of:
  - The Reception year
  - Early number work – do we need more emphasis early on?
  - Special needs – do some schools deal with the issues
  - Different emphases early on
  - Pre school
- Growth trajectories and
  - Infant => Junior => secondary school
  - Switches to the private sector
  - When does teaching matter most?
- Interventions: what should be addressed?
- Etc

Thank you