



A growth mindset intervention for 7th graders

Ministry of Education of Castilla y León

Programme for International Student Assessment (PISA) Conference:

Using PISA evidence to inform education policies and practices.

**Dubrovnik, Croatia
29-30 November 2024**

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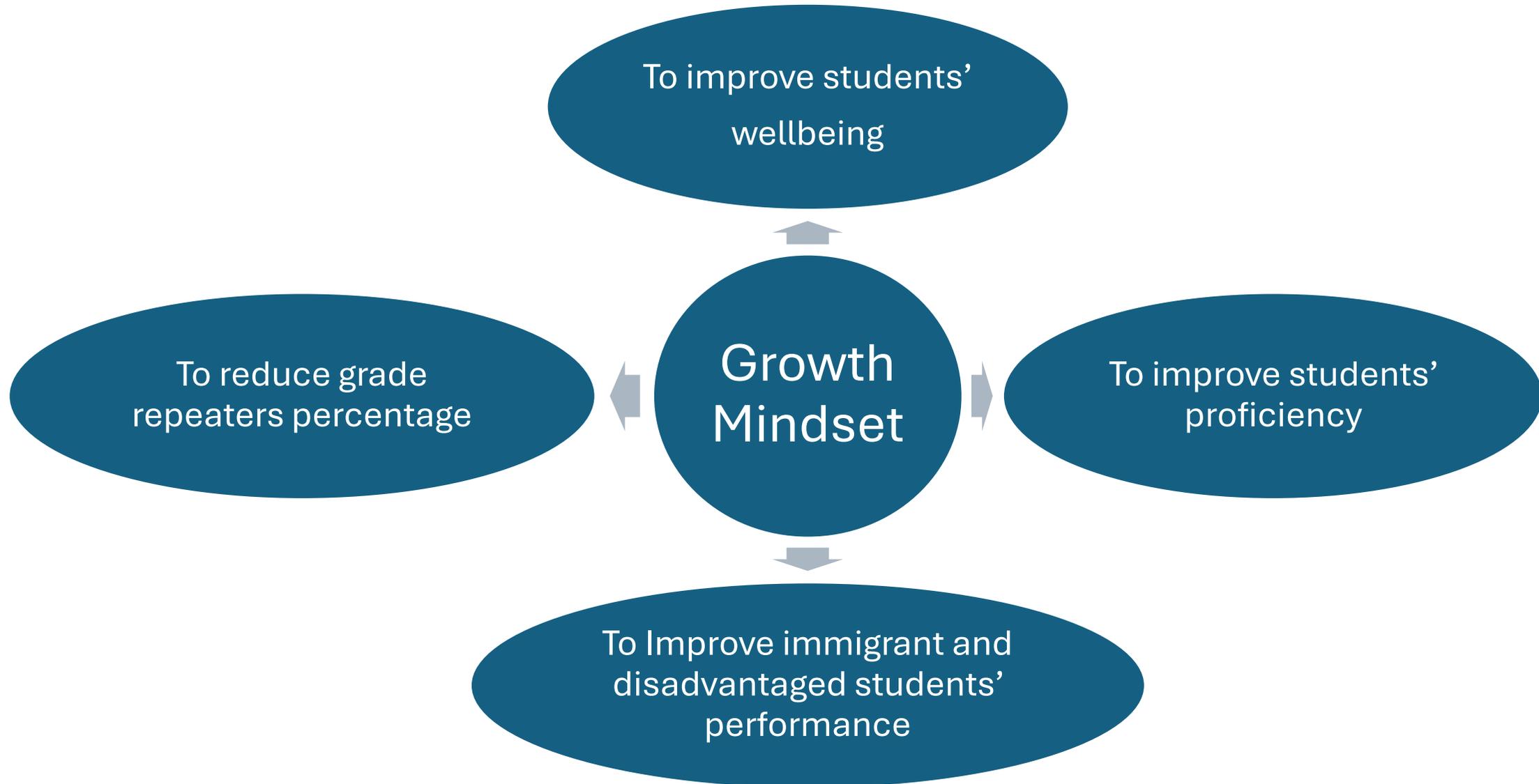


My brain and furthermore my intelligence is something fix, like a stone, that I cannot change.



My brain and furthermore my intelligence can grow, like a tree, when new neural sinapsys are done.

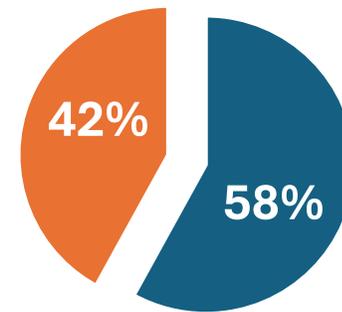
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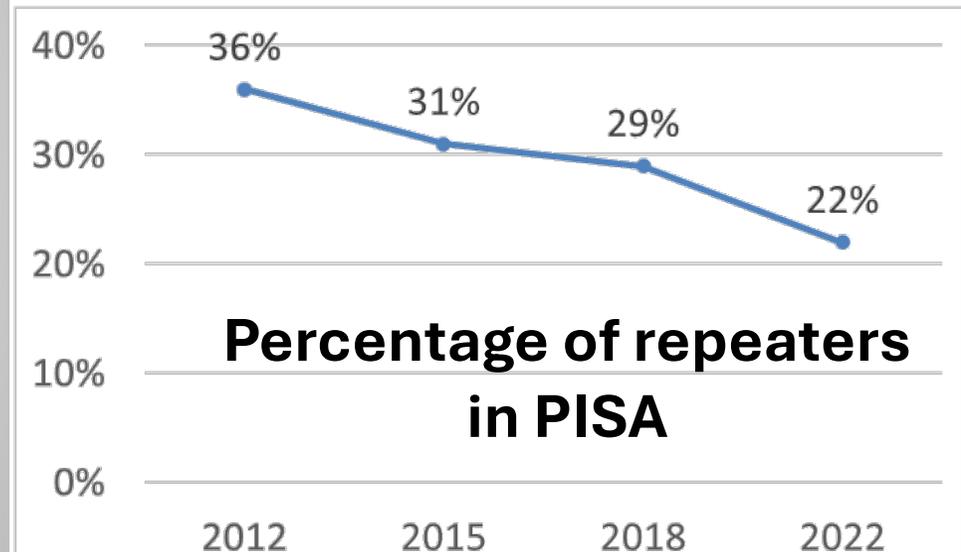
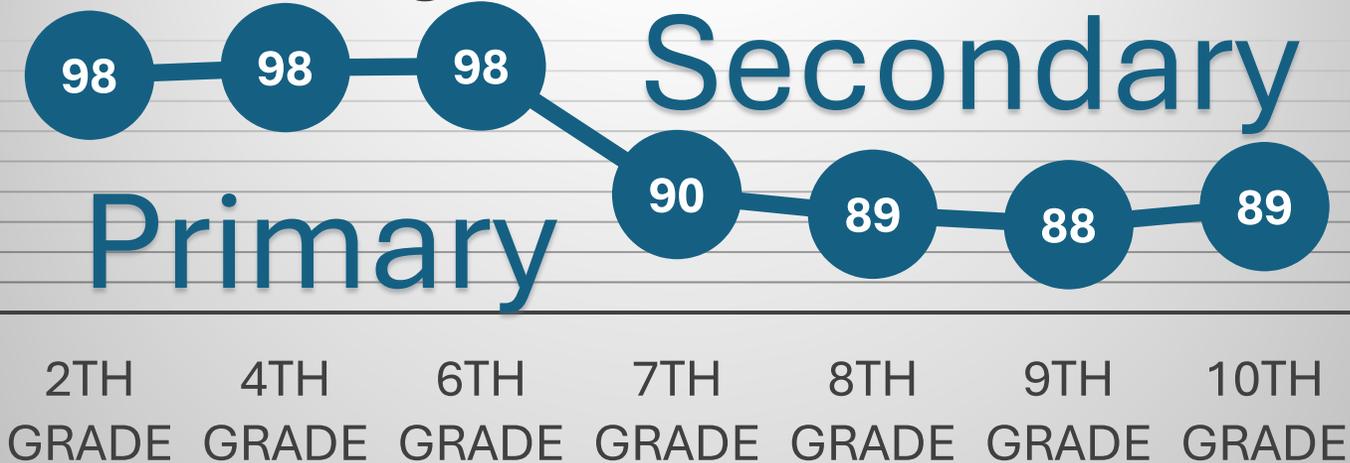


Castilla y León

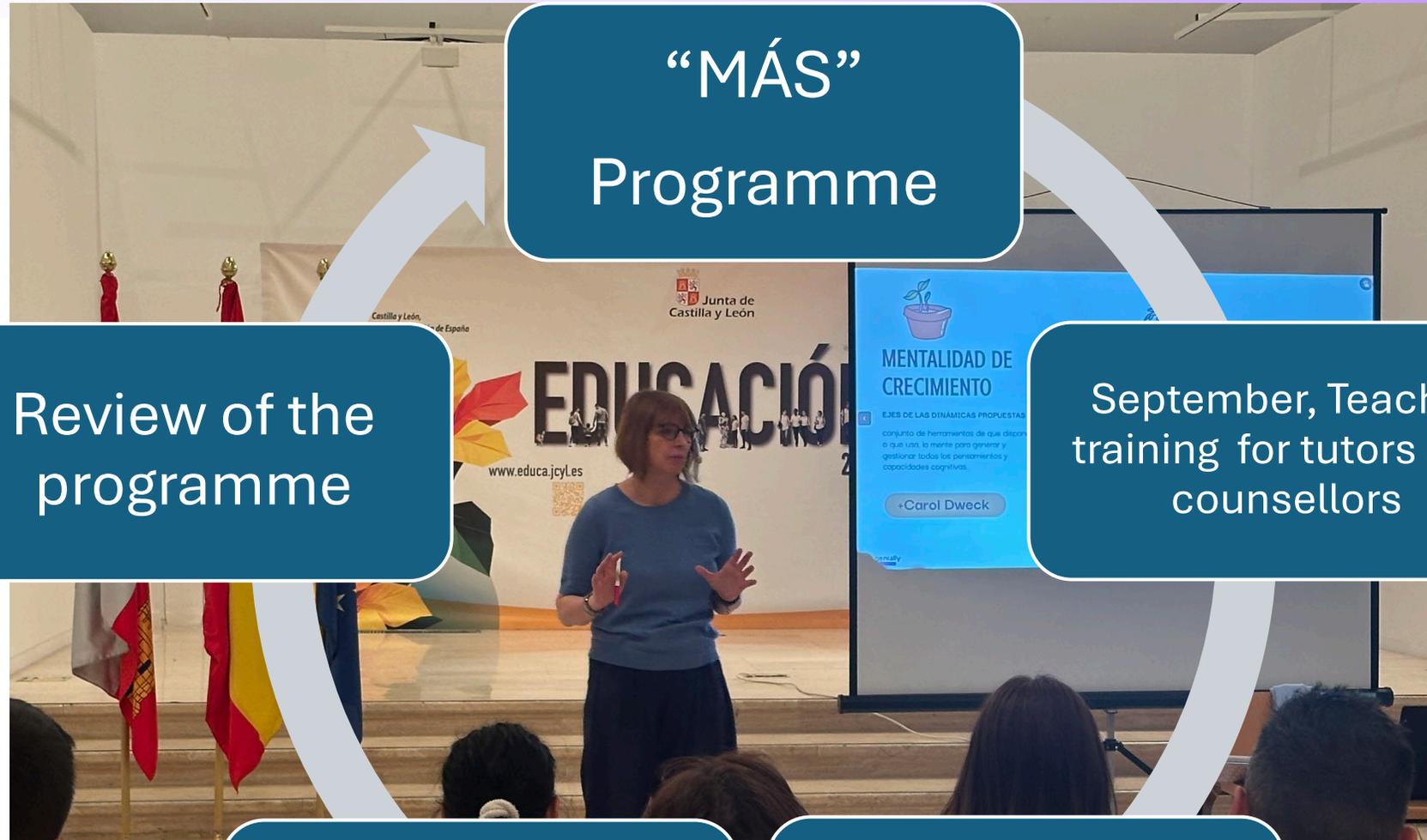


- Male repeaters in PISA 2022
- Female repeaters in PISA 2022

% of students who advance to the next grade in 2021-2022



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“MÁS”
Programme

Review of the
programme

September, Teacher
training for tutors and
counsellors

November- May,
2 online follow-up
sessions for tutors and
counsellors

October-May,
(5-6) Tutoring sessions

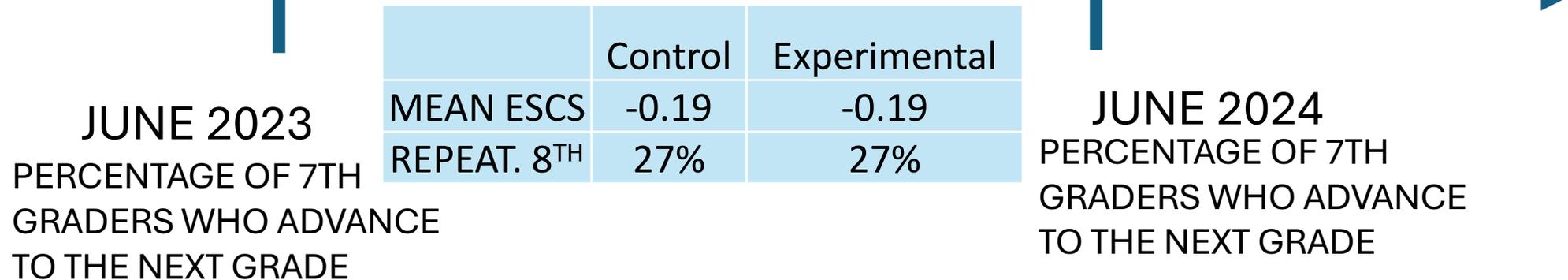
APPROACH

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1 DIFFERENCES IN DIFFERENCES METHODOLOGY

PAIRED SAMPLE
 17 EXPERIMENTAL SCHOOLS
 17 CONTROL SCHOOLS
 MATCHED BY ESCS IN CENSAL
 8TH GRADERS ASSESSMENT
 DONE IN 2024 MAY.

FIRST APPLICATION OF "MÁS" PROGRAMME IN 17TH SCHOOLS



2022-2023	control	experimental
N	1308	1279

2023-2024	control	experimental
N	1331	1372

2 SHORT COUNSELLORS FORM

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1

DIFERENCES IN DIFERENCES METHODOLOGY (DID)

MODEL RESTRICTEC TO MALE STUDENTS WHO HAD REPEATED A YEAR.

```
glm(formula = PROMJUNE ~ exp_ctrol + year + year * exp_ctrol,  
     family = "binomial", data = data23_R)
```

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	0.45724	0.15384	2.972	0.00296	**
exp_ctrol	0.23591	0.23875	0.988	0.32310	
year	-0.08145	0.23078	-0.353	0.72413	
exp_ctrol:year	0.29363	0.33485	0.877	0.38055	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 834.65 on 643 degrees of freedom
Residual deviance: 828.10 on 640 degrees of freedom

- We have not found effect of MAS programme in any case in the percentage of 7th graders who advance to the next grade.
- The biggest differences were found for male students who had repeated 1 year.

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MODEL RESTRICTED TO MALE STUDENTS WHO HAD REPEATED A YEAR IN JUNE 2023 .

```
glm(formula = PROMJUNE ~ exp_ctrol, family = "binomial", data = data23_R2)
```

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	0.4572	0.1538	2.972	0.00296 **
exp_ctrol	0.2359	0.2387	0.988	0.32310

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

MODEL RESTRICTED TO MALE STUDENTS WHO HAD REPEATED A YEAR IN JUNE 2024 .

```
glm(formula = PROMJUNE ~ exp_ctrol, family = "binomial", data = data23_R2)
```

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	0.3758	0.1720	2.185	0.0289 *
exp_ctrol	0.5295	0.2348	2.255	0.0241 *

	N	LOGIT	p
control	140	0,3758	0,5928
experimental	191	0,9053	0,7120

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

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2 SHORT COUNSELLORS FORM

According to some of the counsellors who have participated:

It improves students' ability to excel.

It helps to see effort as the path to learning.

It fosters resistance to frustration.

It increases the expectation of success.

Progress has been observed in the students.

They valued the training and scientific foundation of the programme as a strong point.



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Comprehensive approach

Psychologist and
Teachers working
together to improve
students mindset.

Teacher training to
improve students'
growth mindset.

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Thanks for your attention

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REFERENCES

Blackwell, L.S., Trzesniewski, K. H. & Dweck, C. S. (2007) Implicit Theories of Intelligence Predict Achievement Across an Adolescent Transition: A Longitudinal Study and an Intervention. *Child Development*. Volume 78, Issue 1, January/February 2007, páginas 246-26. <https://doi.org/10.1111/j.1467-8624.2007.00995.x>

Dweck, C. S. & Leggett, E. L. (1988). A Social-Cognitive Approach to Motivation and Personality. *Psychological Review*, Vol. 95, No. 2, 256-273.

Gouédard, P. (2021), "Can a growth mindset help disadvantaged students close the gap?", PISA in Focus, No. 112, OECD Publishing, Paris, <https://doi.org/10.1787/20922f0d-en>

Gouédard, P. & Valle, R. (2021). Sky's the limit: Growth mindset, students, and schools in PISA. OECD. <https://www.oecd.org/pisa/growth-mindset.pdf>

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MEyFP (2022). Sistema estatal de indicadores de la educación 2022.

<https://www.educacionyfp.gob.es/inee/dam/jcr:1f4a7f5c-a3bd-40f8-9433-b400e38e2629/seie-2022.pdf>

MEyFP (2023). Sistema estatal de indicadores de la educación 2023.

https://www.libreria.educacion.gob.es/libro/sistema-estatal-de-indicadores-de-la-educacion-2023_182384/

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OECD (2019a), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/b5fd1b8f-en>.

OECD (2019b), *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/acd78851-en>.

OECD (2020), *PISA 2018 Results (Volume V): Effective Policies, Successful Schools*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/ca768d40-en>

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Paunesku, D., Walton, G. M., Romero, C., Smith, E. N., Yeager, D. S., & Dweck, C. S. (2015). Mind-Set Interventions Are a Scalable Treatment for Academic Underachievement. *Psychological Science*, 26(6), 784–793. <https://doi.org/10.1177/0956797615571017>

Postigo, Á., Fernández-Alonso, R., Fonseca-Pedrero, E., González-Nuevo, C., Muñiz, J. (2022). Academic Self-Concept Dramatically Declines in Secondary School: Personal and Contextual Determinants. *Int. J. Environ. Res. Public Health* 2022, 19, 3010. <https://doi.org/10.3390/ijerph19053010>

Sancho, M.A.; Soler, A.; Martínez Pastor, J.I.; López-Meseguer, R., Valdés, M. T., Morillo, B., de Cendra, L. y Velarde, M. D. (2021). Mapa del abandono educativo temprano en España. Informe general. Fundación europea Sociedad y educación. <https://www.sociedadeducacion.org/site/wp-content/uploads/INFORME-GENERAL-AETWEB23032021.pdf>

A growth mindset intervention for 7th graders

Yeager, D.S., Hanselman, P., Walton, G.M., Murray, J. S., Crosnoe R., Muller, C., Tipton, E., Schneider B., Hulleman C. S.,

Hinojosa, C. P., Paunesku, D., Romero, C., Hahn, P. R., Gopalan, M., Mhatre P., Ferguson, R., Duckworth, A. L. & Dweck, C. S.

(2019). A national experiment reveals where a growth mindset improves achievement. *Nature* **573**, 364–369

<https://doi.org/10.1038/s41586-019-1466-y>