



**Evaluating the impact of the DAPHNE  
programme  
on the reduction of BULLYING:**

*cross-country and country-level results*

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- Cross-country analyses on Olweus data:
  - Cyprus
  - Greece
  - the Netherlands
  - the UK

*Nested data → multilevel analyses*

- 2-level model (student within schools),
- 'country' as dummy variable
- Olweus:
  - Scale A = extent to which students are victims of bullying*
  - Scale B = extent to which students are bullying*



- Stepwise approach:
  - a) empty model
  - b) model 1  
*adding all student level variables: pre-measure, gender, Cyprus, Netherlands, Greece (UK = reference group)*
  - c) model 2  
*adding the intervention: DAPHNE*
- 2 types of scale scores used:
  - a) raw data: mean score of the items of each scale (cf. Olweus' suggestions)
  - b) Rasch scores



- Results for scale A (students are *victims of bullying*):

	<i>Empty model</i>	<i>Model 1</i>	<i>Model 2</i>
FIXED	estimated parameter (SE)		
Intercept	-2.77 (.07)	-1.21 (.09)	-1.01 (.09)
<i>Predictors: student level variables</i>			
Gender (boys=0)		0.02 (.04)	0.02 (.04)
the Netherlands		0.05(.10)	0.01(.10)
Cyprus		0.36 (.11)*	0.36(.10)*
Greece		-0.73(.10)*	-0.71(.10)*
Pre-measure		0.65 (.01)*	0.65 (.02)*
<i>Predictors: type of intervention</i>			
DAPHNE			-0.41(.07)*
Variance	Percentage (explained)		
at school level	24%	4.9% (53,9%)	3.2% (55,6%)
MODEL FIT			
Chi-square	9 559.606	7 534.855	7 503.367
improvement in model fit (p)		.001	.001



- Results for scale B (students are *bullying*):

	<i>Empty model</i>	<i>Model 1</i>	<i>Model 2</i>
FIXED	estimated parameter (SE)		
Intercept	-3.31 (.05)	-1.21 (.09)	-1.01 (.09)
<i>Predictors: student level variables</i>			
Gender (boys=0)		-0.01 (.03)	-0.01 (.03)
the Netherlands		0.25(.07)*	0.25(.08)*
Cyprus		0.34 (.07)*	0.34(.07)*
Greece		-0.45(.08)*	-0.45(.08)*
Pre-measure		0.56 (.01)*	0.65 (.02)*
<i>Predictors: types of intervention</i>			
DAPHNE (vs. no intervention)			-.18 (.05)*
Variance	Percentage (explained)		
at school level	21.9%	5.5% (51,5%)	4.4% (52,7%)
MODEL FIT			
Chi-square	8 031.360	6 120.172	6 107.676
improvement in model fit (p)		.001	.001



- Conclusions from cross-country analyses:
  - a) Relevant to account for nested structure of data: school level variance
  - b) Explained variance > 50%
  - c) Related to the student-level variables:
    - gender → no significant effect
    - country → according to scale/type of score, students of some countries have a significantly higher/lower estimated mean than UK students
    - pre-measure → sign. effect
  - d) Related to the interventions
    - significant effect of DAPHNE intervention



## Country-level results

### **CYPRUS**

strong and significant effect of **DAPHNE intervention**

### **GREECE**

significant effect of **DAPHNE intervention**

### **NETHERLANDS**

significant effect of DAPHNE intervention on scale A (victim)

### **UK**

significant effect of **DAPHNE intervention** on scale B (bullies)



## Country-level results: FLANDERS (BELGIUM)

- data not nested → unilevel analyses
  - aggregating Rasch scores (pre / post) of scales A and B at *school level*
  - computing 'difference scores' (Rasch\_after minus Rasch\_before) for scales A and B
  - linear regression analysis
    - Effect independent variable (dummy variable: intervention – no\_intervention) on the dependent variables (Rasch\_A\_diff and Rasch\_B\_diff).
- **results:** no statistical significant evidence that Flemish DAPHNE intervention had (reducing) impact on bullying



## Concluding remarks



statistically significant evidence of impact of **DAPHNE** programme on the reduction of BULLYING, in terms of:

extent to which students *are victims of bullying*

extent to which students *are bullying*

both across countries

and at country-level

(except scale A in Flanders and UK)

scale B in Flanders and Netherlands)