



# RESULTS OF THE ADAPTATION, IMPLEMENTATION, AND EVALUATION OF SWPBIS IN FRENCH-SPEAKING BELGIUM

CAROLINE DELTOUR, PHD, SCIENTIFIC COLLABORATOR



# SWPBIS in French-speaking Belgium

## Pilot project

1/ Adaptation

2/ Implementation in 7 pilot schools → « high-need » schools

3/ Investigation → effects implementation = quasi-experimental design + multiple measurements (pre-test, post-test 1, post-test 2, post-test 3 in treatment)

## Today's presentation

- Background
- Outcomes study 1: adaptation, school climate and absenteeism
- Outcomes study 2: teachers' collective efficacy
- Quality implementation matters: important factors to succeed
- Discussion, limitations and directions

# Background: international surveys and scientific literature

- Need to improve school climate according to PISA 2018 & TALIS 2018 results and to Berkowitz et al. (2017), Cohen et al., (2009) or Payne (2018) ...
- Need to allow and help teachers manage discipline collectively and efficiently according to PISA 2018 & TALIS 2018 results and to Eells (2017), Sun et al. (2017) ...

→ SWPBIS is a possible solution to improve the situation

# FIRST STUDY ON ADAPTATION AND SCHOOL CLIMATE

# Adaptation and fidelity

- Fidelity = correpondance between a practice and its features and a school culture, environment, and needs (McIntosh et al., 2010)
  - Fidelity → effectiveness of an intervention (Carroll et al., 2007; Dusenbury et al., 2003; Keller-margulis, 2012)
  - Fidelity → sign of cultural and contextual adaptation to a school system
- Use of 2 measures: an internal (TFI) and an external (SET) on a regular basis



# School climate

- School climate= shared beliefs, values, and attitudes that shape interactions between students, teachers, and administrators
- Positive school climate → positive outcomes in behaviors, social skills, attendance and academic achievement (Berkowitz, 2017; Booren et al., 2011; Gage et al., 2016; Gubbels et al., 2019)
- Students who perceive their schools as unsafe and unsupportive are more likely to engage in bullying (Bradshaw, O'Brennan et al., 2008, Goldweber et al., 2013)

## Fidelity scores

|                          | SET<br>year 1 | TFI<br>year 1 | SET<br>year 2 | TFI<br>year 2 | SET<br>year 3 | TFI<br>year 3 |
|--------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Experimental<br>School 1 | a             | a             | 55%           | 53%           | b             | 70%           |
| Experimental<br>School 2 | a             | a             | 73%           | 83%           | b             | 73%           |
| Experimental<br>School 3 | 77.5%         | 56.5%         | 60%           | 80%           | b             | 70%           |
| Experimental<br>School 4 | 72.5%         | 53.5%         | 77%           | 70%           | b             | 73.5%         |

- a = not administered (too early since the beginning of the implementation)
- b = not administered (COVID)

| Primary school students<br>(n = 239; 6 schools) | Effect sizes |  |
|---|--------------|--|
| School connectedness<br>(engagement)            | + 0.45       |   |
| Order and discipline<br>(environment)           | - 0.25       |  |
| School safety<br>(safety)                       | - 0.09       |  |
| Peer victimization:<br>reversed scale (safety)  | - 0.23       |  |

**Legend**











Very important effect (from 0.41 and over)




Important effect (0.20 < ES < 0.40)




Small effect (0.10 < ES < 0.19)





| Middle school students<br>(n = 375; 3 schools)     | Effect sizes |   |
|--|--------------|---|
| School connectedness (engagement)                  | + 0.51       |    |
| Peer support (engagement)                          | + 0.37       |    |
| Adult support (engagement)                         | + 0.54       |    |
| Cultural acceptance (engagement)                   | + 0.37       |    |
| Character (engagement)                             | + 0.25       |    |
| Physical environment (environment)                 | + 0.09       |   |
| School safety: reversed scale (safety)             | - 0.34       |    |
| Peer victimization: reversed scale (safety)        | - 0.27       |  |
| Order and discipline (environment)                 | + 0.48       |  |
| Disciplinary climate: reversed scale (environment) | - 0.37       |  |
| Teacher unfairness: reversed scale (safety)        | - 0.34       |  |

| Parents<br>(n = 736; 9 schools)         | Effect sizes   |
|---|--|
| Teaching and learning(engagement)       | + 0.15    |
| School safety (safety)                  | + 0.06   |
| Interpersonal relationship (engagement) | + 0.18    |
| Institutional environment               | + 0.13  |
| Parent involvement (engagement)         | + 0.07   |

| Staff members<br>(n = 100; 9 schools) | Effect sizes   |
|---------------------------------------|--|
| Staff connectedness (engagement)      | - 0.23   |
| Structure for learning (environment)  | + 0.60    |
| Physical environment (environment)    | - 0.01   |
| Peer and adult relations (engagement) | + 0.38  |
| Parent involvement (engagement)       | + 0.58  |

Effect sizes of implementation on truancy and tardiness declared  
by middle school students

| Middle school students<br>(n = 361; 3 schools) | Effect<br>sizes |
|--|-----------------|
| I skipped a whole school day                   | + 0.50          |
| I skipped some classes                         | + 0.04          |
| I arrived late for school                      | - 0.65          |

## In conclusion (study 1 on adaptation and school climate)

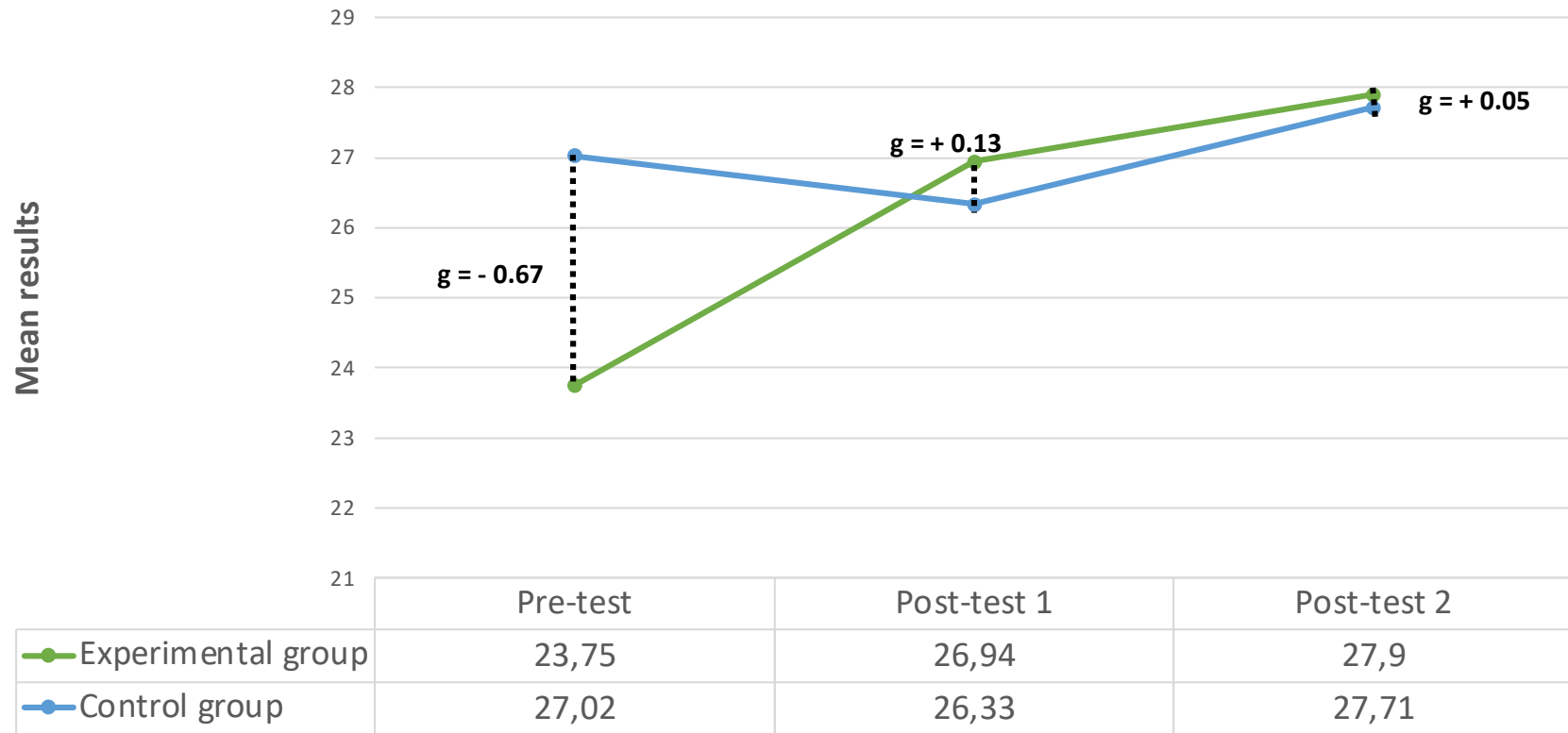
- Internal fidelity (70% TFI) achieved, external fidelity (SET) not reached yet  
Schools not meeting the data-based decision-making criterion → DBDM is new to our culture
- 15 out of the 25 school climate outcomes (=60%) → ES > 0.25 in favor of experimental group
- All stakeholders (students, parents and staff) perceived benefits of the project
- Improvement on dimensions related to interpersonal relationships → SWPBIS works on quality of relationships → relationships important role in improvement of school climate
- Negative effect on full-day absenteeism, but positive effect of 0.65 on self-reported measure of tardiness

# SECOND STUDY ON TEACHERS' COLLECTIVE EFFICACY

# Teachers' collective efficacy

- Teachers' collective efficacy = teachers' shared beliefs about the educational team's ability to educate students
- Teachers' collective efficacy → impressive predictor of student achievement (Bandura, 1993; Goddard et al., 2000, 2004)
- Teachers' collective efficacy = possibility to counteract negative impact of SES conditions on student learning (Donohoo, 2018; Donohoo et al., 2018; Eells, 2011; Sun et al.; 2017)

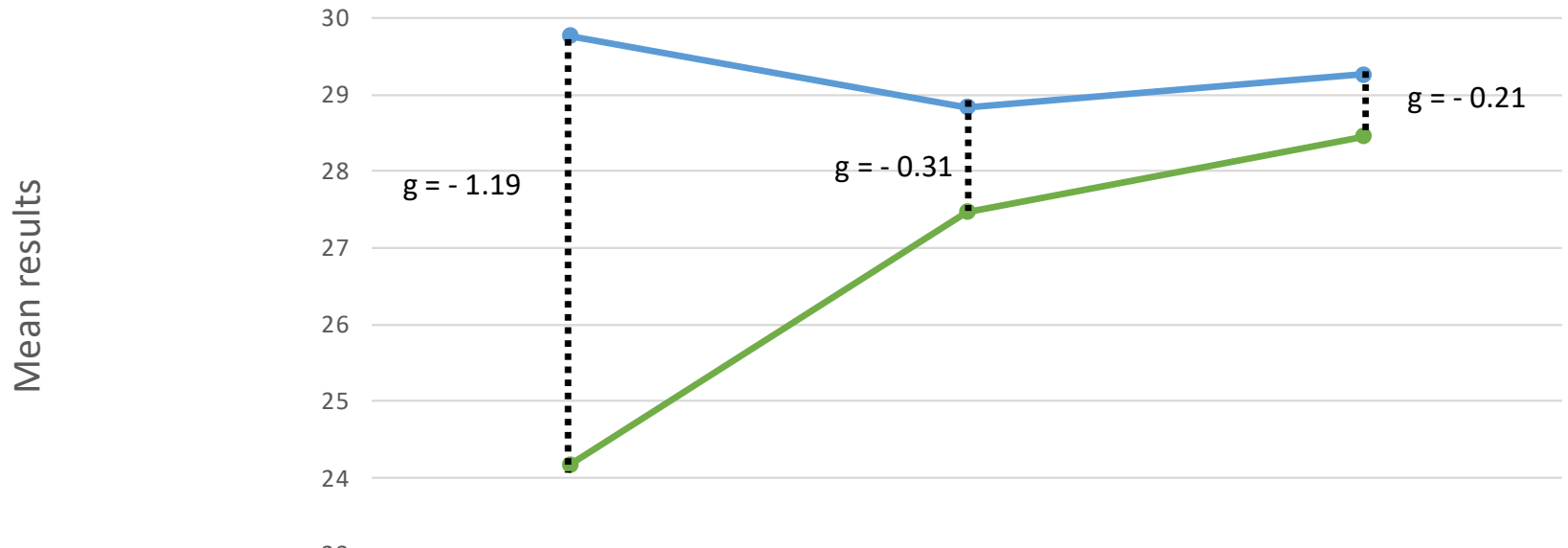
## Teachers' collective efficacy all educational levels



Effect size  
post-test 2  
+ 0.71



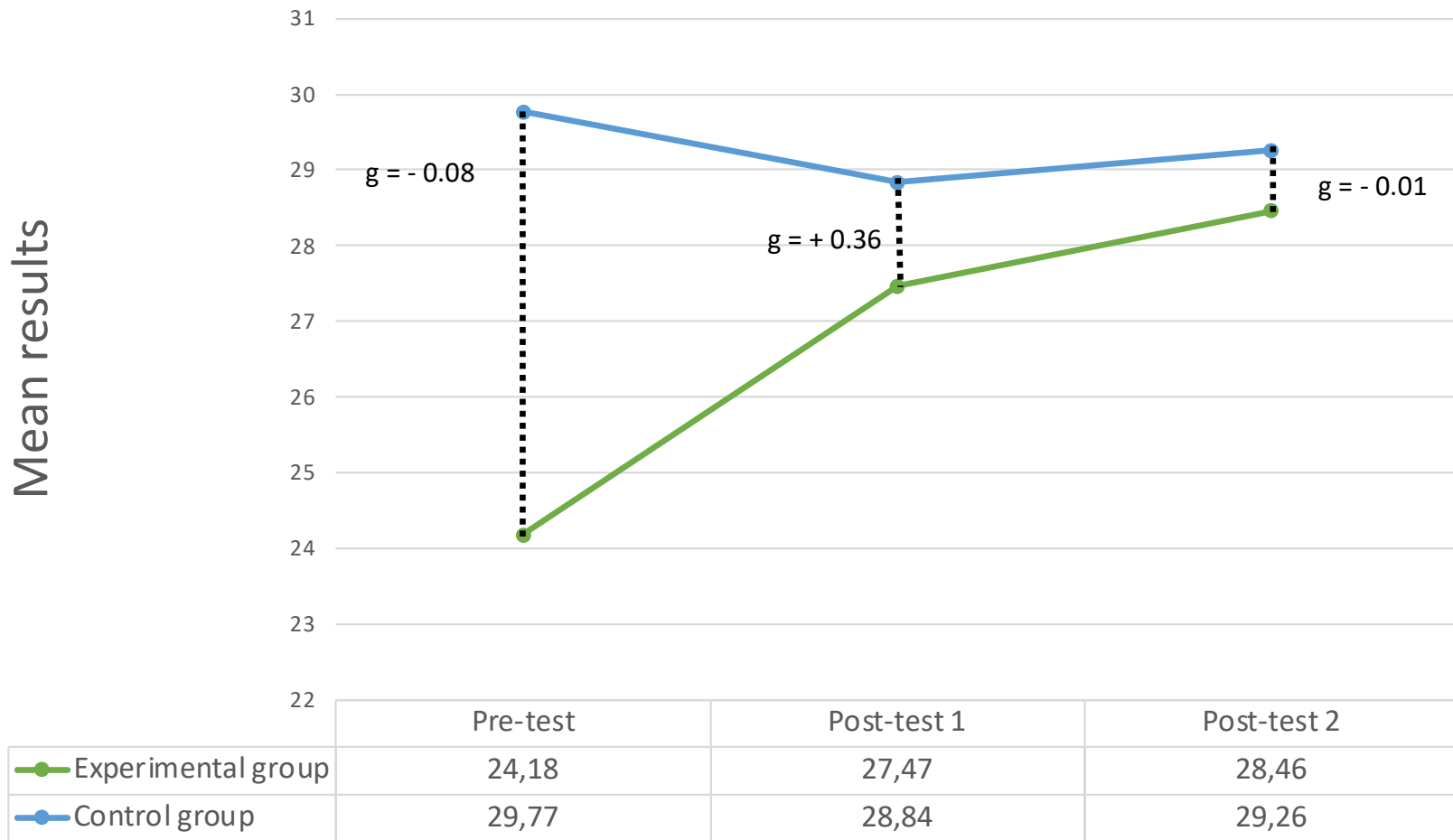
## Teachers' collective efficacy primary schools



|                    | Pre-test | Post-test 1 | Post-test 2 |
|--------------------|----------|-------------|-------------|
| Experimental group | 24,18    | 27,47       | 28,46       |
| Control group      | 29,77    | 28,84       | 29,26       |

Effect size  
post-test 2  
+ 1.02

## Teachers' collective efficacy secondary



Effect size  
post-test 2  
+ 0.07

## Stepwise regression analysis results

| Synthesis of the Stepwise selection |                         |                |                  |        |
|-------------------------------------|-------------------------|----------------|------------------|--------|
| Step                                | Variable Entered        | Number Vars In | Partial R-Square | Pr > F |
| 1                                   | Structure for learning  | 1              | 0.64             | <.0001 |
| 2                                   | Group                   | 2              | 0.05             | 0.0005 |
| 3                                   | Physical environment    | 3              | 0.03             | 0.0104 |
| 4                                   | Sex                     | 4              | 0.01             | 0.0835 |
| 5                                   | Peer adult relationship | 5              | 0.01             | 0.1255 |

**The subscale “structure for learning” explains 64% of variance in the Stepwise model.**

## In conclusion (study 2 on teachers' collective efficacy)

- Mean improvement of perceived collective efficacy in intervention schools at both education levels at post-test 1 and post-test 2
- **Explanation:** implementation → decrease in behavioral problems and time spent on them + harmonization of practices and consistent discipline management
- Link between teachers' collective efficacy and school climate (the « structure for learning » subscale)
- **Explanation:** teachers' collective efficacy = predictor of students' learning and success → link between collective efficacy and subscale assessing efforts to improve students' learning

# QUALITY IMPLEMENTATION MATTERS



# Facilitating factors for quality implementation

- School leadership: lever for supporting SWPBIS implementation → necessity to avoid principal turnover (6 of the 7 pilot schools experienced principal turnover during implementation)
- Resource allocation: amount and quality of time staff members get to prepare and concretely implement SWPBIS practices → necessity to avoid volunteer work (PBIS teams in primary schools meet during lunchbreak)
- Coaching by professionals in the field: broader sharing of knowledge and skills

# Discussion

- Importance of assessing implementation fidelity → no hasty conclusions about effectiveness + understand and improve implementation thanks to data
- DBDM = real necessity but underestimated challenge  
DBDM = whole process that needs to be taught and learned  
→ *need for professional development, leadership, and resources in DBDM*
- SWPBIS and equity: the work on school climate and on collective efficacy in high-need schools = possibility to improve students' learning

## Limitations

- Pilot nature of the project and sample size: no generalization and no inferential statistical tools
- Delayed post-test after 5 years to ensure outcomes are maintained
- No access to information about control schools (explanation for observed changes, need for fidelity measures in control schools too)
- Data post-test 3 still being analyzed
- Lack of availability data on behavior (DBMB)

## Directions for the future

- **For research:** other variables (i.e.: behavior) or methodologies (i.e.: qualitative) to investigate SWPBIS implementation and effects
- **For practice:** ensuring lasting resources (quality time, professional support and ongoing assistance)
- **For policies:** examining readiness and capacity building



THANK YOU

