Experimental Protocol
ProW project

D2.2 Research Design & Measures

Partnership

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Project information

Project Title	Promoting Teachers Well-being through Positive Behaviour Support in Early Childhood Education
Project acronym	ProW
Project number	626146-EPP-1-2020-2-EL-EPPKA3-PI-POLICY
Programme	Erasmus+
Period of implementation	02/2021 – 02/2024 (36 months)

Document Information

Work Package	WP2. Experimental Protocol
Activity	D2.2 Research Design & Measures
Estimated Start Date	M5 - 07/2021
Draft due to WP leader on	M7 - 09/2021
Estimated End Date:	M10 - 12/2021
Activity Leading Organisation	UoC
Version	Final
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Introduction

Initially, it is important to present an overview of the Promoting Well-being (ProW) project and its experimental design. The main aim of the project is to examine under a randomized wait list controlled trial the effects of the objectives of an intervention based on the principles of SWPBS and PERMA, which constitute the pillars of the ProW intervention.

According to the experimental methodology of the project, at least 15 preschool settings per country will be randomly allocated to the treatment group and to the control group. It is best to initially recruit approximately 20 preschool settings (schools) in each country, as we need to consider the possibility of experimental attrition (loss of participating schools during the 2 years of the project – dropouts) in order to meet the project's requirement of a minimum of 15 schools in each country.

Before the random allocation of preschools in the two groups (treatment and control) the research team in each country have to select preschool settings that the school staff agree to participate in the project for the next two school-years (2021-22 & 2022-23). In order for a preschool setting to participate in the ProW project, the school staff of each school needs to vote and acquire at least 70% of consent among staff in order to proceed with the implementation of the intervention. Once each country has a list with preschool settings that met the 70% of consent, random allocation of these schools in the treatment and control groups will take place. Half of the schools randomly will be selected to implement the ProW intervention during the school year 2021-22 (the treatment group) and half of them will follow a "business as usual" program for the year 2021-22 and will implement the same intervention during the school year 2022-23 (the control group). Table 1 depicts the experimental design.

Table 1. Experimental design of ProW intervention

Group level of participation	PERMA, SWPBS frameworks 1st year			PERMA, SWPBS frameworks 2nd year		
Treatment	T_1	ProW implementation	T_2	T_3	ProW implementation	T_4
Control	T_1	------	T_2	T_3	ProW implementation	T_4

Note:

T1 = Time 1 (beg of the academic year 2021-22)   T2 = Time 2 (end of the academic year 2021-22)

T3 = Time 3 (beg of the academic year 2022-23)   T4 = Time 4 (end of the academic year 2022-23)

Coding procedure

Before data collection from teachers and children, a specific coding procedure across all participating countries must be followed. Initially each school has to get a code, and then each teacher and each child participating in the project will get a code based on the school, which are nested. Specifically, coding of the participants for each country will proceed in steps as follows:

1) Each country's preschool setting code will begin with a two digits number. Particularly, 10 will be for Greece, 20 for Cyprus, 30 for Romania, and 40 for Portugal.

2) Each preschool setting in each country will receive a unique code for example 01, 02 …20, which will follow the initial two-digits code of the country and finally,

3) Each one of the staff in the preschool setting (teachers, assistants etc.) will receive a unique personal code 01, 02, 03 etc., which will follow the previous code scheme of a preschool setting in a specific country

For example, the first preschool teacher to be given a code in Greece will receive the code ID 100101 which means, that he/she is nested in the preschool setting with the code 01, from Greece (10) and he/she has the code 01. The following figure depicts this coding procedure:

Greece	100101	Teacher
	Preschool setting	
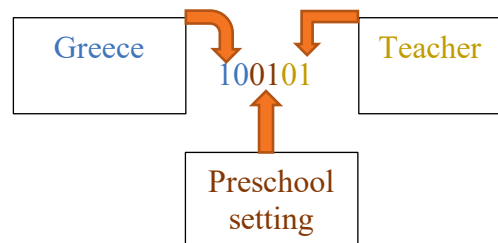
When completing questionnaires for the assessment of each child's behaviour the coding must consider an additional code for each child. Thus, each teacher with his/her personal code will complete children's instruments for each child with a unique code, which will be formed based on the previous step-wise logic. For example, the child's code ID 10010101 means, that this questionnaire refers to a child who has got the code 01 and has been completed by his/her teacher with the code 01, who she/he is nested in the preschool setting with the code 01 from Greece (10). The following figure depicts this coding procedure:
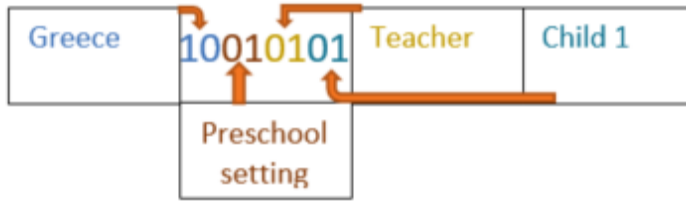
National Teams in each country have to prepare the code series for each preschool setting. Next, the coaches will provide the code series in each preschool setting. Each Director of the preschool setting will distribute randomly the unique codes to each one of the staff who will participate in the study. The Director of each preschool setting will keep safely the list of each code with the correspondent participant. Next, each one of the participants will use his/her own code for completing the required questionnaires during the period of the experimental study. Coaches (and the research team) will not know the correspondence between codes and participants in order to ensure anonymity of the responses. However, coaches may provide help to participant teachers how to make the coding for each child during the completion of children's questionnaires.

ProW – Intervention

The following intervention scheme will be followed for the treatment group in the school year 2021-22 and then the same scheme will be followed for the control group during the year 2022-23.

1) Initial Staff trainings (five 2-hours sessions) – 1st period (approximately November)

External coaches will provide five (5) training sessions to preschool teachers participating in the project. An indicative but not compulsory pattern of the training session could be the following:

   (a) Three (3) sessions training on PERMA. Specifically, the module of the training on PERMA will be the following:

      i.   Introduction to positive psychology and the five pillars of PERMA

      ii.   Encouragement of positive emotions, engagement and positive relationships.

   (b) Two (2) sessions training on SW-PBS components. Specifically, the modules of the training will be the following:

      i.   establishing a school vision and new philosophy of discipline, identifying 2-3 schoolwide expectations

    ii.   creating positive learning environments (here we emphasize building positive relationships at school)

(c) *Note:* Total number of initial training sessions: 5 (each session duration is set to 2 hours)

2) Intermediated Staff training (five sessions) – 2nd period (during the academic year)

    a. Three (3) sessions training on SW-PBS components. Specifically, the modules of the training will be the following:

        i.   defining expected behaviors (developing schoolwide matrix across settings by including 1-2 social behaviors per schoolwide expectation and setting)

        ii.   teaching and encouraging expected behaviors by implementing social skills instruction activities

        iii.   discouraging inappropriate behavior by providing specific positive feedback (i.e., behavior specific praise and correcting student behavior)

        iv.   Developing a schoolwide acknowledgment system and introducing the monitoring system for the implementation of SW-PBS

        v.   Correcting problem behaviors and developing an action plan based on TFI fidelity assessment

    b. One (1) session training on PERMA. Specifically, the module of the training on PERMA will be on enhancement of issues related to life satisfaction.

    c. One (1) session training on Professional Empowerment. Specifically, the module of the training will be on connecting working condition with teachers' professional development opportunities.

Note: Total number of intermediate training sessions: 5 (each session duration is suggested to be around 90-120 minutes).

3) Coaching and assistance support to preschool teams (8-10 hourly school visits)

a. External coach meets on-site (or online visits according to each country's conditions based on COVID issues) accord the preschool team on a monthly basis or more often to guide them through the implementation process.

b. External coach provides on-going support to preschool team via phone calls, emails, messages via social media (e.g. viber, messenger etc).

4) Feedback to School Teams via monitoring assessments (e.g., PBIS Team Implementation Checklist - TIC)

a. External coach supports each preschool team to assess the level of implementation of SW-PBS elements at the preschool setting with the PBIS-TIC. Results are used for team's action plans.

b. External coach works with a preschool team member to assess the level of SW-PBS implementation during the year with the Fidelity Assessment Template.

c. Each national leadership team will select randomly three (3) preschool settings from the Treatment group for the phase of "families' interviews". Each external coach selects randomly eight (8) families from the selected 3 preschool settings and implement individual semi-structured interviews with each family in order to provide feedback regarding the impact of the ProW framework.

School Team Intermediated Training for Pro-W modules

Training Topic	Learning Objectives	Examples of Activities	Delivery Month
Establishing staff buy-in (defining preschool vision and identifying 2-3 schoolwide expectations)	• Develop a written philosophy of positive based discipline framework. • Commit to a common school vision that aligns academic and social achievements. • Gain staff commitment to ProW • Identify 2-3 schoolwide expectations and create a schoolwide matrix of expected behaviours.	Video of SW-PBS Group activities such as "My dream School" Examples of matrix for expected behaviours Lecture	December
Enhancing teachers' positive emotions and discuss issues related to life satisfaction (PERMA)	Enhancement of issues related to life satisfaction	Lecture and group activities	January
Developing a schoolwide acknowledgment system and	• Develop a schoolwide acknowledgement - reward system	Examples of other reward systems Whole-group activities	January

introducing the monitoring system for the implementation of SW-PBS	• Demonstrate methods of "specific positive feedback" or "behaviour specific praise". • Understand the completion of the monitoring system (class log excel file)	Lecture	
Connecting working condition with teachers' professional development opportunities (ProfEmp)	Understand teachers' professional needs and suggestions for promoting career goals.	Lecture and group activities	February
Correcting problem behaviors and developing an action plan based on TFI fidelity assessment	• Distinguish between minor and major misbehaviour. • Use indirect and direct strategies for correcting behaviour problems. • Review the criteria of TFI fidelity assessment aligned with the preschool setting. • Develop school's action plan based on fidelity assessment data.	Role play Videos with examples Whole-group activities Lecture	March

Coaches' Monthly Training, Assessment and Activity Plan

Month	Training Topic / Meetings	Coaches Activities
July – September 2021	- PERMA - SW-PBS (introduction & theoretical framework) - Professional Empowerment (Models of professional development & working conditions) - Experimental protocol of ProW. - Data collection procedures - SW-PBS (Implementing SW-PBS) - Professional Empowerment (coaching skills) - Online preparation meeting with each National ProW Team	- Study materials (PP slides, articles, videos) - Group activities - Be assigned to preschool settings - Contact and visit each preschool setting to present the ProW project and the responsibilities of each participating school.

October - December 2021	• Online Meetings with National ProW Teams	• Begin the training of school staff in the Treatment Group (TG) schools on ProW modules.
		• Control Group (CG) schools are informed for the project's assessment scales and for the requirement to implement the ProW intervention during the academic year 2022-23.
		• Data collection - Time 1 (before the 1st day of teachers' training) – _for both TG and CG schools_
		The following scales will be completed by all the teaching staff (included assistants and aids)
		➢ School & Teacher Demographics
		➢ Teachers' scales (see scales 1-6 & 14)
		• Continue with initial training of school staff on ProW modules
		• Data collection – Time 1 (~ 10 days after the 1st period training) – _for both TG and CG schools_
		The following scales will be completed only by preschool teachers (not the assistant teachers or aids).
		➢ Children's scales (see scales 8, 10, 11)
		➢ School's climate scale (scale 7)

- Conduct onsite school visit, conduct online meetings with your team coordinators, communicate with school teams via phone, emails, etc
- Intermediate training of the school team on SW-PBS issues (defining 2-3 expected behaviors)
- Intermediate training of the school team on PERMA issues

| January - February 2022 | • Familiarize and understand the completion of the monitoring system (class log excel file)
• Online Meetings with National ProW Teams | • Conduct onsite school visit, conduct online meetings with your team coordinators, communicate with school teams via phone, emails, etc
• Intermediate training of the school team on SW-PBS issues (developing a schoolwide reward system)
• Data collection
  ➢ Children's scales (optional – scale 9) - *for both TG and CG schools*.
  ➢ PBIS Team Implementation Checklist #1 (scale 13; *only TG schools*).
• Intermediate training of the school team on Professional Development issues (defining career goals and opportunities for professional empowerment) |

March - April 2022	Online Meetings with National ProW Teams	• Conduct onsite school visit, conduct online meetings with your team coordinators, communicate with school teams via phone, emails, etc • Intermediate training of the school team on SW-PBS issues (Correcting problem behaviors) • Intermediate training of the school team on SW-PBS issues (developing an action plan based on fidelity assessment) • Data collection ➢ PBIS Team Implementation Checklist #2 (scale 13; _only TG schools_).

May - June 2022	• Data collection procedures	• Conduct onsite school visit, conduct online meetings with your team coordinators, communicate with school teams via phone, emails, etc

May - June 2022

- Data collection procedures
- Understand and administer Fidelity Assessment Template
- Overview of overall progress of the intervention

- Conduct onsite school visit, conduct online meetings with your team coordinators, communicate with school teams via phone, emails, etc
- Data collection - *only TG schools*.
  - ➢ Families interview (Interview protocol TBA)
  - ➢ Fidelity Assessment Template (scale 12)
- Data collection - Time 2 - *for both TG and CG schools*.
  The following scales will be completed by all the teaching staff (included assistants and aids)
  - ➢ Teachers' scales (scales 1-5 & 14)
  The following scales will be completed only by preschool teachers (not the assistant teachers or aids).
  - ➢ Children's scales (scales 8, 10, 11)
  - ➢ School climate (scale 7)
  - ➢ Children's scales optional (scale 9)

Note: The previous scheme of Coaches' plan and activities will be repeated in the following academic year 2022-2023 for both TG and CG schools.

Assessment Scales

Teacher Questionnaires

Preschool ID: _____   Teachers ID: _____

Demographics

1. Gender: Male □ Female□

2. Age: _____

3. Current position: Teacher □   Assistant □

4. Years of teaching experience (in full years): _____ *

5. Years of teaching experience in this preschool setting (in full years): _____ *

6. Highest level of formal education you have completed:

Please mark one choice.

Bachelor's degree □

Master's degree   □

Doctoral degree   □

Other _____ (please specify)

7. Preschool setting type: Kindergarten Full day   □

                           Kindergarten Half-day (a.m.)   □

                           Day Care centre   □

8. How many children are in your classroom? _____ *

*Use whole numbers (no decimals)

Teachers' Outcomes

1. Teacher Subjective Wellbeing Questionnaire (TSWQ)

The Teacher Subjective Wellbeing Questionnaire (TSWQ) (Renshaw, 2020) is an 8-item, self-report, evidence-based rating scale for assessing teachers' work-related wellbeing. The TSWQ is comprised of two subscales: Teaching Efficacy and School Connectedness. The TSWQ is intended for use in school mental health research and practice for multiple assessment purposes: screening, outcome measurement, and progress monitoring.

2. Teachers' Sense of Efficacy Scale (short form)

The short form of Teacher Sense of Efficacy Scale (TSES; Tschannen-Moran & Woolfolk Hoy 2001) contains 12 items that measure teachers' efficacy for instructional strategies, student engagement and classroom management. Teachers will be asked to respond to questions "how much can you do" on a 9-point Likert scale ranging from 1 (nothing) to 9 (a great deal).

3. Teacher Social Self-efficacy (TSSES)

The teachers' social self-efficacy scale (TSSES; Vatou, 2021) includes 28 items, which encompassed five dimensions: Teacher Sensitivity, Social Guidance, Teacher-Child Relationship, Classroom Climate-Children Engagement and Classroom Management-Conflict Resolution. Teachers were encouraged to respond to each item by using a 9-point Likert scale ranging from 1 (not at all) to 9 (a great deal).

4. Employ Satisfaction Inventory (ESI)

Job satisfaction will be measured by the 24 items Job Satisfaction Scale developed by Koustelios and Bagiatis (1997). The instrument evaluates six dimensions of job satisfaction: working conditions, supervision, pay, job itself, promotion, and organization as a whole. Responses will be given on a five-point scale anchored by 1 = strongly disagree to 5 = strongly agree.

5. The Maslach Burnout Inventory (MBI)

The Maslach Burnout Inventory (MBI; Maslach & Jackson, 1986) contains 22 items distributed across three dimensions: Emotional Exhaustion, Personal Accomplishment, and Depersonalization. The response scale will be defined as follows: 0 = never, 1 = a few times a year or less, 2 = once a month or less, 3 = a few times a month, 4 = once a week, 5 = a few times a week, and 6 = every day. Higher scores indicate a higher level of burnout.

6. Professional Development Evaluation Form (PDEF)

This questionnaire is an adoption of the Professional Development Evaluation Form (PDEF) (Grammatikopoulos et al., 2004). The questionnaire will be slightly adapted in order to fit better to the design of the current training, similar to the adaptation attempted to another study (Grammatikopoulos et al., 2008). The scale includes 15 items, which evaluates different aspects of the teachers' training such as seminar's organization, educational material, the content of the lectures, etc. The rating scale will be based on a 5-point Likert scale.

7. Preschool Climate Scale

An adaption of the Delaware School Climate Survey - Teacher/Staff will be used. The scale contains 29 items and assesses the teachers' perceptions of school climate. (DSCS; Bear et al., 2014). The DSCS consists of seven dimensions namely: Teacher–Student Relations, Student–Student Relations, Teacher–Home Communication, Respect for Diversity, School Safety, Fairness of Rules, and Clarity of Expectations. The items will be rated from 1 (= Not at all) to 5 (= A lot) on a 5-point Likert scale.

Children Questionnaires

Child ID: _____   Teachers ID: _____

Demographics

1. Gender: Boy □ Girl□

2. Date of birth: _____

3. Ethnicity: _____

Children's Outcomes

8. Strengths and Difficulties Questionnaire (SDQ)

The Strengths and Difficulties Questionnaire (Goodman, 2001) will be used to measure children's internalizing/externalizing problems (teacher version). This instrument measures children's adjustment in five areas: (1) emotional symptoms (e.g. 'I worry a lot'), (2) conduct problems (e.g. 'I fight a lot'), (3) peer problems (e.g. 'I am usually on my own), (4) hyperactivity (e.g. 'I am easily distracted'), and (5) prosocial behaviour (e.g. 'I try to be nice to other people'). Teachers respond on each item using a 3-point Likert type scale (0 = not true to 3 = certainly true).

9. Early Childhood Behavior Checklist (ECBC)

The Early Childhood Behavior Checklist (Manolitsis, 2013) will be used to screen behavioral problems in young children. The measure consists of 29 items, which assess two broad dimensions of behavioral problems: internalizing and externalizing problems. Teachers respond to each item by choosing among three or four alternatives the behavior, which describes best a specific child.

10. Adaptive Social Behavior Inventory (ASBI) - Prosocial subscales

The Adaptive Social Behavior Inventory (ASBI; Hogan, Scott, & Bauer, 1992) will be used to measure children's social-emotional competence. The ASBI consists of 30 items and yields three dimensions: Express, Comply, and Disrupt. For the needs of the current project, the prosocial subscales (Express and Coply) will be used. The Express dimension consists of 13 items and reflects pro-social behaviors. The Comply dimension (10 items) describes cooperative behaviors such as ''is helpful to other children'' and ''shares toys or possessions''. Teachers respond on each item using a 3-point Likert type scale (1 = 'Rarely or Never', 2 = 'Not Often' or 3 = 'Almost Always').

11. Child Behaviour Rating Scale (CBRS)

The Child Behaviour Rating Scale (CBRS; Bronson et al., 1990) is a teacher-report measure and contains 32 items. Eighteen items combine to form the Mastery Behavior Scale and 14 comprise the Social Behavior Scale, which together capture children's work-related skills and social skills, respectively. After carefully observing children's behaviors in the classroom, teachers rate the frequency with which individual students exhibit specific behaviors on a scale from 1 (never) to 5 (always).

Implementation Assessment

12. Fidelity Assessment template

The fidelity assessment tool (FAT) will be adapted based on SWPBS Tiered Fidelity Inventory (v. 2.1) (Algozzine et al., 2014) and School-wide Evaluation Tool (Sugai et al., 2001). The FAT will be based on 2 to 3 hours of direct observation of positive behavior support systems and practices within an ECEC setting by an external coach. The FAT will be conducted annually by an external coach who will review the preschool material (e.g., discipline handbook, school improvement plans/goals, social skills instructional materials, and behavioral incident summaries), observes the preschool environment, interviews the head teacher, and randomly selects teachers and children to briefly interview about the schoolwide program.

13. PBIS Team Implementation Checklist

This checklist (Sugai et al., 2001) is designed to be completed by the PBIS Team once a quarter to monitor activities for implementation of PBIS in a school. A 22-item modified version of the Team Implementation Checklist will be used to assess information about activities related to the critical features of the SWPBS framework. The measure is a self-assessment tool completed by the team leader in collaboration with the external coaches of the ProW project. The items will be rated as either achieved, in progress, or not started. These data will be used by the external coaches and research members across four countries to give feedback to the preschool team regarding high-fidelity implementation.

PERMA Model

14. The PERMA Profiler

The PERMA-Profiler is a brief multidimensional measure of psychological well-being that allows researchers to assess and monitor well-being in terms of Seligman's (2011) PERMA theory. The PERMA-Profiler (Butler et al., 2016) consists of 23 items: 15 items related to the five main scales (3 items for assessing Positive emotions, 3 for Engagement, 3 for Relationships, 3 for Meaning, 3 for Accomplishment); one item for overall happiness; 3 for negative emotions; one item for loneliness; and 3 items for assessing self-perceived physical health. Each item is scored on an 11-point rating scale, anchored by 0 (not at all) to 10 (completely). The three item-scores of each domain are averaged to produce a single domain score ranging from 0 to 10 (higher scores indicate greater well-being). A total score can be calculated by summarizing the score of the 15 PERMA-items.

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