Evaluating well-being intervention effectiveness

Need analysis, intervention implementation process, and cost-effectiveness

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H-Work Project

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 847386.

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MULTILEVEL INTERVENTIONS TO PROMOTE MENTAL HEALTH IN SMEs AND PUBLIC WORKPLACES

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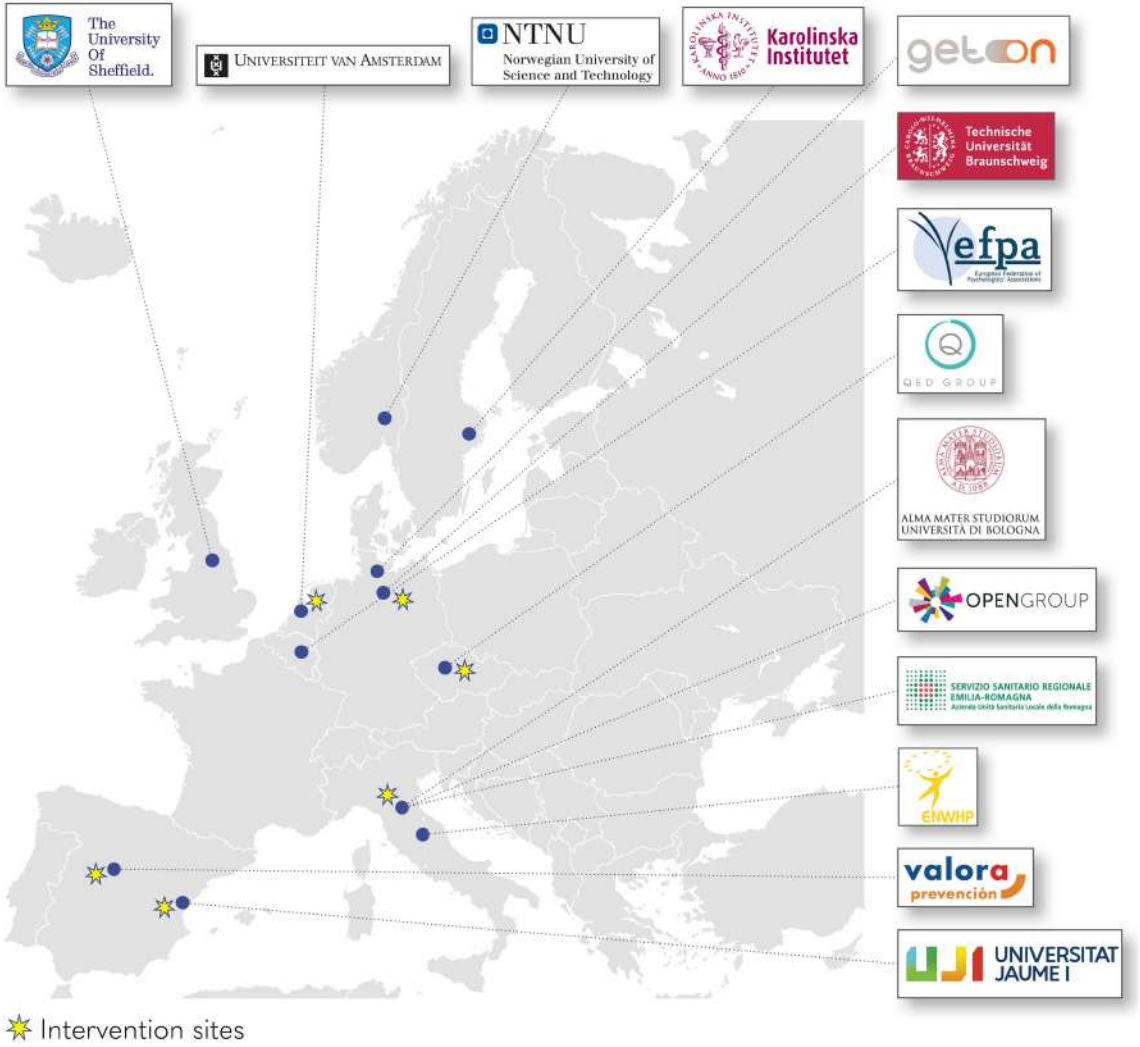

14 partners

9 European countries

Different partner types:

- 7 Universities
- 2 SMEs
- 2 European Associations/Networks
- 1 Public Health Service
- 1 Private company
- 1 No-profit organisation

Presentations today

Introduction – workplace interventions

Integrating a context measure as an assessment of needs for interventions to promote mental health in SMEs and Public workplaces.

Validating the Intervention Multilevel and Multiphase Process Assessment Questionnaire (IMMPAQ).

Cost data collection and analysis for multilevel workplace interventions to promote mental health.

General discussion and reflections

Workplace interventions

- Workplace **well-being interventions** are **planned, science-based actions** directed to **protect and promote** employee mental health (Silvaggi & Miraglia, 2017).

- These interventions can take the form of **complex initiatives** that include **several stages and actions** to generate changes at all **IGLO levels** (Day & Nielsen, 2017).

- A **comprehensive assessment** of **workplace interventions** should include measures of the whole **intervention process** and consider the **costs involved** in the intervention activities (Nielsen et al., 2022; Gaillard et al., 2020).

Data collection design

Comprehensive overview

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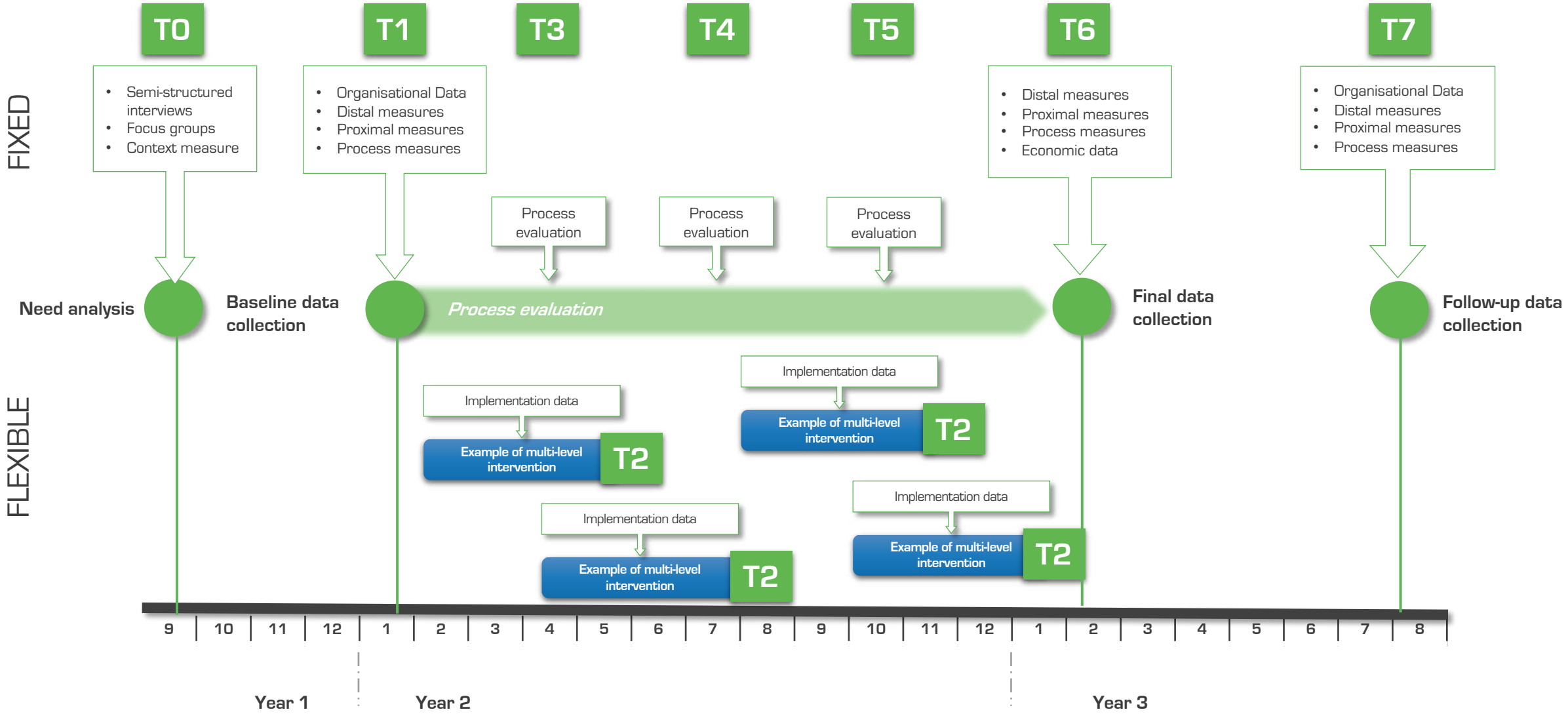

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Integrating a context measure as an assessment of needs for interventions to promote mental health in SMEs and Public workplaces

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Authors: Innstrand, S.T., Christensen, M., Grødal, K., Nielsen, K., Chiesa, R., Antonio, A., Giusino, D., van den Heuvel, M., Sijbom R., Peláez Zuberbühler, J., Schmitt, J., Tušl, M., Muschalla, B., & Aboagye, E.

SIOP Annual Conference, Boston April 19-22, 2023

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AGENDA

1) **WHY** integrating a context measure as an assessment of needs for interventions to promote mental health

2) **HOW** to integrate a context measure as an assessment of needs for interventions to promote mental health

3) **WHAT** is the factorial structure of a context measure targeting the policies, programs and practices in a workplace. The WISH measure

WHY integrating a context measure as an assessment of needs for interventions to promote mental health

WHY

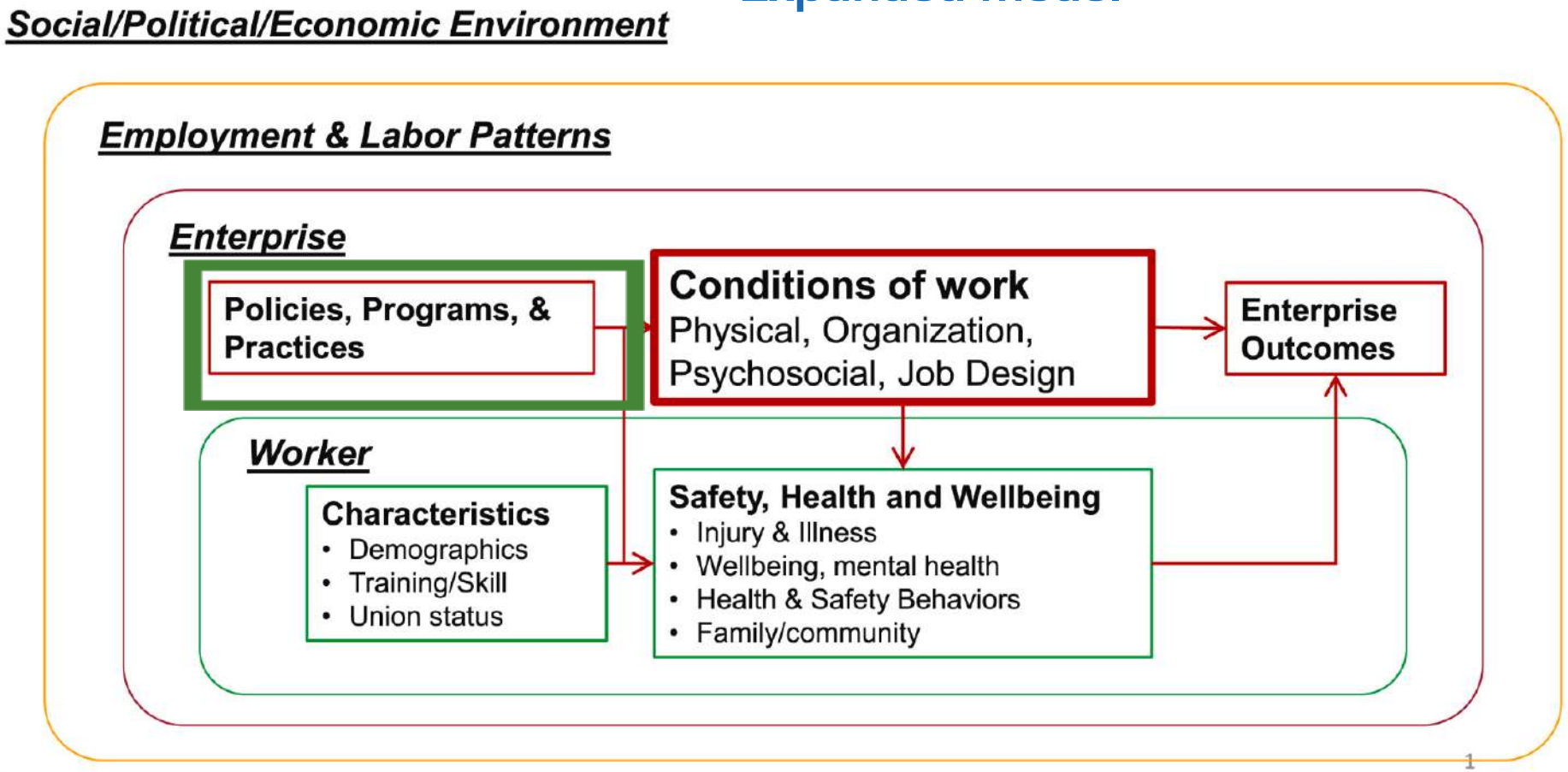
The health, safety and well-being of the employees are of major concern for organization prosperity and a prerequisite for creating a healthy workplace.

A healthy workplace is defined by the World Health Organization (WHO) as one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of workers and the sustainability of the workplace

(Burton, 2010).

Conceptual model for integrated approaches to the protection and promotion of worker health and safety.

Expanded model



There is a growing agreement that governmental and enterprise policies, programs, and practices have a significant influence on working conditions that in turn affect worker health, safety, and wellbeing and hence an important pint of intervention. (Sorensen et al., 2021)

HOW to integrate a context measure as an assessment of needs for interventions to promote mental health

HOW

H-WORK Roadmap

Want to know how to tackle mental health in the workplace?

Step 2. Needs analyses

- Focus group interview employees
- Interview with middle/senior manager
- Context measure

Context measure-pre intervention

Part 1- Qualitative survey

The survey had nine open ended questions involving a description of policies, programmes and practices within the organization like

(a) Measures for mental health and well-being;
(b) Types of benefits, compensations of facilitations available to workers in general and for vulnerable groups in particular;
(c) Measures for preventing stigma;
(d) Internal communication and information channels;
(e) Influence of COVID-19 related to the working environment;
(f) Other risk factors for mental health at work; and
(g) Relevant organizational changes implemented or occurred in the last three years.

Part 2- Quantitative survey

- **I. Policies, Programmes and Practices** is a construct in the WISH tool by Sorensen et al., (2018).

- **II. Psychological safety** was measured by a psychological safety climate measure by Hall, Dollard, and Coward (2010).

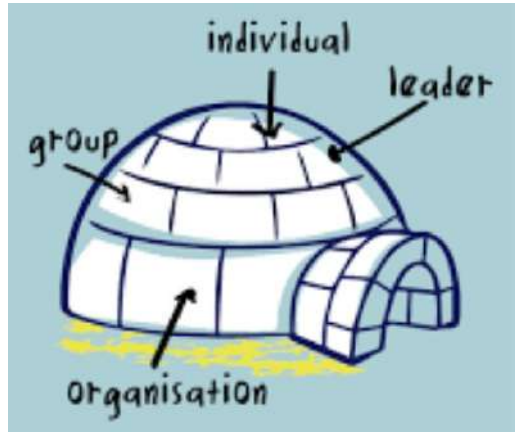
Using the Context measure in practice

ACTION TOOLS – THE TEMPLATE GRID FOR SUMMARISING THE NEEDS ANALYSIS

You can fill-in the following grid template to summarise the overall results of the needs analysis.

	I	G	L	O
RESOURCES AND TRIGGERS				
DEMANDS AND BARRIERS				
POLICES AND PRACTICES				
NEEDS SUGGESTED BY EMPLOYEES				
NEEDS SUGGESTED BY SENIOR MANAGERS				

Needs for action at different levels:



WHAT is the factorial structure of a context measure targeting the policies, programs and practices in a workplace.

The WISH measure

WHAT

Validate the Workplace Integrated Safety and Health (WISH) assessment.

More specifically,

the aim of the present study was to use exploratory and confirmatory factor analysis (CFA) to investigate the factorial structure of the 11-item "*Policies, Programmes and Practices*" construct in the WISH tool in different intervention sites in Europe.

Workplace Integrated Safety and Health (WISH)

The WISH tool aims to "assess the extent to which organizations adhere to best practice recommendations in terms of an integrated systems approach of programmes, policies and practices that address protection and promotion of health, safety and well-being"

(López Gómez et al., 2021)

WISH consist of six constructs:

(1) Leadership Commitment;
(2) Participation;
(3) Policies, Programmes and Practices that foster positive working conditions;
(4) Comprehensive and Collaborative Strategies;
(5) Adherence to federal and state regulations and ethical norms; and
(6) Data-driven Change

Policies, Programmes and Practices

11 statements like;

- *"This workplace is routinely evaluated to identify potential mental health risks in the working environment".*

- *"Supervisors and managers make sure workers are able to take their earned times away from work such as sick time, vacation, and parental leave"*

→Answered by leader and employee representatives (focus group interviews)

→The scale was slightly modified to target mental health specifically by adding "mental" in front of questions related to health.

Method

Participants (N=353)

130 men (37%), 218 (62%)

25-34 year (39%)

Master degree or equivalent (41%)

Permanent - full time employment (70%)

Leadership responsibilities (Yes;22%) (No;78%)

Analyses

JASP:

Factor analyses

Confirmatory analyses (CFA)

Reliability analyses

Exploratory factor analysis

EFA suggested a two-factor solution with factor loading from 0.53 to 1.175

Factor Loadings

	Factor 1	Factor 2	Uniqueness
PERC_11	0.797		0.461
PERC_6	0.764		0.446
PERC_8	0.721		0.392
PERC_7	0.650		0.450
PERC_3	0.632		0.462
PERC_9	0.604		0.489
PERC_1	0.587		0.671
PERC_10	0.548		0.680
PERC_5		1.008	0.005
PERC_4		0.590	0.447
PERC_2		0.466	0.549

Note. Applied rotation method is oblimin.

Factor 1: Organizational PPP, explains 36%

Factor 2: Leadership PPP, explains 54%

Confirmatory Factor Analysis

2.1. The workplace is routinely evaluated to identify potential mental health risks in the working environment.

2.2. Supervisors are responsible for correcting unsafe working conditions on their units.

2.3. Organizational policies or programs are in place to support employees when they are dealing with personal or family issues.

2.4. Leadership, such as supervisors and managers, make sure that workers are able to take their entitled breaks during work (e.g. meal breaks).

2.5. Supervisors and managers make sure workers are able to take their earned times away from work such as sick time, vacation, and parental leave.

2.6. This organization has training for workers and managers across all levels to prevent harm to employees from abuse, harassment, discrimination, and violence.

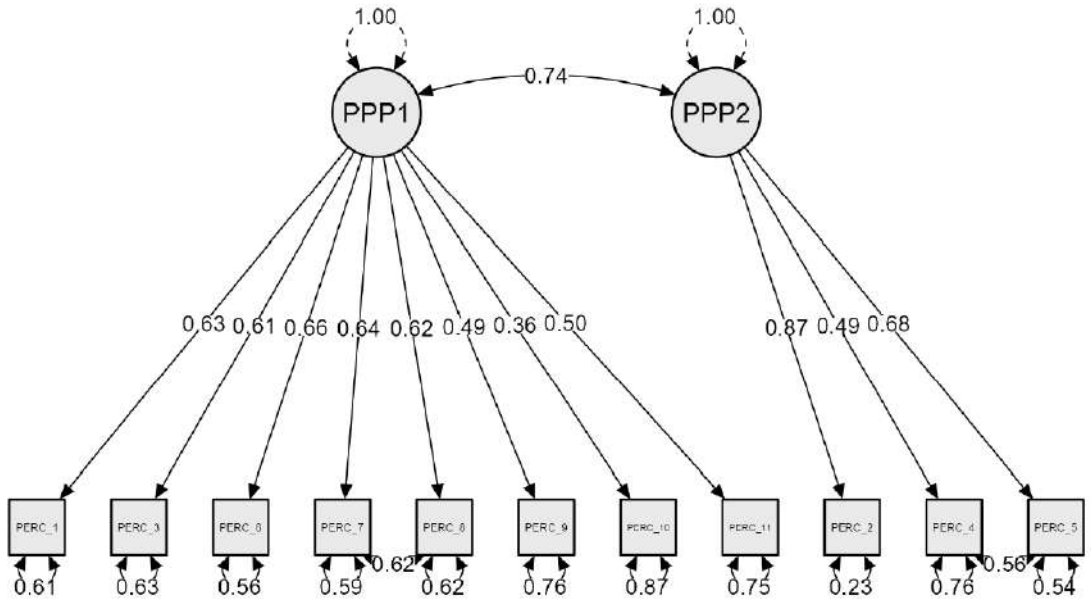
2.7. This workplace provides support to employees who are returning to work after time off due to work-related mental health conditions.

2.8. This workplace provides support to employees who are returning to work after time off due to non-work related mental health conditions.

2.9. This organization takes proactive measures to make sure that the employee's workload is reasonable, for example, that employees can usually complete their assigned job tasks within their workday/shift.

2.10. Employees have the resources such as equipment and training do their jobs safely and well.

2.11 The wages for the lowest-paid employees in this organization seem to be enough to cover basic living expenses such as housing and food.



$\chi^2(41) = 46.87$, $p = .24$, RMSEA = 0.064, NNFI = .94, CFI = 0.95.

Reliability

Chronbach's alpha:

- PPP1 α=.87
- PPP2 α=.78

Final remarks

Limitation:

- The small sample size and the use of listwise deletion may be limiting the validity of the CFA results.

Conclusion:

- Practical implications: Useful as a tool to identify needs
- Statistical implications: Can be used as a latent variable with two factors

Next step:

- Test how Policies and practices relates to mental health and wellbeing (predicting validity)

Lessons Learned

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General discussion and reflections

Validating the Intervention Multilevel and Multiphase Process Assessment Questionnaire (IMMPAQ)

Karina Nielsen[1], Cristian Vasquez[1], Rita Chiesa[2], Beate Muschalla[3], Anne Etzelmüller[4], Josefina Peláez Zuberbühler[5], Marisa Salanova[5], Roy Sijbom[6]

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20th April, 2023, 16:00 - 16:50

Room 30

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Overview

1) Background
2) IMMPAQ scales
3) Methods
4) Results
5) Discussion

Background

A recent review of the state-of-the art of process evaluation in workplace interventions revealed a range of limitations (Nielsen et al., 2022):

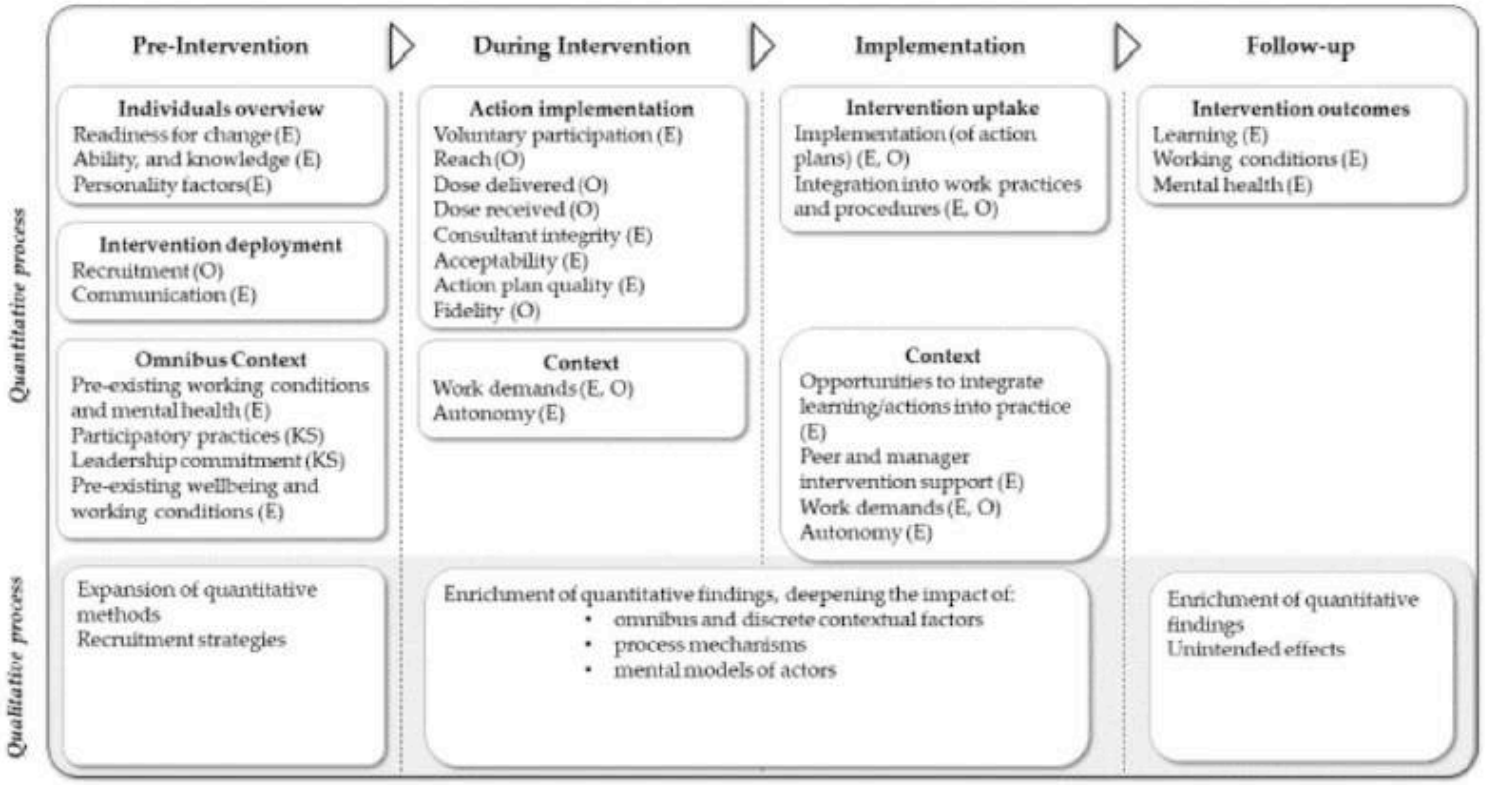
1) Different phases of intervention require specific measures: Perception of activities and perceptions of training transfer – and the factors influencing training transfer

2) No underlying theory of process evaluation: Realist evaluation: CMO-configurations

3) Lack of consensus about what measures should be used

4) Measures are poorly validated

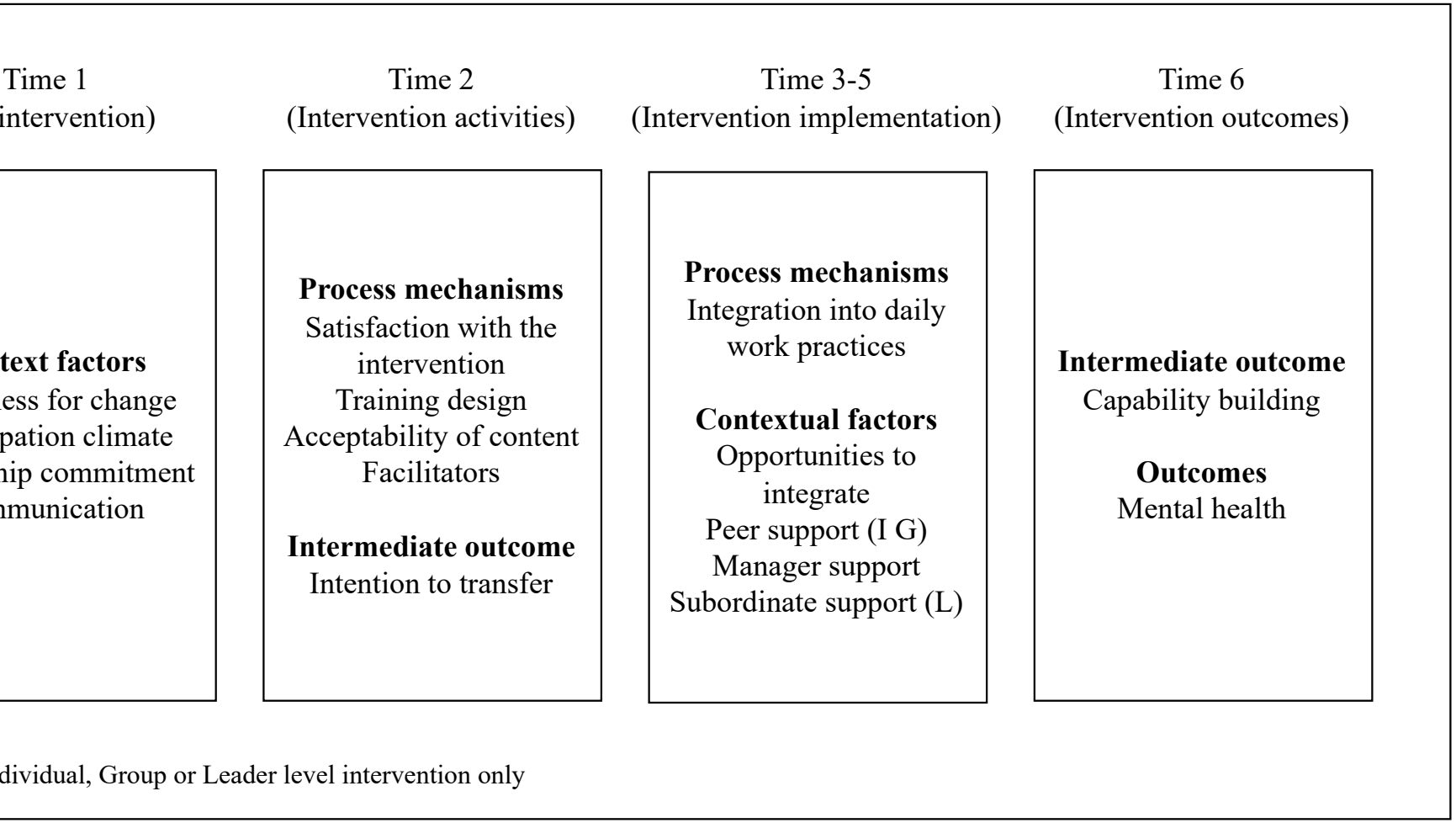
Integrated process and effectiveness framework



E = Employee rated through questionnaires, O = Objective measure, KS = Key stakeholder rated through questionnaires

Nielsen, K., De Angelis, M., Innstrand, S. T., & Mazzetti, G. (2022): Quantitative process measures in interventions to improve employees' mental health: A systematic literature review and the IPEF framework, Work & Stress, DOI: 10.1080/02678373.2022.2080775

IMMPAQ scales



Methods

Ten SME and public health inventions sites in five countries: Czech Republic, Germany, The Netherlands, Italy, Spain

Data collection still ongoing

Analyses:

- Exploratory Factor Analysis (EFA)
- Confirmatory Factor Analysis (CFA)
- Measurement invariance – T3-T5
- Nomonological network

Methods

	T1	T2	T3	T4	T5	T6
N	1181	188	177	252	261	557
Gender						
Male	47.7%	35.9%	36.8%	32.4%	42.5%	42.6%
Female	52.3%	64.1%	63.2%	67.6%	57.5%	57.4%
Age						
Under 25 years	1.9%	1.1%	1.1%	2.9%	4.6%	1.3%
25-34 years	25.8%	27.2%	28.7%	30.5%	33.3%	30.3%
35-44 years	25.8%	33.7%	34.5%	27.6%	20.7%	28.8%
45-54 years	27.3%	27.2%	25.3%	27.6%	24.1%	24.1%
55-64 years	18.2%	9.8%	9.2%	11.4%	17.2%	14.9%
65+ years	1.0%	1.1%	1.1%	0%	0%	0.7%

Validation process

Exploratory and Confirmatory Factor Analysis

- EFA results showed items generally loading in their respective factors, and some cases in which items with similar meaning load together in the same factor.
- CFA results shown good and excellent fit in most models, confirming the theoretical factor structure of the measures.
- Taking together these results provide support for the factor structure of the different measures included in the HET

Internal consistency (Reliability)

- Cronbach alpha values were excellent, all above .72.
- These findings supported the reliability of the measures included in the HET.

Validation process

Temporal invariance

- Measurement invariance results supported strong temporal invariance (e.g., scalar invariance) for the implementation and integration scales measured in time points 3 to 5, suggesting that the factor structure of these measures is equivalent across time points.

Validation process

Nomological validity of the tool

- We explored the relationships of the HET measures to other constructs.
- Results showed correlations being in the expected direction, and effect sizes vary depending on how theoretically close constructs are to each other.

Discussion

Confirmation of factor structure

Implications for research

- Enables the evaluation of interventions using quantitative measures to explore what works for whom in which circumstances

Implications for practice

- Tool for organisations to evaluate process
- Immediate feedback in a cost-effective way

Future research

- Used to test CMOs

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General discussion and reflections

Cost data collection and analysis for multilevel workplace mental health interventions

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Presenter: Emmanuel Aboagye

Authors: Karina Nielsen, Beate Muschalla, Marco De Angelis, Marit Christensen, Siw Tone Innstrand

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Mental Health Promotion in the Workplace

Mental Health Promotion and Prevention in Europe

- Almost half of the European employees believe their workplace-related mental health issues are poorly managed.
- Employers agree with this assessment.
- The total cost of mental health problems in EU countries exceeds 4% of GDP- (EUR 600 billion per year).
- Promoting mental health in the workplace makes economic sense.

Workplace Mental Health Interventions

Employers remain unsure of how to address mental health concerns in the workplace, and the cost-effectiveness of workplace interventions.

Systematic reviews show that workplace mental health interventions (face-to-face or internet-based) have positive economic outcomes for employers and society, but there are not enough business case studies on this topic

(Hamberg-van Reenen et al. 2012; Donker et al. 2015; Gaillard 2020).

Workplace interventions have mostly focused on improving employees' symptoms rather than addressing issues related to organizational change (Axén 2020). Within organizations many people work together at different levels, and they are influenced by many different factors.

→If organizational change interventions are implemented with participation and a multilevel approach, they can improve symptoms, health, and well-being (Nielsen, 2018).

Aspects and Challenges of Resource Use Measurement

Challenges of Resource Use Measurement

Measuring objective resource-use quantities is important for generating valid cost estimates in economic evaluations.

The absence of established guidelines for measuring resource use in economic evaluations has led to a reliance on practical considerations rather than methodological evidence. The few existing resource-use measurement (RUM) instruments are often cost questionnaires (self-reported) for specific trials.

(Batura 2014; Pokhilenko, 2023).

The H-WORK project was about understand how change is brought about (i.e., what works) and in which circumstances, by examining the interplay of mechanisms and context interactions between the intervention and its context, which determine and shape whether and how outcomes are generated.

→Therefore, assessing the value of the interventions relative to the resources required to deliver them within context is an importance question.

Aim

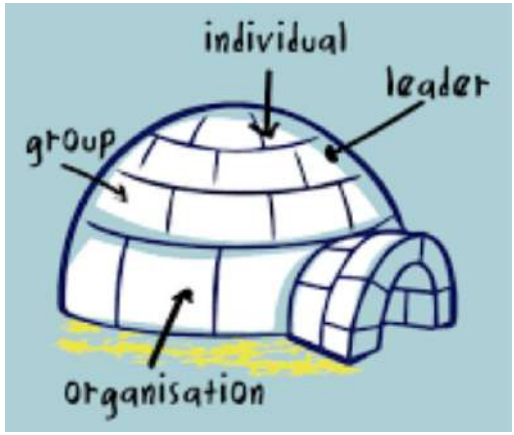
Aim: To illustrate the resource-use measurement (RUM) instrument and the strategy used to collect cost data from the H-WORK multilevel intervention processes.

- H-WORK resource use form
- describe the approaches used to maximize form adherence
- reflect on the learning (did it work?) and limitations

Context – the H-WORK project

- The H-work project is a network of partners in different countries.
- Intervention sites (public organizations & SMEs) were from the Czech Republic, the Netherlands, Germany, Italy, and Spain
- The project developed questionnaires (HAT) and the RUM instrument to establish standardized outcome assessment measures and costing for conducting economic evaluations
- To reduce unnecessary variations in the resource-use and unit cost input data of economic evaluations

At each intervention site, there were activities at different levels of the organization



Identification, definition, and categorization of key cost-driver elements

Identification & categorization of cost elements

Categories of costs	Description
Cost of intervention & training	Please indicate the cost of training that was given at this organization: the cost per participant for each intervention.
	Please indicate the cost of each intervention that was given at this organization including interventions that were web-based): the total cost per participant for each intervention.
Cost of materials	Please provide information of the number of items used (e.g., manuals or books, specific computer programs, other supplies, or equipment) for each intervention.
	Please provide information of the total (actual) cost of materials (e.g., manuals or books, specific computer programs) including costs of donated items for each intervention
Cost of labor (staff)	Please provide information of the number of intervention providers/facilitators who were involved in delivering each of the interventions.
	Please describe information about the number of participants (i.e., staff including managers/ supervisor and employees) for each intervention.
Cost of travel	Please provide information of the type(s) of location(s) where each of the interventions occurred.
	Did the company pay for the travel cost of participants to attend the interventions they participated in?

Steps in developing RUM

1. Using examples from the existing literature, cost-driving elements were identified and defined.

2. Trained partners at the intervention sites on how to fill out the RUM.

3. Interviews were conducted with academic partners who use RUMs.

WHO-HPQ was used for measuring productivity losses in the workplace

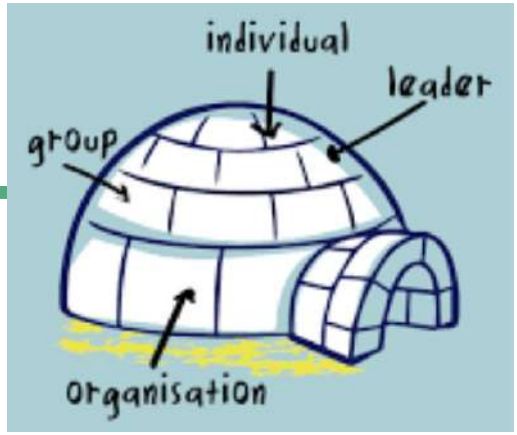
A Microsoft Excel template for developing RUM

Intervention activity	Intervention level	Who participated?	No. of participants	No. of hours of activity	Total no. of hours of activity
kick-off meeting	Individual	Doctors	2	2	4
kick-off meeting	Individual	Nurses	3	2	6
kick-off meeting	Individual	Manager	1	2	2
Training meetings	Group	Employees	20	1	20
Training meetings	Group	S. Managers	11	1	11

Intervention	Intervention level	No. of sessions	Total costs/ charges
HelloBetter Stress	Individual	1	
HelloBetter Stress	Individual	3	€ 5 000,00
Social Mapping	Group	1	
Social Mapping	Group	3	€ 5 000,00

Intervention	Intervention level	Equipment/ Material list	Units	Cost per unit/ item	Total cost of items
Mindful to Work	Individual	Training Manual	110	€ 5,00	€ 550,00
Mindful to Work	Individual	meditation mat & pillow	200	€ 50,00	€ 10 000,00
Mindful to Work	Individual	Self-training audio/CD	50	€ 10,00	€ 500,00
Mindful to Work	Individual	Booklet	50	€ 10,00	€ 500,00
Job Crafting	dividual				

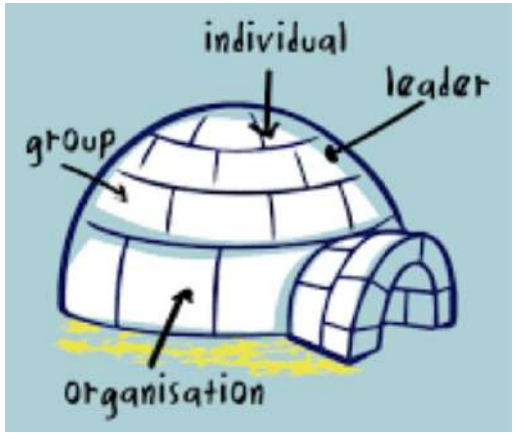
Activity at IGLO levels:



Results – Cost tables after using RUM

Multi-level intervention costs and hours used in implementation at intervention site 5, TUB, (n=122)						
Intervention level	INDIVIDUAL	INDIVIDUAL	INDIVIDUAL	INDIVIDUAL	LEADER	LEADER
Intervention name:	*Individual case coaching (n=101)*	*Individual case coaching*	*Positive Resources + (n=10)*	*Positive Resources +*	*Mental Health Awareness Training (n=11)*	*Mental Health Awareness Training*
I. Preparatory phase						
	Cost/Fees	Hours	Cost/Fees	Hours	Cost/Fees	Hours
Engagement (agreeing to consider implementation) *	429,15 €	15	429,15 €	15	429,15 €	15
Consideration of feasibility**	200,27 €	7	200,27 €	7	200,27 €	7
Readiness planning***	486,37 €	17	486,37 €	17	486,37 €	17
Needs assessment (+ data evaluation) in the organization	1 945,48 €	68	1 945,48 €	68	1 945,48 €	68
Sum of costs in Preparatory phase (=Total costs during preparation); costs based on pay group E14 (collective labor agreement, 28,61 € per working hour)	**3 061,27 €**	**107**	**3 061,27 €**	**107**	**3 061,27 €**	**107**
I. Implementation phase						
Training of intervention facilitator(s): One supervision session is 50 minutes, costs per hour 100,00€ according to the average costs for self-employed supervisors	4 300,00 €	43	/	/	/	/
Facilitator assigned to site: One coaching session is 50 minutes, costs per hour 100,55 € according to national psychotherapy fees (GOÄ)	27 651,25 €	275	1 228,44 €	12	2 781,54 €	18
Time spent by participants receiving the intervention; costs calculated based on the average salary of the university staff	200,27 €	7	85,83 €	3	85,83 €	3
Material & equipment; estimated based on the cost per color copy: 0,0196 €	67,62 €	/	4,41 €	/	4,99 €	/
Staff-related travel expenses****	00,00 €	/	00,00 €	/	00,00 €	/
Sum of costs in Implementation phase (= total costs during the intervention)	**32 219,14 €**	**325**	**1 318,68 €**	**15**	**2 872,36 €**	**21**

Activity at IGLO levels:



Results - Interviews after using RUM

Contact persons were trained to use a data collection template

Regular feedback and discussions took place between key costing personnel at each site

Challenges were faced in collecting objective economic indicators and implementation cost data

Through regular meetings and clarification of questions, some of the difficulties faced by contact persons in collecting data for implementation cost

Final remarks

Limitation:

- Challenging and time-consuming but essential step
- Gross costing or micro costing?

Conclusion:

Practical implications: the approach adopted is more time driven activity-based costing for capturing the complexity of intervention processes.

Next step:

- Developing appropriate RUM instrument is needed for complex multilevel workplace interventions.
- Developing an instrument to measure broader resource use.

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